



AIT

Asian Institute of Technology

Annual Report on **RESEARCH 2015**



PREFACE

The Asian Institute of Technology is pleased to release the Report on Annual Research 2015 which provides a consolidated overview of the research activities conducted across the institute during the year. This year saw a renewed focus on the research and development agenda under the AIT's thematic areas of strength and witnessed the successful implementation of many sponsored and contracted projects. The quality of our research has over the years grown steadily in the respective thematic areas of research namely: Environment, Water, Energy, Industry, Food, Development, Infrastructure, and Information and communication Technologies (ICT). This would not have been possible without the whole-hearted commitment of our faculty and staff.

Overall, during the period January to December 2015, a total of 464 sponsored and contracted projects including capacity building activities with a total budgeted value of 1.6 billion THB were conducted by the faculty and staff from within the Fields of Study (FoS) of the three schools; School of Engineering and Technology (SET), School of Environment, Resources and Development (SERD), and School of Management (SOM), as well as at AIT Extension, Internet Education and Research Laboratory (IntERLab) and Institute-wide projects.

The total number of publications for the same period stood at 475 from across AIT. As in the previous year the research report is outlined based on these eight themes which are grouped by their relevant fields of studies. AIT continues to move forward with its continued commitment towards focusing its research output in line with the thematic areas towards meeting the needs of the region and beyond. The research activities have successfully moved ahead in line with donor needs and the institute's strategic priorities towards playing the leading role in the region's sustainable development.

AIT continues to enhance its engagement with research institutions and donor agencies that have evolved to foster new research

collaborations and linkages. It's my firm belief that we have been able to give our best despite the challenges and AIT moves ahead towards consolidating its research efforts building on its rich experiences and garnered knowledge put to the benefit of its students. AIT's research has always maintained an integrated approach which combines research, teaching and learning, and outreach.

AIT is adapting itself in the form of imaginative interactions and partnership with both the public and private sectors. Ever changing scenarios oblige AIT to seek new forms of operations and new sources of support

As a trendsetter of quality education in Asia through its innovative academic offerings and research undertakings, AIT successfully continues to fulfill its mission. In conclusion, I would thank all AIT faculty, staff, and students for their whole hearted efforts and contributions towards achieving the research objectives and goals.



Professor Kanchana Kanchanasut
Vice President for Research

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Chapter 1: INTRODUCTION

1.1 AIT Mission

The **Asian Institute of Technology** promotes technological change and sustainable development in the Asian-Pacific region through higher education, research and outreach. Established in Bangkok in 1959, AIT has become a leading regional postgraduate institution and is actively working with public and private sector partners throughout the region and with some of the top universities in the world.

Recognized for its multinational, multi-cultural ethos, the Institute operates as a self-contained international community at its campus located 40 km (25 miles) north of Bangkok, Thailand.

Besides the usual laboratories and academic buildings, the main campus includes housing, sports, and medical facilities, a conference center, and a library with over 230,000 volumes and 830 print and on-line periodicals. All serve to fulfill the AIT mission

to develop highly qualified and committed professionals who play leading roles in the region's sustainable development and its integration into the global economy.

1.2 AIT Vision

To become a leading and unique regional multicultural institution of higher learning, offering state-of-the-art education, research and training in technology, management and societal development.

With this clear, timeless vision, the multi-skilled team of students, faculty and staff at AIT are set to continuously strengthen the institution by becoming

- A trailblazer in advanced education in the region, with leadership in IT and new types of multidisciplinary programs.
- An exemplary institution, with an emphasis on academic quality in terms of courses and other aspects of the operation.
- A leader in professional development programs.

- A hub for the implementation of regional/transnational research projects, and a research facility for academic professionals. The hub will network with other academic and research institutions in the region and the world.
- A model international citizen.
- A collaborator and partner of national postgraduate institutions.
- A financially viable, self-sustaining institution, able to draw support from donors, the private sector and individuals, with good governance and strong leadership.
- A strong partner to its alumni, who are principal stakeholders through the AIT Alumni Association (AITAA)



Chapter 2: RESEARCH STATISTICS AND TRENDS, 2007-2015

2.1 Project Numbers and Budget 2007-2015

In line with the desire to impact on society by integrating academic research with industry and society's needs, AIT witnessed a good growth in the numbers of sponsored and contracted projects undertaken and that of publications between 2007-2015. **Figure 2.1** gives an overview of the trend of the ongoing sponsored and contracted projects for the period 2007-2015 both in and budget value terms and in terms of the number of ongoing projects undertaken during the same period.

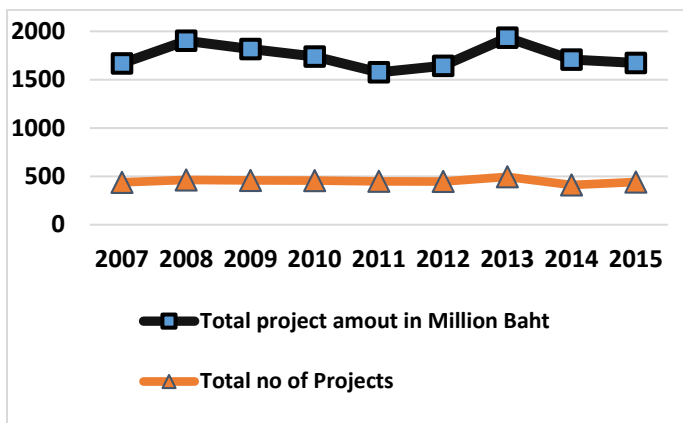


Figure 2.1: Project Budget is identified in Million ('000,000) Thai Baht.

2.2 Trend of the Ongoing Projects by Category

Sponsored and contracted projects undertaken at AIT are assigned under the Fund 30 which are categorized as Research and development which comprises Research, Capacity Building, Networking/Coordination, Training/Workshop and conference projects. The Academic Programs category comprises newly initiated

Professional programs conducted by the different schools and AIT Extension category comprise continuing professional education, short-course training and consultancy services. **Figure 2.2** provides the trend for the period 2007 – 2015 on budget value terms and **Figure 2.3** give the trend in terms of the number of ongoing projects under each category.

Publications over the years has seen an increase in the requirements in order to enhance quality of research from a time about a decade ago when doctoral students had only to submit a manuscript of a Paper before graduation, today all

such students need to show acceptance of paper by an international and referred journal before they graduate.

Publications in refereed Journals as one measure of productivity in the academic spheres increased with a high margin between 2009 and 2015 this .Discussions are being held to include additional criteria towards ascertaining the impact of such papers. **Figure 2.4** shows the trend of publications under the categories namely Referred Journal Publications, Doctoral Thesis, Master's Thesis as well as completed projects for the period 2007-2015.

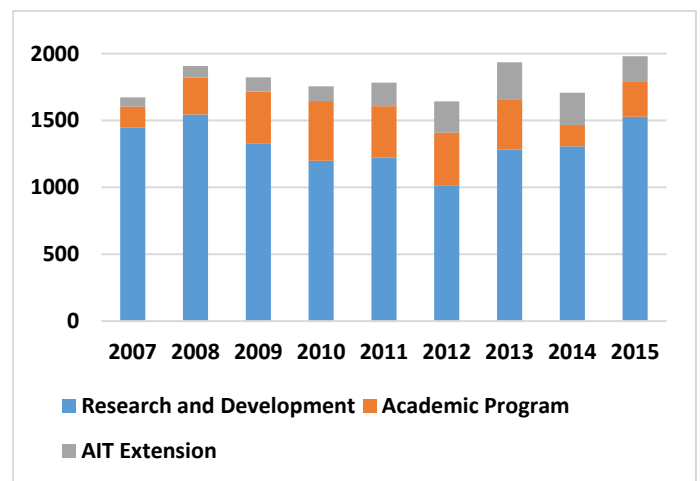


Figure 2.2 Budget Value terms 2007-2015

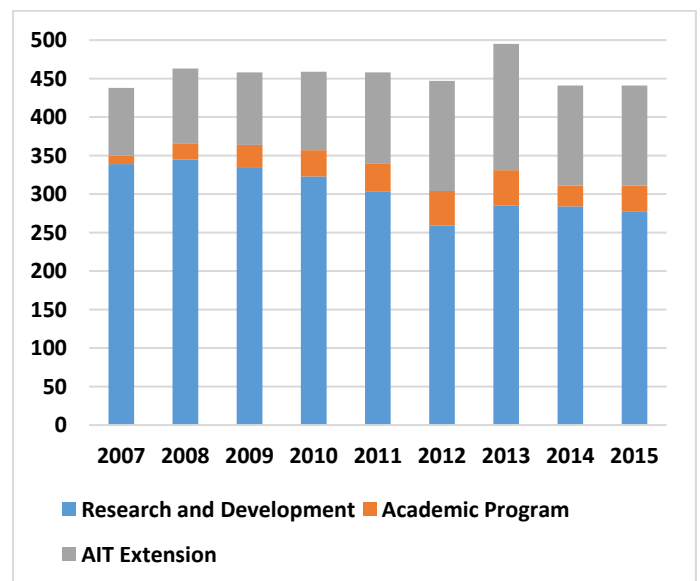


Figure 2.3 Numbers of projects

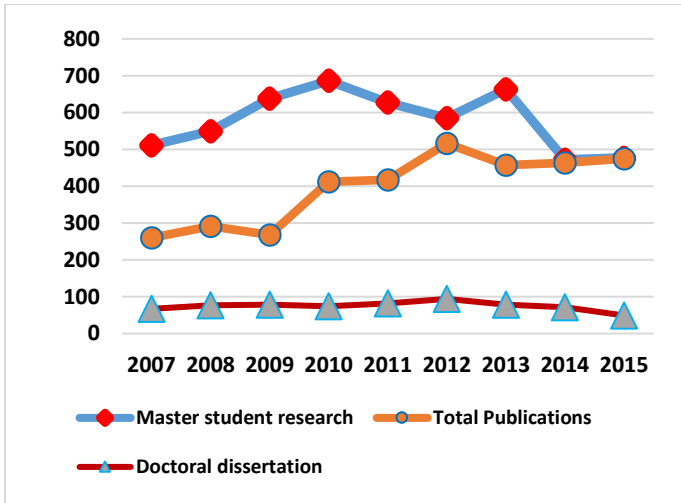


Figure 2.4: Institute Wide publications Trends

Over the years there has been a reduction in seconded faculty (supported by different countries). This led to a reduction in the total full time faculty (as they were not all replaced by direct hire faculty) and highlights the tremendous effort put in by our faculty and research staff. There has also been a subsequent increase in adjunct faculty who offer specialized courses and professional programs. **Figure 2.5** below shows the trend in the Faculty strength grouped as Full time faculty and total faculty including adjunct, affiliated, visiting faculty, etc

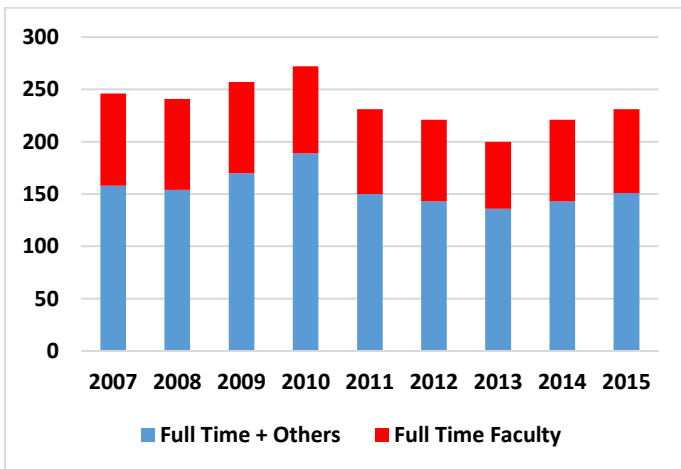


Figure 2.5: Faculty Strength 2007- 2015

Research excellence in an international institution of higher learning as AIT is linked with the graduate students we have. **Figure 2.6** gives an institute wide trend on the intake, Enrolment and graduated student strength for the period.

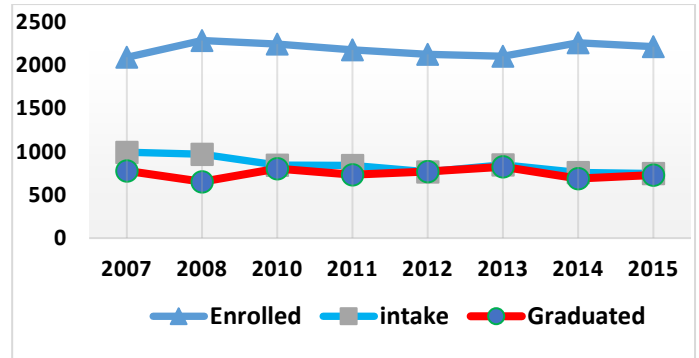


Figure 2.6: Instituted wide strength for the intake, Enrolment and graduated student strength for the period 2007-2015

2.3 Research Publications Under thematic Areas

Maintaining a societal perspective on science, research activities of AIT in different areas and domains are categorised into 8 themes in the Research Report 2015, named as Development, Infrastructure, Environment, Water, Energy, Industry, Food and Information and communication Technologies (ICT). Different Fields of studies (FoS) are grouped in to these 8 themes. Research publications (Book, Journal and conferences), Other publications (national journal, regional journals, Invited talks, seminar, workshop etc) Ongoing and Completed projects are categorized under different themes for 2007 to 2015 is given in **Figures 2.7-2.16**.

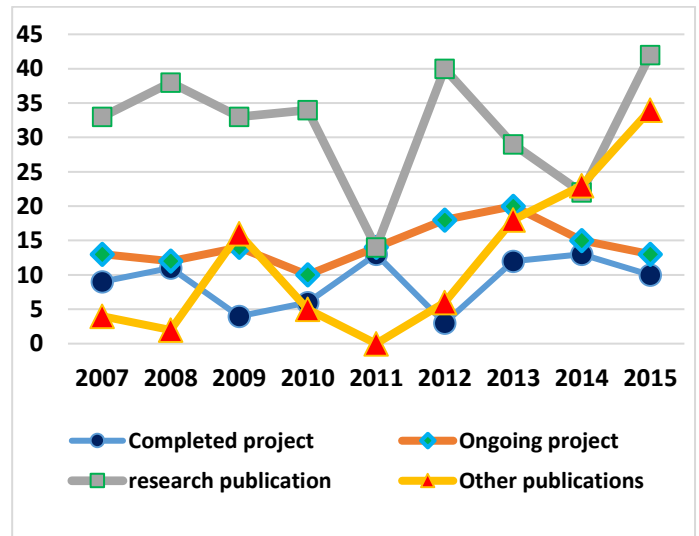


Figure 2.7 Development

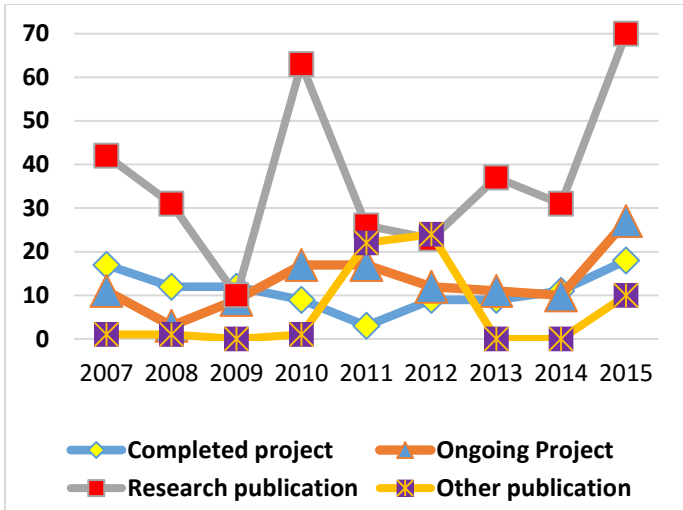


Figure 2.8 Energy

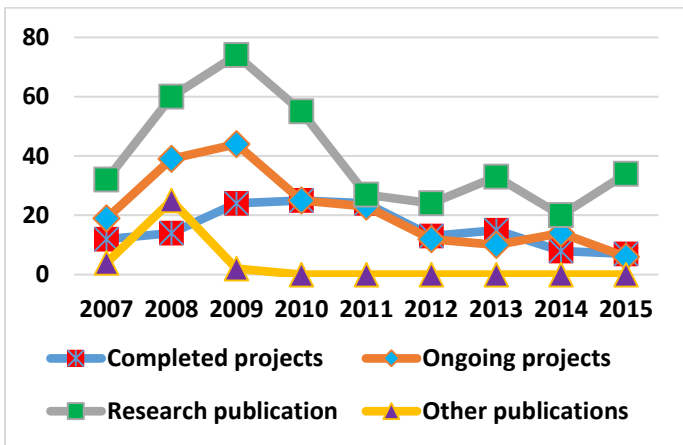


Figure 2.9 Infrastructure

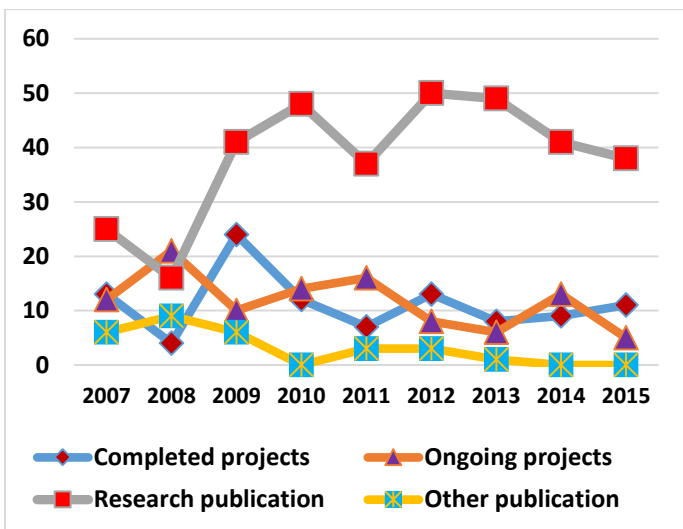


Figure 2.10 Water

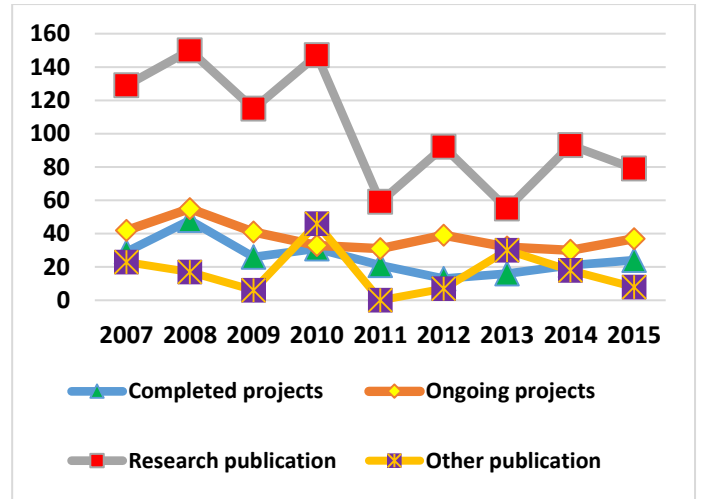


Figure 2.11 Environment

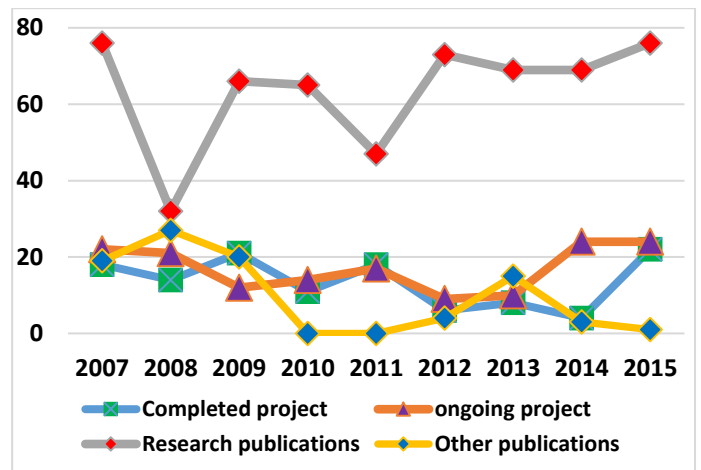


Figure 2.12 Food

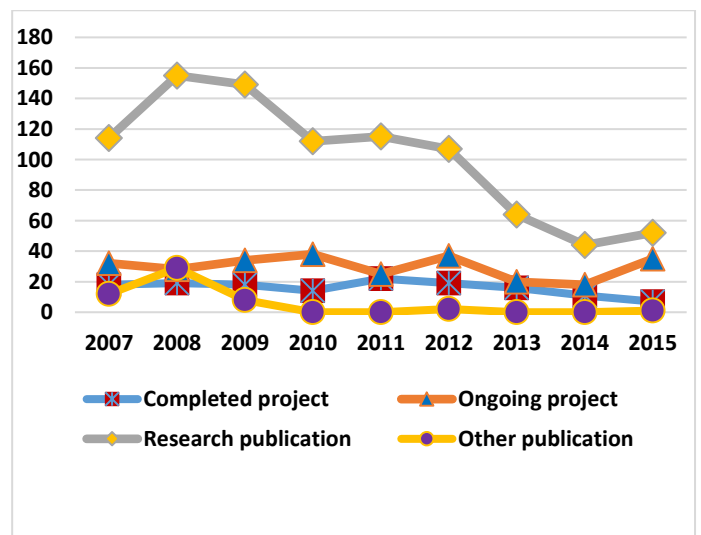


Figure 2.13 Industry

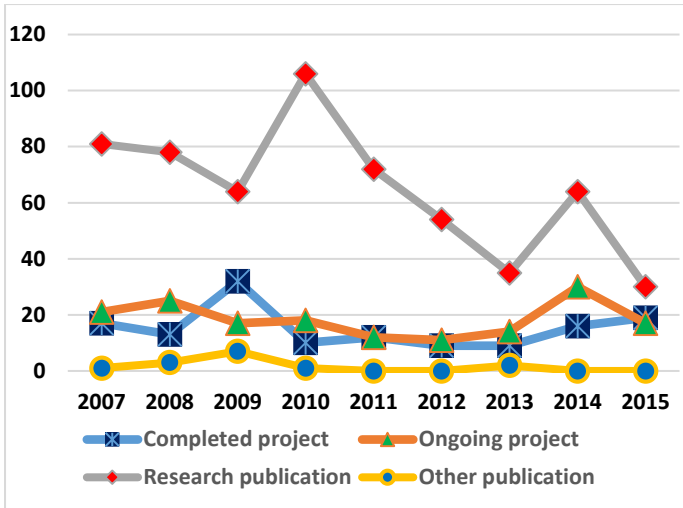


Figure 2.14 ICT

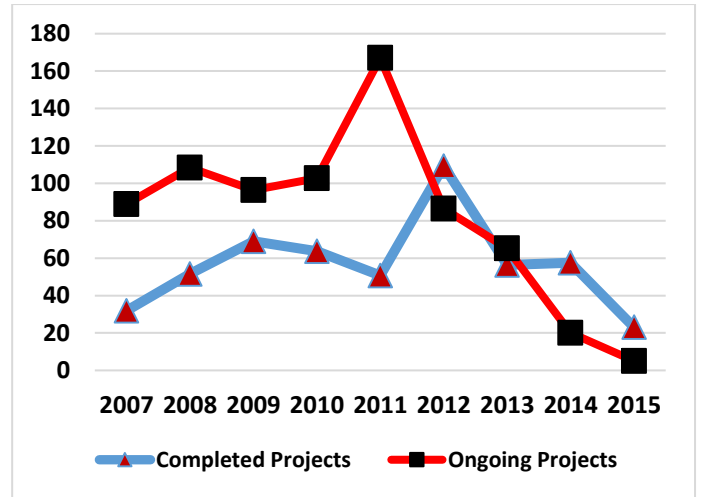


Figure 2.17 Infrastructure

2.4 Projects value (in million baht) under thematic Areas

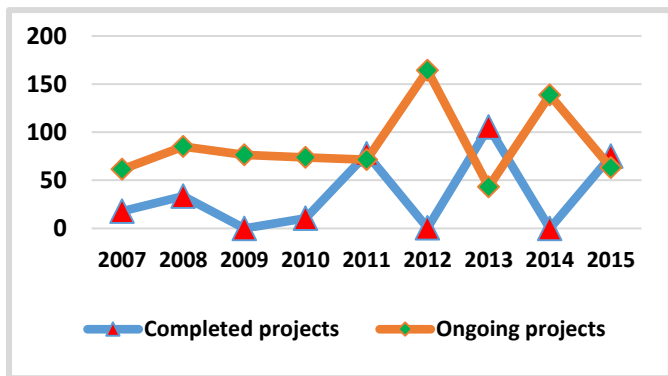


Figure 2.15 Development

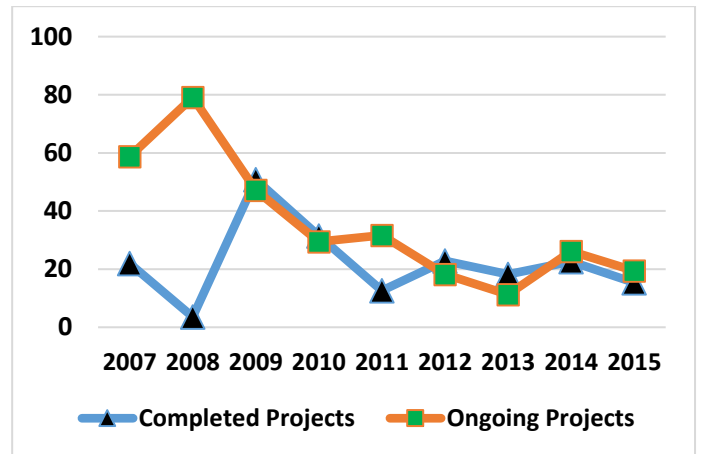


Figure 2.18 Water

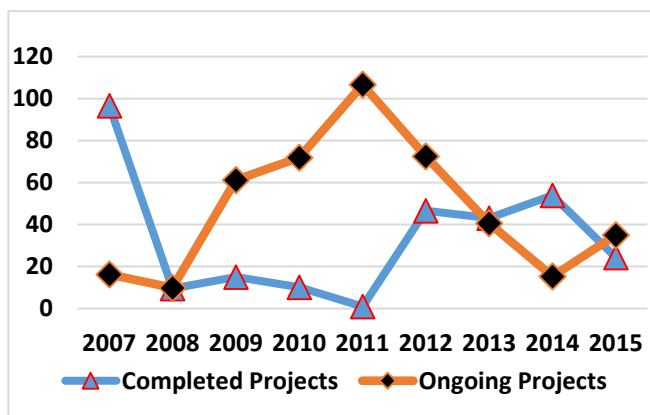


Figure 2.16 Energy

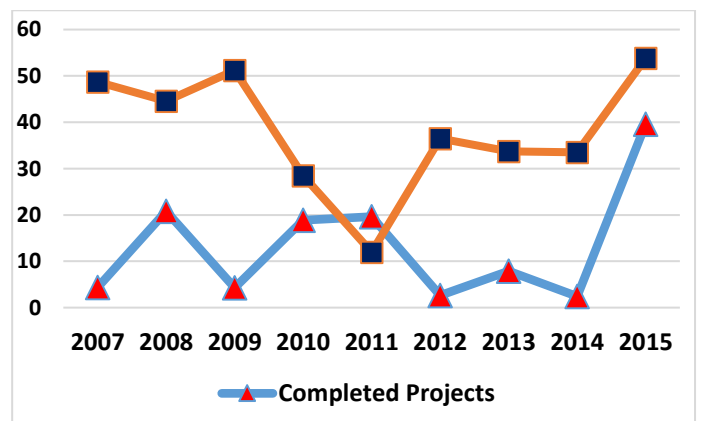


Figure 2.19 Environment

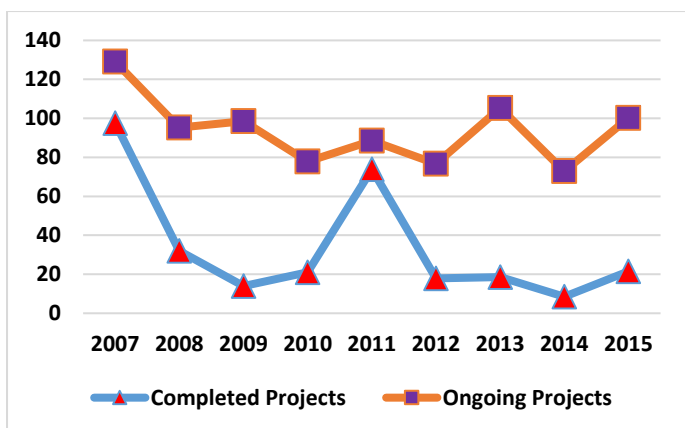


Figure 2.20 Food

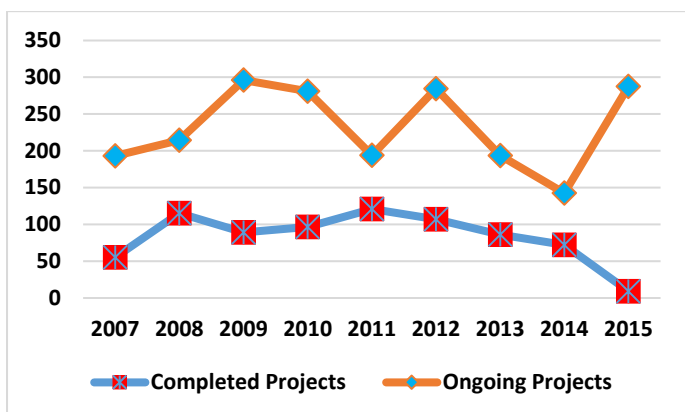


Figure 2.21 Industry

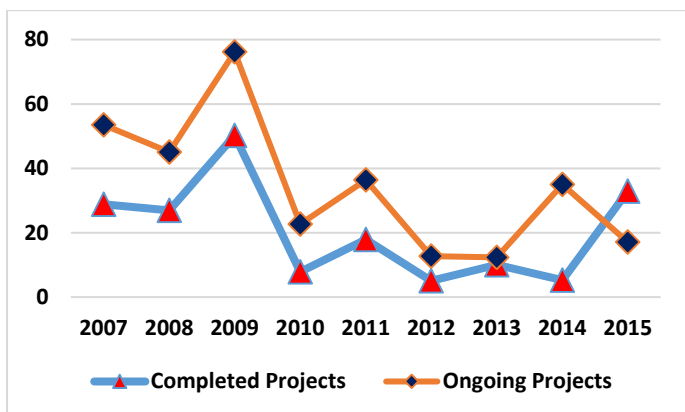


Figure 2.22 ICT

means to judge alignment of the institutions research activities with its strategic priorities. Here below shows the top 5 most cited publications in Scopus lifetime. It is planned to have a year on year analysis in due course.

1. On the acceptability of arguments and its fundamental role in nonmonotonic reasoning, logic programming and n-person games (Cited 1,699 time(s)) 1995; Artificial Intelligence; Dung, P.M.
2. Developments in industrially important thermostable enzymes: A review (Cited 534 time(s)) 2003; Bio resource Technology; Haki, G.D., Rakshit, S.K.
3. Direct solid-liquid separation using hollow fiber membrane in an activated sludge aeration tank (Cited 345 time(s)) 1989; Water Science and Technology; Yamamoto, K., Hiasa, M., Mahmood, T., Matsuo, T.
4. An analytical approach for DG allocation in primary distribution network (2006) International Journal of Electrical Power and Energy Systems, Cited 326 times, Acharya, N., Mahat, P., Mithulananthan, N.
5. An abstract, argumentation-theoretic approach to default reasoning (Cited 316 time(s)) 1997; Artificial Intelligence; Bondarenko, A., Dung, P.M., Kowalski, R.A., Toni, F.

2.4 Top 5 Researchers with the Highest Number of Projects initiated 2007- 2015

The streamlining of Project management and corresponding incentives towards initiation of projects has helped reinforce the institutions research objectives and focus. **Table 2.1** highlights the top Researchers with the Highest Number of Projects initiated 2007- 2015.

Faculty Name	No of Projects as PI	PI and Co PI
Prof Kanchana Kanchanasut	62	64
Prof S. Kumar	20	55
Prof C. Visvanathan	34	42
Prof Mukand S. Babel	31	36
Dr Kunnawee Kanitpong	27	30
Dr Kyoko Kusakabe	19	28

Table2.1: Top 5 Researchers with the Highest Number of Projects initiated 2006- 2015

2.5 Most cited papers in Scopus

Publication and citation information is considered one of the most widely recognizable indicators of research output and quality, and collection and analysis of this information is among

RESEARCH THEMES INTRODUCTION

The Asian Institute of Technology promotes technological change and sustainable development in the Asian-Pacific region through higher education, research and outreach. Established in Bangkok in 1959, AIT has become a leading regional postgraduate institution and is actively working with public and private sector partners throughout the region and with some of the top universities in the world. AIT research has maintained being the important value addition to its diverse academic offerings. AIT's institutional resilience is due to several factors, including a diverse and well-balanced research portfolio, highly experienced faculty, and a strategy of cluster hiring in a variety of fields that enables the assembly of cutting-edge interdisciplinary teams that can successfully compete for sustainable development. Research at AIT is oriented towards the sustainable development of the region, strengthening the knowledge, development and business capacity of the region, and supporting communities and their economic development and integration into the global economy. Maintaining a societal perspective on science, research activities of AIT in different areas and domains are categorized into 8 themes in the Research Report 2015, named as Development, Infrastructure, Environment, Water, Energy, Industry, Food and Information and communication Technologies (ICT). Different Fields of studies (Fos) are grouped in to these 8 themes and as follows

Development

- REGIONAL AND RURAL DEVELOPMENT PLANNING FOS
- GENDER AND DEVELOPMENT STUDIES FOS

Infrastructure

- CONSTRUCTION, ENGINEERING AND INFRASTRUCTURE MANAGEMENT FOS
- GEOTECHNICAL AND EARTH RESOURCES ENGINEERING FOS
- STRUCTURAL ENGINEERING FOS
- TRANSPORTATION ENGINEERING FOS
- OFFSHORE TECHNOLOGY AND MANAGEMENT FOS

Environment

- ENVIRONMENTAL ENGINEERING MANAGEMENT FOS
- NATURAL RESOURCES MANAGEMENT FOS
- PULP AND PAPER TECHNOLOGY FOS
- URBAN ENVIRONMENTAL MANAGEMENT FOS
- DISASTER PREPAREDNESS, MITIGATION AND MANAGEMENT

Water

- WATER ENGINEERING AND MANAGEMENT FOS

Energy

- ENERGY FOS

Industry

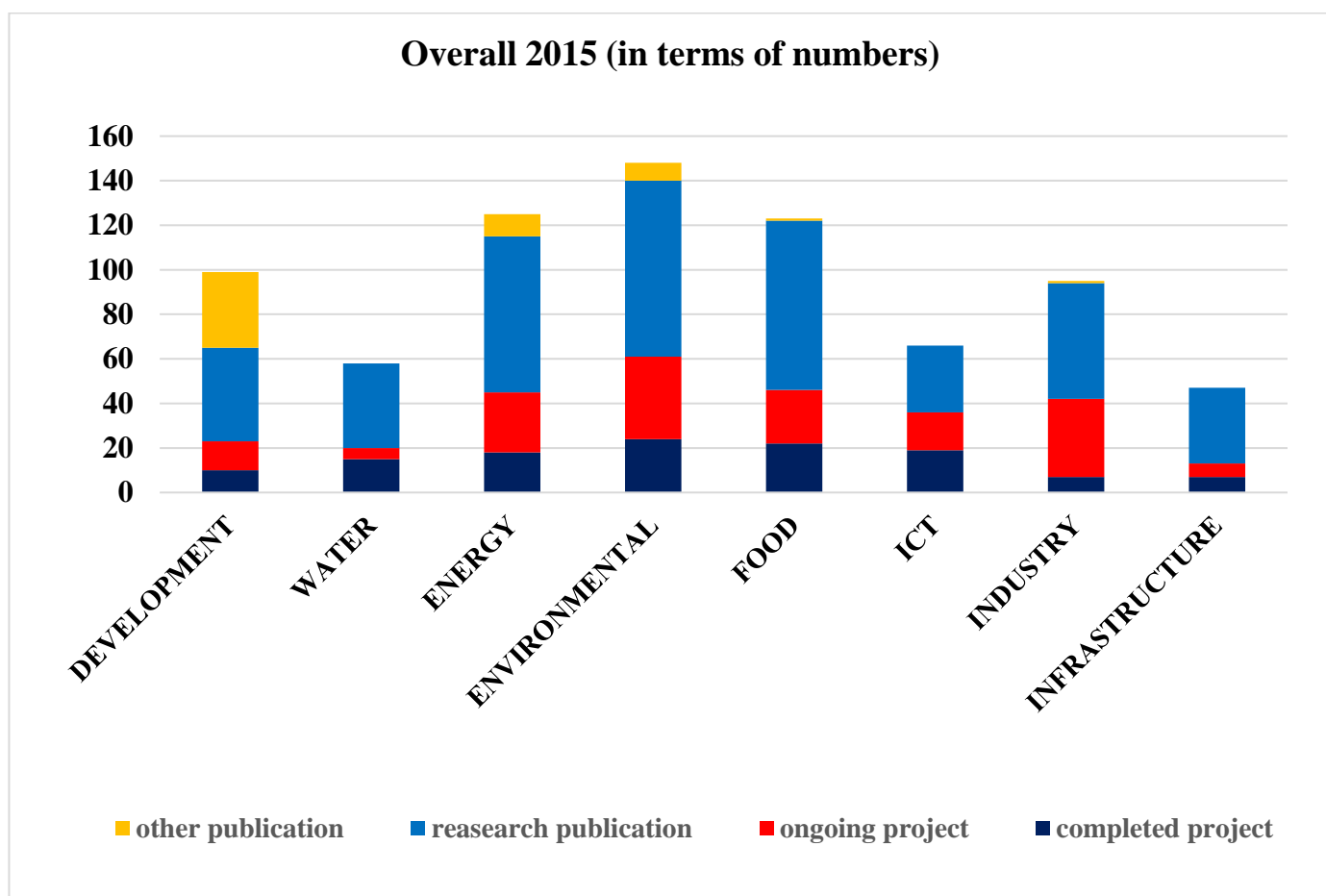
- INDUSTRIAL AND MANUFACTURING ENGINEERING FOS
- MECHATRONICS FOS
- MICROELECTRONICS AND EMBEDDED SYSTEMS FOS
- NANOTECHNOLOGY FOS
- SCHOOL OF MANAGEMENT

Food

- AGRIBUSINESS MANAGEMENT FOS
- AGRICULTURAL SYSTEMS AND ENGINEERING FOS
- AQUACULTURE AND AQUATIC RESOURCES MANAGEMENT FOS
- FOOD ENGINEERING AND BIOPROCESS TECHNOLOGY FOS

ICT

- COMPUTER SCIENCE (CS)
- COMPUTER SCIENCE WITH SPECIALIZATION IN SOFTWARE ENGINEERING
- INFORMATION MANAGEMENT (IM)
- REMOTE SENSING AND GEOGRAPHIC INFORMATION SYSTEMS (RS-GIS)
- TELECOMMUNICATIONS (TC)
- INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT)



DEVELOPMENT

Introduction

This theme focuses on rural poverty, improvement of the quality of life, and social and economic development of rural areas and highlights both the need for studies in gender and development, and the integration of gender analysis and gender relations. This aims to equip people with the analytical and conceptual skills needed to understand gender issues in both contexts, enabling them to participate effectively in gender and development-related research, policymaking and implementation. Practice oriented research provides rural and regional planning that's carried out regularly at district and sub-district levels following a participatory and integrated approach, and attention is paid to management of development Institutions, infrastructure and physical resources. Sectoral and spatial planning is also equally emphasized along with the management of rural development programs and local development projects to strengthen rural communities for sustainable development

Grants and Sponsored Research Completed in 2015

Revisiting Gender in Development: Complex Inequalities in a changing Asia

Duration: 15-Mar-11 - 30 September-15
Project Investigator(s): Bernadette P Resurreccion, Philippe Doney
Sponsor: Research Council of Norway
Total Contracted Amount (THB): 7,423,628.24

Sustainable Climate Compatible Development Project (CCD)

Duration: June 2013 – June 2015
Co-Project Investigator(s): Kyoko Kusakabe/Prof S. Kumar

Sponsor: CDKN-ICLEI Secretariat GmbH, Germany
Total Contracted Amount (THB): 665,000.00

Adapting to Climate Change in Peri-Urban SEA

Duration: Oct-2012 to 3-Sep-2015
Project Investigator(s): Bernadette Resurreccion / Edsel Sajor
Sponsor: IDRC-International Development Research Centre
Total Contracted Amount (THB): 18,262,000

Sustainable Climate Compatible Development Project (CCD)

Duration: June 2013 – June 2015
Co-Project Investigator(s): Kyoko Kusakabe/Prof S. Kumar
Sponsor: CDKN-ICLEI Secretariat GmbH, Germany
Total Contracted Amount (THB): 703867.67

Asian Project Management Support Programme

Duration: 1-Dec-2009 to 30-Jun-2015
Project Investigator(s): Kyoko Kusakabe/Philippe Doney/Mokbul Morshed Ahmad
Sponsor: International Fund for Agricultural Development (IFAD)
Total Contracted Amount (THB): 45,150,000.00

Feasibility study of BOP business development through social investment: Survey on BOP group in Cambodia and social impact assessment on Wild Honeybee Resourcification Project.

Duration: 13 May 2011- Dec 2015
Principal Investigator: Dr Kyoko Kusakabe
Sponsor: JICA through ARUN, LLC
Total Contracted Amount (THB): 1,000,621.40

Survey and assessment of street vending policies and regulations: Focus on Thailand case.

Duration: 2013 – 2015
Principal Investigator: Dr. Kyoko Kusakabe
Sponsor: ILO
Total Contracted Amount (THB): 301,266.00

Role of local governments' policies in creating multicultural society: Review of policy and practices to manage/support migrants in Municipality/Provincial level in Thailand and Japan.

Duration: Nov 2013 - Dec 2015
Principal Investigator: Dr Kyoko Kusakabe
Sponsor: Toyota Foundation
Total Contracted Amount (THB): 1,392,875.00

Murdoch-AIT Workshop-Myanmar

Duration: 01-Jul-2014 to 31-Jul-2015
Project Investigators Dr. Kyoko Kusakabe, Prof. S. Kumar
Sponsor Murdoch University, Australia
Total Contracted Amount (THB): 87,000

Murdoch-AIT Datacollection-Myanmar

Duration: 01-Jul-2014 to 31-Jul-2015
Project Investigators Dr. Kyoko Kusakabe, Prof. S. Kumar
Sponsor Murdoch University, Australia
Total Contracted Amount (THB): 72,500

On-going Grants and Sponsored Research

Integration of migrants and social policy issues: Reflections from Japan, Korea and Thailand towards creation of inclusive society

Duration: 1 Oct 2015- 30 Nov 2016
Principal Investigator: Dr. Kyoko Kusakabe
Sponsor: The Toyota Foundation
Total Contracted Amount (THB): 2,141,300.00

Renewable energy technologies for integrated community farming systems

Duration: 2015-2016
Principal Investigator: Dr. Kyoko Kusakabe with Prof. S. Kumar and Dr. Avishek Datta
Sponsor: Wisions of sustainability
Total Contracted Amount (THB): 455,000

Gendered impact of cross-border agricultural investment: Case of

rubber plantations in Northern Laos, Myanmar, and Cambodia Supported by Sustainable Mekong Research Network (SUMERNET) Phase 3,
Duration: 15 Oct 2014 – 31 Aug 2016
Principal Investigator: Dr. Kyoko Kusakabe
Sponsor: SEI Project no. 11125
Total Contracted Amount (THB): 1,472,913.00

Organize training workshop for the students from Ochanomizu University

Duration: 1 Dec 2015- 31 Dec 2016
Principal Investigator: Dr. Kyoko Kusakabe
Sponsor: Ochanomizu University
Total Contracted Amount (THB): 124,270.63

Escaping the middle income country trap: Targeted and pragmatic policies for technological upgrading and workers inclusive industrial strategies as drawn from firm-level analysis of the Philippines and Thailand

Duration: 1-Aug-2011 to 30-Dec-2016
Project Investigator(s): Kyoko Kusakabe
Sponsor: WOTRO
Total Contracted Amount (THB): 595,052.00

Japanese Government Grant

Duration: Renewed every year
Project Investigator(s): Kyoko Kusakabe
Sponsor: Japanese Government
Total Contracted Amount (THB):

Consortium of Development Studies in Southeast Asia (CDSSEA) - 2

Duration: Aug-2013 to 1-Jun-2016
Project Investigator(s): Philippe Doney
Sponsor: International Development Research Centre (IDRC)
Total Contracted Amount (THB): 4,628,792.00

Do policy makers understand the economic and social issues affecting low income women in four Mekong countries? - AUSAID

Duration: Mar -2013 to 1-Apr-2016
Project Investigator(s): Philippe Doney
Sponsor: AUSAID Australia
Total Contracted Amount

(THB): 22,243,000

Gender Technology and Development (GTD) Journal

Duration: Aug-2012 to July-2016
Project Investigator(s):Julaikha B. Hossain
Sponsor: Rockefeller Foundation
Total Contracted Amount (THB): 2,250,000

SBMG- Process Evaluation

Duration: 1 Mar 2016 – 30 Aug 16
Project Investigator(s): Dr. Joyee S Chatterjee
Sponsor:
Total Contracted Amount (THB): 176,000.00

Gender and development-capacity building, research, publication and networking projects

Duration: 01-08-2015 to 31-07-2016
Project Investigators: Dr Julaikha B hossain
Sponsor: Development Design consultants Ltd
Total Contracted Amount (THB): 503,400

Crafting Gender Transformative Characters

Duration: 1 Dec 2015 – 31 May 16
Project Investigator(s): Dr. Joyee S Chatterjee
Sponsor: AIT Research Institution Grant
Total Contracted Amount (THB): 60,000.00

Organizing expert consultation workshop on land tenure and disaster and its social and gender impact

Duration: 8-Jul-2013 to 31-Dec-2019
Project Investigator(s): Kyoko Kusakabe/Rajendra P Shrestha
Sponsor: FAO
Total Contracted Amount (THB): 1,450,000

Enhancing Productivity and Market Linkages – Improving the Livelihoods and Food Security of Smallholders in Asia

Duration: 23-May-2013 to 22-May-2016
Project Investigator: Prof. Gopal B Thapa
Sponsor: USAID/RDMA
Total Contracted Amount (THB): 26,908,104

Publications

Book

Kusakabe, K., R.P. Shrestha, and N. Veena (Eds.), 2015. *Gender and Land Tenure in the Context of Disasters in Asia*, Springer Briefs in Environment, Security, Development and Peace 21, Springer publication.

Ragnhild Lund, Philippe Doney and Bernadette Resurreccion (eds.), *Gender Entanglements: Revisiting Gender in a Rapidly Changing Asia*, Copenhagen: NIAS Press, 2015.

Memon, Junaid A. and Thapa, Gopal B. (2014) "Explaining the de facto Open-access of Public Property Commons " Pakistan Institute of Development Economics, Islamabad (Working Paper No. 114).

Lopa, F. G. R. and Ahmad, M. M. (2015). "Civil Society Organizations and Climate Change Policy Formulation in Bangladesh", in Mallick, B. and Etzold, B. (edt.). *Environment, Migration and Adaptation – Evidence and Politics of Climate Change in Bangladesh*. Dhaka: AHDPH, pp. 249-268

Book Chapters

Kusakabe, Kyoko and Ruth Pearson (2015) "Remittances and women's agency: Managing networks of obligation among Burmese migrant workers in Thailand" in Lan Anh Hoang and Brenda Yeoh (eds) *Transnational labour migration, remittances and the changing family in Asia*, New York: Palgrave, 50-81.

Veena N and Kyoko Kusakabe (2015) "Gender and land tenure in the context of disaster" in Kusakabe, Kyoko, Rajendra Shrestha and Veena N. (eds) *Gender, land tenure and disaster*, London: Springer, 1-14.

Kusakabe, Kyoko and Prak Sereyvath (2015) "Women fish border traders in Cambodia: Intersectionality and gender analysis", in Lund et al. (eds) *Gendered entanglements: Revisiting*

gender in rapidly changing Asia, NIAS press, 121-146.

Ragnhild Lund, Philippe Doney and Bernadette Resurreccion (eds.), *Gender Entanglements: Revisiting Gender in a Rapidly Changing Asia*, Copenhagen: NIAS Press, 2015.

Donna L. Doane and Philippe Doney, "Lost in Translation? Gender and Economic Empowerment in the Greater Mekong Sub-Region" in Ragnhild Lund, Philippe Doney and Bernadette Resurreccion (eds.), *Gender Entanglements: Revisiting Gender in a Rapidly Changing Asia*, Copenhagen: NIAS press, 2015.

Bernadette Resurreccion, Philippe Doney and Ragnhild Lund, "Gender entanglements in gender and development: a call for grounded, multi-dimensional and 'moving' feminisms" in Ragnhild Lund, Philippe Doney and Bernadette Resurreccion (eds.), *Gender Entanglements: Revisiting Gender in a Rapidly Changing Asia*, Copenhagen: NIAS press, 2015

Ragnhild Lund, Philippe Doney and Bernadette Resurreccion, "Introduction", in Ragnhild Lund, Philippe Doney and Bernadette Resurreccion (eds.), *Gender Entanglements: Revisiting Gender in a Rapidly Changing Asia*, Copenhagen: NIAS press, 2015.

Hossain, J. B. Re-thinking Personal Laws and Gender Justice from Bangladesh Perspective, in "*Gendered Entanglements: Revisiting Gender in Rapidly Changing Asia*", NIAS Publications, Denmark, May 2015.

Papers in Refereed Journal

Krainara, C., & Routray, J. K. (2015). Cross-Border Trades and Commerce between Thailand and Neighboring Countries: Policy Implications for Establishing Special Border Economic Zones. *Journal of Borderlands Studies*, 30(3), 345-363.

Madan, A., & Routray, J. K. (2015). Institutional framework for preparedness and response of disaster management institutions from national to local level in India with focus on Delhi. *International Journal of Disaster Risk Reduction*, 14, 545-555.

Ashraf, M., & Routray, J. K. (2015). Spatio-temporal characteristics of precipitation and drought in Balochistan Province, Pakistan. *Natural Hazards*, 77(1), 229-254.

Ainuddin, S., Routray, J. K., & Ainuddin, S. (2015). Operational indicators for assessing vulnerability and resilience in the context of natural hazards and disasters. *International Journal of Risk Assessment and Management*, 18(1), 66-88.

Saroar, M., & Routray, J. K. (2015). Local Determinants of Adaptive Capacity Against the Climatic Impacts in Coastal Bangladesh. In *Handbook of Climate Change Adaptation* (pp. 401-431). Springer Berlin Heidelberg.

Khongsatjaviwat, D., & Routray, J. K. (2015). Local Government for Rural Development in Thailand. *International Journal of Rural Management*, 11(1), 3-24.

Hussain, A. and Thapa, G.B. (2015) Fungibility of Smallholder Agricultural Credit: Empirical Evidence from Pakistan, *European Journal of Development Research*, Advance online publication, 13 August 2015, IF 0.564, Palgrave.

Murtaza, G., & Thapa, G. B. (2015). Determinants of Yield Gap in Small-scale Apple Farms in Balochistan, Pakistan. *Journal of Crop Improvement*, 29(2), 196-227.

Mu, S. S. Ahmad, M M., Thapa, G. B. and Shrestha, R. P. (2015). "Farmers' Adaptation to Rainfall Variability and Salinity through Agronomic Practices in Lower Ayeyarwady Delta, Myanmar". *Journal of Earth Science and Climate Change*. Vol. 6. No.2. doi: 10.4172/2157-7617.1000258.

Rahman, S.M. and Ahmad, M. M. (2015). "Climate finance towards vulnerable countries: evidence from the Global Environment Facility (GEF)". *International Journal of Green Economics*. Vol. 9. No. 2. Pp. . 199-214 199-214

MB Moran, LB Frank, JS Chatterjee, ST Murphy, L Baezconde-Garbanati, [Information scanning and vaccine safety concerns among African American, Mexican American, and non-Hispanic White women](#); Patient education and counseling 99 (1), 147-153 (accepted 2015).

Murphy, S. T., Frank, L. B., Chatterjee, J. S., Moran, M. B., Zhao, N., Amezola de Herrera, P., & Baezconde-Garbanati, L. A. (2015). Comparing the Relative Efficacy of Narrative vs Nonnarrative Health Messages in Reducing Health Disparities Using a Randomized Trial. *American journal of public health*, 105(10), 2117-2123.

Frank, L. B., Murphy, S. T., Chatterjee, J. S., Moran, M. B., & Baezconde-Garbanati, L. (2015). Telling stories, saving lives: creating narrative health messages. *Health communication*, 30(2), 154-163.

[Meghan Bridgid Moran^a](#), [Lauren B. Frank^b](#), [Joyee S. Chatterjee^c](#), [Sheila T. Murphy^c](#) & Lourdes Beazconde-Garbanati (accepted 2015) "**A pilot test of the acceptability and efficacy of narrative and non-narrative health education materials in a low health literacy population**", *Journal of Communication in Healthcare*, DOI: 10.1080/17538068.2015.1126995

Kusakabe, K., Lund, R., Mishra Panda, S., Wang, Y., & Vongphakdy, S. (2015). Resettlement in Lao PDR: mobility, resistance and gendered impacts. *Gender, Place & Culture*, 22(8), 1089-1105.

Fold, N., Kusakabe, K., & Brun, C. (2015). Yee Yee Swe. 2015. Living from Hand to Mouth: Lived Experiences of Construction Workers in Myanmar. *Norsk Geografisk Tidsskrift-Norwegian Journal of Geography*, 69(3), 182-183.

Kusakabe, K., Shrestha, P., Kumar, S., & Nguyen, K. L. (2015). Pathways to sustainable urban tourism: Garden houses in Hue, Vietnam. *International Journal of Sustainable Society*, 7(3), 286-303.

Ma, Agatha and Kyoko Kusakabe (2015) "Gender analysis of fear and mobility in the context of ethnic conflict in Kayah State, Myanmar", *Singapore Journal of Tropical Geography*, 36:3, 342-356.

Khumya, Tanaradee and Kyoko Kusakabe (2015) "Road development and changes in livelihood and mobility in Savannakhet, Lao PDR", *Development in practice*, 25:7, 1011-1024.

Kusakabe, Kyoko, Ragnhild Lund, Smita M. Panda, Wang Yunxian (2015) "Resettlement in Lao PDR: Motility, resistance and gendered impacts", *Gender, Place and Culture* 22:8, 1089-1105.

Kusakabe, Kyoko (2015) "Framework to analyze borders from a gender perspective: Case studies of borders at the Mekong Region Lower Basin Countries", *Japan Border Review*, No.5, 169-186. (in Japanese).

Kusakabe, Kyoko, Pujan Shrestha, S. Kumar and Nguyen Thi Khanh Linh (2015) "Pathways to sustainable urban tourism: Garden houses in Hue, Vietnam" *International journal of sustainable society*, 7:3, 286-303.

Shino Sasaki, Kyoko Kusakabe, Philippe Doney (accepted 2015, in journal 2016). Exploring human (in-) security from a gender perspective: A case study of subcontracted workers in Thailand. *International Journal of Sociology and Social Policy*, Vol. 36, Issue 5/6.

Kusakabe, Kyoko and Pearson, Ruth (2015) Working through exceptional space: The case of women migrant workers in Mae Sot, Thailand

Kusakabe, Kyoko (2015) Women traders in fish value chain and

collective business: Case of processed fish in Cambodia, *Asian Fisheries Science*.

Phuong Pham and Philippe Doney, "Changing Livelihoods, Gender Roles and Gender Hierarchies: the Impact of Climate, Regulatory and Social Changes on Women and Men in a Co Tu Community in Vietnam", *Women Studies International Forum*, (accepted 2015).

Outreach Activities

Trainings/Conferences/Workshops

Ahmad, M.M. 2015. The Co-operatives in Thailand. Paper presentation at the Asia Pacific Co-operative Research Conference organized by the University of Asia and the Pacific in Bangkok, Thailand, February 5-7.

Routray, J. K. Presented the paper Climate Induced Risks in Odisha Coast and Strategies for Adaptation in the conference "Global Warming, Sea Level Rise and Livelihood Adaptation Strategies along East Coast of India" at Siksha O Anusandhan (SOA) University, Bhubaneswar, India, 27 December 2015.

Organizer, Development Research Writing and Dissemination Workshop, supported by CDSSEA, October 11-12 2015, AIT Conference Center. (Dr Philippe Doney)

Workshops on Quantitative Survey Design, Implementation and Analysis, AIT, ESP-Mekong, 17-19, 25-27 September 2015. (Dr Philippe Doney)

Gender and 'Development': What do 'empowerment' and 'security' mean to women beneficiaries of economic development projects in Mekong countries? (Focus on Cambodia, Lao PDR, Myanmar and Viet Nam), Consortium for Southeast Asian Studies in Asia (SEASIA), Kyoto, Japan, December 12-13, 2015. (Dr Philippe Doney)

Co-Organizer (with Brighton University), AIT-NTNU final completion workshop, July 3-4 2015, London, UK

"Feeding the urban poor: Fresh and prepared food street vendors in Bangkok and Phnom Penh", presented at the 2015 annual meeting of American Anthropological Association, 18-22 November. (Dr. Kyoko Kusakabe).

"Gender, poverty and migration", Academics Stand Against Poverty (ASAP) Cambodia launch conference, 5-6 January, Pannasastra University, Phnom Penh. (Dr Kyoko kusakabe)

Gender seminar and field visits on labor, sexuality and empowerment for Ochanomizu University and Nagoya University of Foreign Studies 16-23 August 2015. (Dr Kyoko Kusakabe)

Training of Trainers - Gender and Economic Policy in Cambodia 22-25 June 2015, trainer/ resource person. Organized by the Ministry of Women's Affairs and UNDP, Phnom Penh. (Dr Kyoko Kusakabe)

Conference Precedings

"Gender analysis of economic land concessions in Cambodia and in Northern Laos: Case of rubber plantations", presented at the Land Grabbing: Perspectives from East and Southeast Asia, Chiangmai, 4-5 June 2015. (Dr Kyoko Kusakabe)

Gender and 'Development': What do 'empowerment' and 'security' mean to women beneficiaries of economic development projects in Mekong countries? (Focus on Cambodia, Lao PDR, Myanmar and Viet Nam), Consortium for Southeast Asian Studies in Asia (SEASIA), Kyoto, Japan, December 12-13, 2015. (Dr Philippe Doney)

Invited speakers/Resources person/Guest Lecturer

Feminist Playbook for Sustainable Peace Inaugural Workshop 9-12 June 2015, Holmenkollen Park Hotel, Oslo, Norway, resource person. Consortium on Gender, Security and Human Rights and the Norwegian

Peacebuilding Resource Centre (NOREF). *(Dr Kyoko Kusakabe)*

“Gender analysis of fish value chain: Case of Tonle Sap, Cambodia” 2-3 June 2015 Presented at Panel: A commodity in detail – women’s role in aquaculture value chains in the Mekong: Inclusive Business Mekong Women in Agricultural value Chains, Bangkok, organized by IDRC. *(Dr. Kyoko Kusakabe)*

“Gender, poverty and migration”, Academics Stand Against Poverty (ASAP) Cambodia launch conference 5-6 January 2015, Pannasastra University, Phnom Penh. *(Dr Kyoko Kusakabe)*

Invited resource person, CDSSEA scholarship selection committee, Cambodia and Vietnam, May 27-29, 2015. *(Dr Philippe Doneys)*

Invited resource person, The Greater Mekong Sub-region Research Network (GMS-Net), IDRC and Cambodia Development Resource Institute, Phnom Penh, Cambodia, 18-20 November 2015. *(Dr Philippe Doneys)*

Other Academic Contributions

Faculty Representative June 2015. *(Dr. Kyoko Kusakabe)*

RRDP faculty Recruitment Panel May 2015. *(Dr. Kyoko Kusakabe)*

Institute Faculty Evaluation Panel Member from 1 July 2014 to 30 June 2016. *(Dr. Kyoko Kusakabe)*

Selection committee member, “Improving job prospects for young, low-skilled and women workers in the Mekong Region”, Cambodia Development Resource Institute (CDRI) and International

Development Research Centre (IDRC) Canada, 2015. *(Dr Kyoko Kusakabe)*

Member of the Issue-specific Supporting Committee on Development and Gender of Japan International Cooperation Agency

(JICA), April 2013 to March 2016. *(Dr. Kyoko Kusakabe)*

Member of the Program Oversight Panel for the CGIAR Research Program on Aquatic Agricultural Systems, December 2011-2015. *(Dr. Kyoko Kusakabe)*

External Examiner of Yee Yee Swe, Dissertation Title: Living from Hand to Mouth: Lived Experiences of Construction Workers in Myanmar, Department of Geology, 1 June 2014 to 23 January 2015, Norwegian University of Sciences and Technology (NTNU), Trondheim, Norway. *(Dr Kyoko Kusakabe)*

Associate Editor of Gender, Technology and Development, 1 January 2001 to present. *(Dr Kyoko Kusakabe)*

Editorial Board member of Review of Development and Cooperation Journal, 1 January 2006 to present. *(Dr Kyoko Kusakabe)*

Editorial Board member of Review of Applied Economics, 1 January 2011 to Present. *(Dr Kyoko Kusakabe)*

Journal Coordinator of Gender, Technology and Development Journal 2012 to present. *(Dr Julaikha B Hossain)*

Field of Study Coordinator, 1/2014, 12/2015. *(Dr Philippe Doneys)*

AIT program director for CDSSEA scholarships (Donor IDRC) 2012 – 2016. *(Dr Philippe Doneys)*

Member, School Academic Matters Committee Meeting (SAMC-SERD) 2015. *(Dr Philippe Doneys)*

Member, Task Force on Research Ethics (AIT), 2015. *(Dr Philippe Doneys)*

Associate editor, Gender, Technology and Development (GTD), Sage journal publication, September 14, 2012 to present. *(Dr Philippe Doneys)*

External reviewer, Global Health Equity Scholars Review Committee, UC Berkeley, Florida International

DEVELOPMENT

University, Stanford University and Yale University, 2015. *(Dr Philippe Doneys)*

External Examiner of Adnan Syed, Thesis Title: Not Just a Private Matter: Acceptance and Prevalence of Intimate Partner Violence Against Women, 17 August 2015 to 17 Feb 2016, University of California, Berkeley. *(Dr Philippe Doneys)*

External Examiner of De Fillipo, Thesis Title: Masculinities and the demand for female sex workers in Thailand (provisional), 7 October 2015 to 31 May 2017, University of Melbourne, Australia. *(Dr Philippe Doneys)*

External Examiner of Analiza Perez-Amurao, Dissertation Title: Examining the Gendered Migration of Filipino Educators in Bangkok, 31 July 2013 to 31 December 2016, Mahidol University, Thailand. *(Dr Philippe doneys)*

INFRASTRUCTURE

Introduction

Infrastructure refers to the fundamental facilities and systems serving a country, city, or area, including the services and facilities necessary for its economy to function. It can be defined as “the physical components of interrelated systems providing commodities and services essential to enable, sustain, or enhance societal living conditions”, such as roads, rails, bridges, ports, housings, water supply, sewers, electrical grids, telecommunications, etc. It may also include social and infrastructure facilities such as educational networks and health services. The infrastructure needs are bound to evolve continuously with regards to the geographical, demographical, and political developments. AIT reinforces its capacity by have different field of studies to facilitate infrastructure development and capacity building which includes construction engineering, transport engineering, geotechnical and earth science engineering and structural engineering etc. This theme represents the physical components of interrelated systems providing commodities and services essential to enable, sustain, or enhance societal living conditions

Grants and Sponsored Research Completed in 2015

Professional Master in Project Management Ho Chi Minh City Class A Sept. 2013

Duration: 1-Sep-2013 to 30-Jul-2015
Project Investigator: BHW Hadikusumo
Sponsor: Construction Corporations in Vietnam
Total Contracted Amount (THB): 8,497,500

Professional Master Project Management Hanoi Sept 2013

Duration: 1-Sep-13 to 31-Jul-15
Project Investigator(s): Dr. BHW Hadikusumo
Sponsor: Construction Corporations in Vietnam
Total Contracted Amount (THB) 5,021,250

Professional master Project management Hanoi Sept 2014

Duration: 01-Sept-2014 to 31-Dec-2015
Project Investigators Dr. BHW Hadikusumo
Sponser Construction corporation in Vietnam
Total Contracted Amount (THB): 167,375

PME in Geotechnical Engineering and Management in Hanoi, Vietnam (PME-GEM HN02)

Duration: 15-Feb-13 to 30-Dec-14
Project Investigator(s): Dr. Pham Huy Giao and Dr. Noppadol Phien-wej
Sponsor: FECON and other Geotechnical Companies in Vietnam
Total Contracted Amount (THB) 3,165,000

Road safety watch -central 2014

Duration: 15-Sep-2014 to 15-Feb-2015
Project Investigators Kunnawee Kantipong
Sponser ThaiRoads foundation
Total Contracted Amount (THB): 1,026,850

Accident database development for BMA

Duration: 15-Mar-2014 to 15-Jan-2015
Project Investigators Kunnawee Kantipong
Sponser Bangkok metroploitan administration

Total Contracted Amount (THB): 4,400,000

Setting up of a hydraulic Laboratory at CUET, Bangladesh

Duration: 01-06-2014 to 30-08-2015
Project Investigators Prof mukund s Babel
Sponser UNESCO-IHE, the Netherlands
Total Contracted Amount (THB): 814,000

On-going Grants and Sponsored Research

Seismic Design and Retrofit of Buildings

Duration: 1-Oct-15 to 30-April-16
Project Investigator(s): Pennung Warnitchai
Sponsor: The Thailand Research Fund
Total Contracted Amount (THB): 757,000

Mitigation of seismic risk of Tall buildings in Bangkok metropolitan area from large distant earthquakes

Duration: 18-08-2015 to 18-08-2017
Project Investigators: Prof Pennung Warnitchai
Sponsor: Thailand research fund
Total Contracted Amount (THB): 3,368,000

Professional master Project management in Naw Pyi Taw, Myanmar oct 2014

Duration: 26-10-2014 to 31-05-2016
Project Investigators Dr. BHW Hadikusumo
Sponser Ministry of construction Myanmar
Total Contracted Amount (THB): 206,000

Professional master project management HochinMinh sept 2015

Duration: 01-09-2015 to 31-07-2017

Project Investigators: Dr Hadikusumo

Sponsor: Construction Corporation in Vietnam
Total Contracted Amount (THB): 231,750

Professional master project management in Naw Pyi Taw myanmar oct 2015

Duration: 01-10-2015 to 31-07-2017

Project Investigators: Dr Hadikusumo

Sponsor: Ministry of construction, Myanmar
Total Contracted Amount (THB): 309,000

Professional master project management in Naw Pyi Taw myanmar oct 2016

Duration: 26-10-2014 to 31-05-2016

Project Investigators: Dr Hadikusumo

Sponsor: Ministry of construction, Myanmar
Total Contracted Amount (THB): 206,000

Publications

International Journal Articles with Impact factor

Refereed Journal Papers

Mofadal, A.I.A., **Kanitpong, K.**, and Jiwattanakupaisarn, P., "Analysis of Pedestrian Accident Costs in Sudan by Willingness-To-Pay Method," Accident Analysis and Prevention, Vol. 78, pp.201-211, 2015 (IF = 2.571).

Baral, S. and **Kanitpong, K.**, "Factors Affecting the Severity of Motorcycles Accidents and Casualties in Thailand by Using Probit and Logit Model," the Journal of Eastern Asia Society for Transportation Studies, Vol.11, pp.2175-2188, 2015.

Tansawat, T., **Kanitpong, K.**, Kishi, K., Utainarumol, S., and Jiwattanakupaisarn, P., "The Impact of Public Transport Subsidy on Social Inclusion: The Case of Free Train Policy in Thailand," the Journal of Eastern Asia Society for Transportation Studies, Vol.11, pp.2558-2574, 2015.

Sarm, S.A. and **Kanitpong, K.**, "Analysis of Factors Affecting the Severity of Motorcycle Casualties in Phnom Penh Using Bayesian Approach," the Asian Transport Studies, Vol.4, No.2, 2015.

Thwe, P.P., **Kanitpong, K.**, and Jiwattanakupaisarn, P., "Impact of Road Crashes on Poverty in Myanmar: A Case Study in Yangon," Transport Policies (Under Re-Review Process).

Meesit, R., **Kanitpong, K.**, and Jiwattanakupaisarn, P., "Investigating the Influence of Highway Median Design on Driver Stress," Submitted to the Proceedings of the Institution of Civil Engineers-Transport Journal (IF = 0.321).

T. T. Thoang & **P. H. Giao (2015)**, Subsurface characterization and prediction of land subsidence for HCM city, Vietnam, *Engineering Geology*, 199 (2015): 107-214, Elsevier (Available online 22 October 2015, doi:10.1016/j.enggeo.2015.10.009).

Giao P. H. and N. H. Chung (2015), Petrophysical characterization of pore system for a carbonate reservoir in the HR structure, *Petro Vietnam Journal*, Vol. 10, p. 31-37, ISBN-0866-854X.

Binh, N.D. Imsapsangworn, C., Kim Oanh, N.T., Parkpian, Pa, Karstensen, K, **Giao, P. H.**, DeLaune, R.D (2016), Sequential anaerobic-aerobic biodegradation of 2,3,7,8-TCDD contaminated soil in the presence of CMC-coated nZVI and surfactant, *Environ Technol.* 2016 Feb; 37(3):388-98. doi: 10.1080/09593330.2015.1070918. Epub 2015 Aug 14. Taylor and Francis, ISSN:0959-3330

Fazliani, Hassan, and **Chotchai Charoenngam.** "Cultural, external and behavioral factors in claims negotiations." *International Journal of Energy Sector Management* 9.4 (2015): 619-642.

Preenithi Aksorn, **Chotchai Charoenngam,** (2015) "Sustainability factors affecting local infrastructure project: The case of water resource, water supply, and local market projects in Thai communities", *Facilities*, Vol. 33 Iss: 1/2, pp.119 – 143

Jitwasinkul, Bhanupong, **Bonaventura HW Hadikusumo,** and Abdul Qayoom Memon. "A Bayesian Belief Network model of organizational factors for improving safe work behaviors in Thai construction industry." *Safety science* 82 (2016): 264-273.

Udofia, Wilson Udo, **B. H. W. Hadikusumo,** and Djoen San Santoso. "Road project

termination and rebidding strategies in Nigeria." *Journal of Financial Management of Property and Construction* 20.3 (2015): 208-234.

Hadikusumo, Bonaventura HW, and Sonam Tobgay. "Construction Claim Types and Causes for a Large-Scale Hydropower Project in Bhutan." *Journal of Construction in Developing Countries* 20.1 (2015): 49-63.

Tam, Nguyen Thanh, and **Bonaventura HW Hadikusumo**. "Identification of operational trust factors in contractor-owner relationships: a case study in Vietnam." *International Journal of Project Organisation and Management* 7.4 (2015): 369-388.

Udofia, Wilson Udo, B. H. W. Hadikusumo, and **Djoen San Santoso**. "Road project termination and rebidding strategies in Nigeria." *Journal of Financial Management of Property and Construction* 20.3 (2015): 208-234.

Santoso, D.S., Sakamoto, K., Yajima, M., and Kubota, H., 2015, "Trip Characteristics of Commuters Accessing Rail Transit by Considering Distance and Slope with Integration of Public Bus as a Feeder." *Journal of Eastern Asia Society for Transportation Studies*, Vol. 11 pp. 1479-1494.

Joewono, T.B., and **Santoso, D.S.**, 2015, "Service quality attributes for public transportation in Indonesian Cities." *Journal of Eastern Asia Society for Transportation Studies*, Vol. 11 pp. 1064-1081.

Rambukwella, D.M.W.K.K.U.K., and **Santoso, D.S.**, 2015, "Customer satisfaction analysis

of the luxury long distance bus service in Sri Lanka." *Journal of Eastern Asia Society for Transportation Studies*, Vol. 11 pp. 1272-1290.

Joewono, T.B., **Santoso, D.S.**, and Susilo, Y.O., 2015, "Paratransit transport in Indonesia: Characteristics and User Perceptions." *Journal of Eastern Asia Society for Transportation Studies*, Vol. 11 pp. 1346-1361.

Mehmood, Hussain and Warnitchai (2015), "Seismic evaluation of flexure-shear dominated RC walls in moderate seismic regions", *Magazine of Concrete Research*, Volume 67 Issue 18, September, 2015, pp. 1003-1016. (SCOPUS citation: 0, Journal's impact factor: 0.759, Publisher: ICE Publishing)

Yooprasertchai, Hadiwijaya and Warnitchai (2015), "Seismic performance of precast concrete rocking walls with buckling restrained braces", *Magazine of Concrete Research*, Ahead of Print. (SCOPUS citation: 1, Journal's impact factor: 0.912 (SNIP=1.032), Publisher: ICE Publishing)

Yooprasertchai, and Warnitchai (2015), "An application of precast hybrid moment-resisting frames for seismic improvement", *Magazine of Concrete Research*, Ahead of Print. (SCOPUS citation: 0 Journal's impact factor: 0.912 (SNIP=1.032), Publisher: ICE Publishing)

Refereed Proceedings

Jensupakarn, A., Kanitpong, K., and Jiwattanakupaisarn, P., "Factors Influencing Red Light Running Behavior: A Study of Socio-economic Characteristics

and Geometry of Intersections," the 11th Eastern Asia Society for Transportation Studies (EASTS), Cebu, Philippines, 2015.

Baral, S. and Kanitpong, K., "Factors Affecting the Severity of Motorcycles Accidents and Casualties in Thailand by Using Probit and Logit Model," the 11th Eastern Asia Society for Transportation Studies (EASTS), Cebu, Philippines, 2015.

Sarm, S.A. and Kanitpong, K., "Analysis of Factors Affecting the Severity of Motorcycle Casualties in Phnom Penh Using Bayesian Approach," the 11th Eastern Asia Society for Transportation Studies (EASTS), Cebu, Philippines, 2015.

Mofadal, A.I.A., Kanitpong, K., and Jiwattanakupaisarn, P., "Analysis of Pedestrian Accident Costs in Sudan by Willingness-To-Pay Method," the 94th Annual Meeting of Transportation Research Board, 2015.

P. H. Giao, T. N. Anh (2015), Prediction of Geopressure for a New Exploration Well Site in the Cuu Long Basin, Vietnam, *Proc. of the 77th EAGE Conference & Exhibition*, Madrid 1-4 June, 2015.

P. H. Giao (2015), Lithological Zoning Using the Vp/Vs Log Curves, *Proc. of The 21st Formation Evaluation Symposium of Japan (JFES 2015)*, 13-14 October, Chiba, Japan

P. H. Giao, B. D. Trung and D. Q. Doi (2015), Porosity partitioning of a fractured granite basement (FGB) reservoir in the Cuu Long Basin, offshore Southern Vietnam, Special session TC105, *Proc. the*

15th Asian Regional Conference in Soil Mechanics and Geotechnical Engineering (SSMGE-ARC15), 9-15 November, 2015, Fukuoka, Japan.

P. H. Giao, T. N. Anh and D. Duangngern (2015), Assessment of Geopressure in the Upper Oligocene Shale of the Cuu Long Basin by Conventional and Fuzzy Methods, *Proc. of the SEGJ12 International Symposium, Society of Exploration Geophysics of Japan*, 18-20 November, Tokyo, Japan

Maqsoom, A., & **Charoenngam, C.** (2015). The International Entrepreneurial Dynamics of Pakistani Transnational Contractors. In *Proceedings of the 19th International Symposium on Advancement of Construction Management and Real Estate* (pp. 961-969). Springer Berlin Heidelberg.

Liyanage, S.P., and **Santoso, D.S.**, "Comparison of Different Standards in Designing Signalized Mid-Way Crossing for Maharagama, Sri Lanka." *Proceedings of the 8th ATRANS Symposium – Young Researcher's Forum*, 21-22 August 2015, Bangkok, Thailand.

Ranathunga, C.S., and **Santoso, D.S.**, "Examination of Problems Faced by the Drivers of Three-Wheelers in Kurunegala District, Sri Lanka." *Proceedings of the 8th ATRANS Symposium – Young Researcher's Forum*, 21-22 August 2015, Bangkok, Thailand

ENVIRONMENT

Introduction

Environment is the surrounding things. It includes living things and natural forces. The environmental theme looks for solutions to environmental problems, water supply and sanitation, wastewater treatment and disposal systems, air pollution, solid and hazardous wastes, waste minimization, and life cycle assessment, environmental impact assessment and management. Environment' is basically including 3 sub-sectors which are described below. First sub sector focuses on natural resource management, biodiversity conservation, land degradation, Forestry etc. Natural resource management refers to the management of natural resources such as land, water, soil, plants and animals, with a particular focus on how management affects the quality of life for both present and future generations. The Second sub sector focuses on industry, and waste issues, urbanization issues (waste to energy, resource efficiency, green growth and green economy, circular economy and sustainable consumption and production, waste reuse and recycling). Over all, the activities and action include waste management from its inception to its final disposal. This includes amongst other things, collection, transport, treatment and disposal of waste together with monitoring and regulation. It also encompasses the legal and regulatory framework that relates to waste management encompassing guidance on recycling. Lastly the Third sub sector focusses on water and wastewater, and sanitation – quantity and quality aspects (water use, reuse and recycling potential for achieving water security) – with a major focus on freshwater resources

Grants and Sponsored Research Completed in 2015

Emission Inventory Elaboration for Phnom Penh Municipality, Cambodia

Duration: 20-Sept-14 to 30-Sep-15
Project Investigator: Prof. Nguyen Thi Kim Oanh
Sponsor: German Federal Enterprise for International Cooperation
Total Contracted Amount (THB): 786,000

Impact, Treatment and Management of Acid Mine Drainage

Duration: 1-Apr-13 to 31-May-15
Project Investigator: Prof. Ajit P. Annachhatre
Sponsor: UNESCO-IHE Partnership Research Fund (UPaRF), The Netherlands
Total Contracted Amount (THB): 156,000

Investigation and Optimization of TEG Waste Minimization System for Real Application

Duration: 1-May-14 to 31-Dec-15
Project Investigator: Prof. C. Visvanathan
Sponsor: PTT Public Company Limited, Thailand
Total Contracted Amount (THB): 1,000,000

Investigating the Impact of Effective Microorganisms on Health/Ecology and Water Safety Plans

Duration: 1-Jun-12 to 31-Dec-15
Project Investigator: Dr. Oleg Shipin
Sponsor: WHO, SEARO
Total Contracted Amount (THB): 316,200

Outreach on Environmentally Sound Treatment of Hazardous Chemicals in Asia

Duration: 1-Jul-11 to 31-Jul-15
Project Investigator: Prof. Nguyen Thi Kim Oanh
Sponsor: The Norwegian Ministry of Foreign Affairs
Total Contracted Amount (THB): 9,291,686

Study of Ground-level Ozone in Bangkok Metropolitan Region by Advance Mathematical Modeling for Air Quality Management

Duration: 1-Oct-12 to 31-Jul-15

Project Investigator: Prof. Nguyen Thi Kim Oanh
Sponsor: Petroleum Authority of Thailand (PTT) Public Company Limited
Total Contracted Amount (THB): 2,497,600

Development of a Membrane Based Treatment of TEG for Gas Separation Plant's Wastewater

Duration: 20-Feb-13 to 31-Dec-15
Project Investigator(s): Prof. C. Visvanathan
Sponsor: Petroleum Authority of Thailand (PTT) Public Company Limited
Total Contracted Amount (THB): 2,287,500

Strengthening capavity of policymaking in south East Asia to promote policies and developing plans for improved wastewater treatment and reuse in urban and peri urbans areas

Duration: 01-12-2014 to 30-11-2015
Project Investigators: Dr Thammarat Koottatep
Sponsor: united Nations economic and social commission for Asia
Total Contracted Amount (THB): 231,862

Turning ricestraw into cooking fuel for air quality and climate cobenefit in selected GMS countries

Duration: 15-12-2014 to 31-08-2016
Project Investigators: Prof. Nguyen Thi Kim Oanh, Dr P Abdul Salam
Sponsor: Stockhome environment institute Asia center
Total Contracted Amount (THB): 178,107

Strengthening capavity of policymaking in south East Asia to promote policies and developing plans for improved wastewater treatment and reuse in urban and peri urbans areas

Duration: 01-12-2014 to 30-11-2015
Project Investigators: Dr Thammarat Koottatep
Sponsor: united Nations economic and social commission for Asia
Total Contracted Amount (THB): 1,159,309

Development of Innovative technology and integrate management system for sustainable sanitation in ASEAN

Duration: 10-12-2013 to 09-12-2014
Project Investigators: Dr Thammarat Koottatep
Sponsor: Korea institute of science and technology
Total Contracted Amount (THB): 2,420,000

Investigation and optimisation of TEG Waste minimisation system for real application

Duration: 01-05-2014 to 30-04-2015
Project Investigators: Prof C Visvanathan
Sponsor: PTT Public Company Limited, Thailand
Total Contracted Amount (THB): 1,000,000

Emission inventory elaboration for Phnom Penh municipality, Cambodia

Duration: 20-09-2014 to 30-05-2015
Project Investigators: Prof. Nguyen Thi Kim Oanh
Sponsor: German Federal enterprise for international cooperation
Total Contracted Amount (THB): 786,000

Assesment of impacts of the emmission reduction measures of short-lived climate forcers on air quality and climate in Southeast Asia

Duration: 01-06-2012 to 01-06-2015
Project Investigators: Prof. Nguyen Thi Kim Oanh
Sponsor: USAID & NAS
Total Contracted Amount (THB): 5,542,800

Polution mitigation in coastal communities via the multi-functional wetland (mangrove) approach with biodiversity and sustainable agri-business co-benefits

Duration: 10-03-2012 to 09-02-2014
Project Investigators: Dr. O. Shipin
Sponsor: UNEP
Total Contracted Amount (THB): 900,000

Making the Mekong Connected: Developing carbon and multidiversity assets for

multifunctional landscapes in upper Mekong

Duration: 1-Mar-09 to 31-Aug-2015
Project Investigator(s): Rajendra P. Shrestha
Sponsor: World Agroforestry center
Total Contracted Amount (THB): 2,187,588

Technology needs assessment in Asia for climate change mitigation and adaptation Phase II Global Workshop

Duration: May – August 2015
Project Investigators: Prof.S. Kumar, Dr. A. Salam and Prof. R.P. Shrestha
Sponsor: UNEP DTU Partnership, Denmark
Total Contracted Amount: (THB) 1.28 million

Climate Technology Center and networking Phase I

Duration: Sep 2013 – Dec 2015
Project Investigators: Prof. M.S. Babel and Prof. R.P. Shrestha
Sponsor: UNEP
Total Contracted Amount: (THB) 3.9 million

Professional Master's Program (PM-UM1) AITVN

Duration: 1-Apr-2012 to 30-Apr-2015
Project Investigator(s): Dr. Vilas Nitivattananon
Sponsor: Government Officials, private individuals
Total Contracted Amount (USD): 323,035

Professional Master's Program (PM-UM2) AITVN

Duration: 1-Jan-2014 to 31-July-2015
Project Investigator(s): Dr. Vilas Nitivattananon
Sponsor: Government Officials, private individuals
Total Contracted Amount (USD): 139,700

Community Based Low Carbon Tourism Development in Designated Areas

Duration: 1-Mar-2014 to 28-Feb-2015
Project Investigator(s): Dr. Vilas Nitivattananon
Sponsor: Tourism Authority (DASTA)/SIIT
Total Contracted Amount (THB): 500,000

Managing Water Resources and Land Use for People's Livelihood in Peri-Urban areas of South Asian region

Duration: 1-Nov-2014 to 30-Mar-2015
Project Investigator(s): Dr. Sohee Kim
Sponsor: Office of the VPAA, AIT
Total Contracted Amount (THB): 49,000

Community based low carbon tourism development

Duration: 01-03-2014 to 28-02-2015
Project Investigators: Dr Vilas Nitivattananon
Sponsor: DASTA/SIIT
Total Contracted Amount (THB): 500,000

Regional Consultation on "Strengthening Food and Nutrition Security of the Urban People through Urban and Peri-urban Agriculture in Asia"

Duration: 14 - 15 July 2015
Sponsor: FAO Regional Office for Asia and the Pacific
Total Contracted Amount (THB): 2,141,700

On-going Grants and Sponsored Research

Professional Master's Program (PM-UM3) AITVN

Duration: June 2015 to Dec-2016
Project Investigator(s): Dr. Vilas Nitivattananon
Sponsor: Government Officials, private individuals
Total Contracted Amount (USD): 139,700

Regional collaboration on eco labelling

Duration: 1-Sep-2015 to 31-Aug-2016
Sponsor: UNEP
Total Contracted Amount (THB): 2,477,343

Evaluation of Pilot Implementation Program for Promoting Low Carbon Tourism Development in Reginal Level (Pilot LCT)

Duration: 30-Sep-2015 to 31-Mar-2016
Sponsor: SIIT/DASTA
Total Contracted Amount (THB): 500,000

One year professional masters program in urban management

Duration: 01-06-2015 to 31-12-2016
Project Investigators: Dr Vilas Nitivattananon
Sponsor: Multi donors
Total Contracted Amount (THB): 4,749,800

Regional collaboration on eco labelling

Duration: 01-09-2015 to 31-08-2016
Project Investigators: Dr Vilas Nitivattananon
Sponsor: UNEP
Total Contracted Amount (THB): 2,477,343

1st Specialist Conference on Municipal Water Management and Sanitation in Developing Countries: From Toilet to Source-Accelerating Uptake of Sustainable and Integrated Wastewater Management Solutions

Duration: 1-Mar-14 to 30-Jun-16
Project Investigator: Dr. Thammarat Koottatep
Sponsors: International Water Association, Japan Sanitation Consortium, Wastewater Management Authority (Thailand), Faculty of Engineering (Prince of Songkhla University, Thailand) and participants
Total Contracted Amount (THB): 1,434,745

Professional master in Environmental engineering and management

Duration: 01-05-2014 to 01-12-2016
Project Investigators: Prof. Nguyen Thi Kim Oanh
Sponsor: Environmental government and pvt companies, Vietnam
Total Contracted Amount (THB): 108,450

Development and dissemination of Fecal sludge Management toolkit for investor's planners and consultants

Duration: 01-10-2014 to 31-03-2016
Project Investigators: Dr. Thammarat Koottatep
Sponsor: Bill and Melinda Gates Foundation
Total Contracted Amount (THB): 23,592,320

Assessment of Impacts of the Emission Reduction Measures of

Short-lived Climate Forcers on Air Quality and Climate in Southeast Asia

Duration: 1-Jun-12 to 31-Aug-16
Project Investigator: Prof. Nguyen Thi Kim Oanh
Sponsors: United States Agency for International Development (USAID) / National Academy of Sciences (NAS)
Total Contracted Amount (THB): 7,658,000

Reports on drinking water services and technologies in Asian countries

Duration: 01-04-2015 to 31-03-2016
Project Investigators: Prof C Visvanathan
Sponsor: Japan water research centre (JWRC)
Total Contracted Amount (THB): 250,000

Developing an operational framework for river health assessment in the Mekong River Basin

Duration: 1-Dec-2014 to 1-Dec-2018
Project Investigators: Prof. M.Babel (WEM), Dr O.Shipin, Dr S. Shrestha (WEM)
Sponsor: CGIAR
Total Contracted Amount (THB): 12,899,700

Development and Dissemination of Fecal Sludge Management Toolkit for Investors, Planners and Consultants

Duration: 1-Oct-14 to 30-Nov-16
Project Investigator: Dr. Thammarat Koottatep
Sponsor: Bill & Melinda Gates Foundation
Total Contracted Amount (THB): 23,592,320

Development of Innovative Technology and Integrate Management Systems for Sustainable Sanitation in ASEAN

Duration: 10-Dec-13 to 30-Jun-16
Project Investigator: Dr. Thammarat Koottatep
Sponsor: Korea Institute of Science and Technology (KIST)
Total Contracted Amount (THB): 2,420,000

Evaluation of Two Technologies for Heavy Metals Removal under Tropical Condition

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Duration: 1-Oct-12 to 30-Oct-16
Project Investigator: Prof. Ajit P. Annachhatre
Sponsor: UNESCO-IHE Partnership Research Fund (UPaRF), The Netherlands
Total Contracted Amount (THB): 487,500

Professional Masters in Environmental Engineering and Management Batch III

Duration: 1-May-14 to 31-Dec-16
Project Investigator: Prof. Nguyen Thi Kim Oanh
Sponsor: Multi donors
Total Contracted Amount (THB): 2,169,000

Stimulating Local Innovation on Sanitation for the Urban Poor in Sub-Saharan and Southeast Asia

Duration: 8-Feb-12 to 16-Jun-16
Project Investigator: Dr. Thammarat Koottatep
Sponsor: Bill & Melinda Gates Foundation
Total Contracted Amount (THB): 26,124,360

Strengthening Capacity of Policymakers in South-East Asia (SEA) to Promote Policies and Developing Plans for Improved Wastewater Treatment and Reuse in Urban and Peri-Urban Areas

Duration: 1-Dec-14 to 30-Jun-16
Project Investigator: Dr. Thammarat Koottatep
Sponsor: United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)
Total Contracted Amount (THB): 1,159,308.90

Sustainability Issues due to Coal Ash from Coal fired Power Plants

Duration: 1-Sep-10 to 31-Aug-16
Project Investigator: Prof. Ajit P. Annachhatre
Sponsor: SDCC AIT France Network
Total Contracted Amount (THB): 1,800,000

Sustainable Decentralized Wastewater Management in Developing Countries

Duration: 15-Oct-11 to 31-Aug-17
Project Investigator: Dr. Thammarat Koottatep
Sponsor: Bill & Melinda Gates Foundation

Total Contracted Amount (THB):
149,991,660

The National Centre of Competence in Research (NCCR) North-South

Duration: 2002 to 30-Jun-17

Project Investigator: Dr. Thammarat Koottatep

Sponsor: NCCR North-South Center for Development and Environment, Switzerland

Total Contracted Amount (THB):
40,817,025.79

Turning Rice Straw into Cooking Fuel for Air Quality and Climate Co-benefit in Selected GMS Countries

Duration: 15-Dec-14 to 31-Aug-16

Project Investigator(s): Prof. Nguyen Thi Kim Oanh

Sponsor: Stockholm Environment Institute (SEI) Asia Center

Total Contracted Amount (THB):
1,920,000

A Study on Urban Air Pollution Improvement in Asia

Duration: 31-Mar-15 to 31-Mar-17

Project Investigator(s): Prof. Nguyen Thi Kim Oanh

Sponsor: Japan International Cooperation Agency (JICA)

Total Contracted Amount (THB):
3,044,338.16

Development of the Co-Benefit Action Plan for Bandung City

Duration: 1-Jul-15 to 30-Jun-16

Project Investigator(s): Prof. Nguyen Thi Kim Oanh

Sponsor: Institute for Global Environmental Strategies (IGES)

Total Contracted Amount (THB):
1,143,090

Turning ricestraw into cooking fuel for air quality and climate cobenefit in selected GMS countries

Duration: 15-12-2014 to 31-08-2016

Project Investigators: Prof. Nguyen Thi Kim Oanh, Dr P Abdul Salam

Sponsor: Stockhome environment institute Asia center

Total Contracted Amount (THB): 1,920,000

Innovation on Sanitation

Duration: 08-02-2012 to 16-06-2016

Project Investigators: Dr.

Thammarat Koottatep

Sponsor: Bill & Melinda Gates Foundation

Total Contracted Amount

(THB): 26,124,360

Sustainable Decentralized Wastewater Management in Developing Countries

Duration: 15-10-2011 to 16-06-2016

Project Investigators: Dr.

Thammarat Koottatep

Sponsor: Bill & Melinda Gates Foundation

Total Contracted Amount (THB): 149,991,660

Application of membrane Bio reactor and membrane distillation technologies in water treatment

Duration: 01-06-2015 to 31-05-2016

Project Investigators: Prof C Visvanathan

Sponsor: Sumitomo electric industries Ltd Japan

Total Contracted Amount (THB): 2,772,000

Development of water treatment equipment for high rate sedimentation filtration system suitable for Thailand water quality characteristics

Duration: 01-06-2015 to 31-05-2017

Project Investigators: Prof C Visvanathan

Sponsor: Noxkorea co, Korea

Total Contracted Amount

(THB): 990,000

Developing a background paper on 3rs for water security in Asia and the pacific

Duration: 15-03-2015 to 15-05-2016

Project Investigators: Prof C

Visvanathan

Sponsor: united Nations

development of economic and social affairs

Total Contracted Amount

(THB): 290,000

Collabration in Integrated Natural Resources Management in Indonesia

CNH: When Strengths Can Become Weaknesses: Emerging

Vulnerabilities in Coupled Natural Human Systems under Globalization and Climate Change

Duration: 16-Oct-2011 to 1-Dec-2016

Project Investigator(s): Prof. Ganesh Shivakoti

Sponsor: National Science Foundation (NSF)-Arizona State University (ASU)

Total Contracted Amount (THB): 4,405,959.03

Collaboration in Integrated Natural Resources Management in Indonesia "Decentralization, Local People, Gender and Resources"

Duration: 1-Aug-05 to 31-Dec-16

Project Investigator(s):Ganesh P.

Shivakoti

Sponsor:The Ford Foundation

Total Contracted Amount (THB):
984,000

Collaboration on Capacity Building of Hanoi Agricultural University and Hue University of Agriculture and Forestry in Initiating INRM and Poverty Alleviation

Duration:1-Jul-08 to 31-Dec-16

Project Investigator(s):Ganesh P. Shivakoti

Sponsor:The Ford Foundation, Hanoi, Vietnam

Total Contracted Amount (THB):
6,536,600

The Collaborative Graduate program in Integrated Natural Resources Management between Hanoi University of Agriculture and Hue University of Agriculture and Forestry

Duration:15-Jul-09 to 31-Dec-16

Project Investigator(s):Ganesh Shivakoti

Sponsor:Ford Foundation Hanoi

Total Contracted Amount (THB):
12,184,992

Strengthening institutional capacity, extension services and rural livelihood in the Central Dry Zone and Ayeyarwaddy Delta regions of Myanmar

Duration: 1-Jun-2013 to 31-Dec-2016

Project Investigator: Dr. Clemens Grunbuhel

Sponsor: ACIAR

Total Contracted Amount (THB):
16,449,382

Technology needs assessment in Asia for climate change mitigation and adaptation Phase II

Duration: Jan 2015-Dec 2017

Project Investigator(s): Prof. S. Kumar, Dr. A. Salam and Prof. R.P. Shrestha

Sponsor: UNEP DTU Partnership, Denmark

Total Contracted Amount: (THB) 2.514 million

Technology needs assessment in Asia for climate change mitigation and adaptation Phase II Workshop

Duration: Jan 2015-Mar 2017

Project Investigators: Prof. S. Kumar, Dr. A. Salam and Prof. R.P. Shrestha
Sponsor: UNEP DTU Partnership, Denmark

Total Contracted Amount: (THB) 1.462 million

Technology needs assessment in Asia for climate change mitigation and adaptation Phase II Travel

Duration: Jan 2015-Mar 2017

Project Investigators: Prof. S. Kumar, Dr. A. Salam and Prof. R.P. Shrestha
Sponsor: UNEP DTU Partnership, Denmark

Total Contracted Amount: (THB) 0.32 million

Publications

Book

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Kusakabe, K., R.P. Shrestha, and N. Veena (Eds.), 2015. *Gender and Land Tenure in the Context of Disasters in Asia*, Springer Briefs in Environment, Security, Development and Peace 21, Springer publication.

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Koottatep, T., Chapagain, S. K. & Polprasert, C. (2015). Situation and Novel Approach for Sustainable Phosphorus Recovery: A case study of Thailand. *Global Environmental Research (GER)*, 19(1), 105-111, Japan.

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Trang, T. T., Van, H. H. & Kim Oanh, N. T. (2015). Traffic emission inventory for estimation of air quality and climate co-benefits of faster vehicle technology intrusion in Hanoi, Vietnam. *Carbon Management*, 6(3-4), 117-128. (Impact Factor: 1.589)

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Srisomkiew, S., S. Ninsawat, and R. P. Shrestha, 2015. Assessing soil salinity using the relationship of satellite image observation with electrical conductivity, International Soil Conference 2015 Sustainable Uses of Soil in Harmony with Food Security", The Regent Cha Am Beach Resort, 18-21 August 2015, Cha Am (First Place in Poster Presentation).

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- Akber, M.A. and R.P. Shrestha, 2015. Impact of Land Use Change on Biodiversity in Chiang Rai Province of Thailand, In: Spatial Ecology & Conservation Conference, 13-15 July 2-15, University of Bristol, Bristol, UK.
- Asokbunyarat, V. & Annachhatre, A. P. (2015). *Permeable Reactive Barrier for Arsenic Removal from Arsenic Groundwater*. International Conference on Civil, Environmental and Medical Engineering (ICEME), 5-6 April 2015, Bangkok, Thailand.
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- Asokbunyarat, V., van Hullebusch E. D., Lens P. N. L. & Annachhatre, A. P. (2015). *Adsorption of Heavy metals from Acid Mine Drainage by Coal Bottom Ash*. The 4th International Conference on Research Frontiers in Chalcogen Science & Technology, 28-29 May 2015, UNESCO – IHE, Delft The Netherlands.
- Dathong, J., Moonmangmee, S., Surinkul, S., Koottatep, T. & Phapugrangkul, P. (2015). The study of microbial community structure in septic tank systems using TD-PCR DGGE and metagenomics analyses. *Proceedings of the International Conference on Anaerobic Digestion AD Technology and Microbial Ecology for Sustainable Development*, 3-6 February 2015, Chiang Mai, Thailand.
- Dulyakasem, S., Surinkul, N., Panuvatcanich, A. & Koottatep, T. (2015) User's needs and factors affecting FS emptying services of DEWATs. *Proceedings of 3rd International Fecal Sludge Management Conference*, 19-23 January 2015, Hanoi, Vietnam.
- Kim Oanh, N. T. (2015). *Emission characterization of rice straw open burning in Southeast Asia, 2015*. Atmospheric Composition and Chemistry Observations and Modeling Conference (ACCOMC), UNSW, November 2015.
- Kim Oanh, N. T. & Van, H. H. (2015). *Comparative Assessment of Traffic Fleets in Asian Cities for Emission Inventory and Analysis of Co-benefit from Faster Vehicle Technology Intrusion*. International Emission Inventory Conference "Air Quality Challenges: Tackling the Changing Face of Emissions", April 2015, San Diego.
- Nanda, S., Rajbhadari, J., Hla Hla Htoe, Khongniam, K., Karanja, A., Bohez, E., Shipin, O. & Boonchu, C. (2015). *Environmental Footprint in Rice-Eucalyptus Agroforestry System vs. their sustainability potential: A case study in Thailand*. Regional Forum on Climate Change, RFCC, 1-3 July 2015, AIT, Bangkok, Thailand.
- Panuvatvanich, A., Koottatep, T. & Strande, L. (2015). Nitrogen transformation in different layers of vertical-flow constructed wetlands (VFCW) treating fecal sludge. *Proceedings of 3rd International Fecal Sludge Management Conference*, 19-23 January 2015, Hanoi, Vietnam.
- Proysurin, N., Sen, R. & Annachhatre, A. P. (2015). *Options for Management of Bio Solids from Agro-Industries*, International conference on Technology and Management Solutions for Climate Change adaptation: opportunities and challenges to Asian countries, 16-17 April 2015, Vanlang University, Ho Chi Minh City, Vietnam.
- Shipin, O. (2015). *Impacts by Floating Gardens Biotechnology and Sustainable Remediation in Inle Lake, Prominent Wetland of Central Myanmar*. 1st International Conference on Environment, livelihood, and Services, Chaipattana Foundation, 2-5 November, 2015, Bangkok Convention Centre, Thailand.
- van Hullebusch, E. D. & Annachhatre, A. P. (2015). *Overview of selenium in coal ashes: speciation, leachability and its potential impact on the environment*. The 4th International Conference on Research Frontiers in Chalcogen Science & Technology, 28-29 May, 2015, UNESCO – IHE, Delft, The Netherlands.
- Visvanathan, C. (2015). *3Rs for Water Security in Asia and the Pacific*, 6th Regional 3R Forum in Asia and the Pacific, 16-19 August 2015, Maldives.
- Visvanathan, C. (2015). *Role of Private Sector in Achieving Zero Waste Society*. IPLA Global Forum, 6-8 October 2015, Moscow, Russia.
- Visvanathan, C. (2015). *Urban Wastewater Issues and Trends in Thailand*. invited speaker, by the Ministry of Foreign Affairs–Singapore, at the Asia- Europe (ASEM) Seminar of Sustainable Management of Wastewater and Sanitation, 26-27 June 2015, Singapore.
- Visvanathan, C. & Jacob, P. (2015). *Centralized control on decentralized wastewater treatment: the emerging role of membrane bioreactors*. Invited Lecture, International Conference on New Horizons in Biotechnology, 22-25 November 2015, Trivandrum, India.
- Visvanathan, C. & Jacob, P. (2015). *Nanotechnology Applications in Wastewater Treatment: The Road Ahead*, Invited Keynote speech, 2nd International Workshop on "Energy, Environment and Ecosystem (3E) for Sustainable Development in Asian Countries, 26-27 February 2015, Bali, Indonesia.
- Organized "International Workshop on Urban Development (IWUD) - Smart Cities and Planning & Management of Historic Towns", in collaboration with La Salle University, Bogota, Colombia, AIT, 25 March 2015.
- Organized Seminar on "Green Mega Urban for Transit Oriented

Development', in partnership with University of Indonesia (UI), AIT, 21 October 2015.

Papers in Workshops

Visvanathan, C. (2015). *Sustainability in Higher Education Institutions*. Regional Symposium on Sustainability Practices in Higher Education Institutions", 13 October 2015, AIT, Bangkok, Thailand.

Visvanathan, C. (2015). *University Consortium on Holistic Waste Management*. Experts Meeting on Development of Academic Curricula for Waste Management, 25 March 2015, Nairobi, Kenya.

Visvanathan, C. (2015). *University Consortium on Holistic Waste Management*, Workshop on Waste Management, Organized by EMC and Griffith University, 16-17 July 2015. Mumbai, India.

Invited Lectures and Keynote Addresses

Visvanathan, C. (2015). *3Rs in Water Sector: Achieving Water Security through Wastewater Reuse*. iPURSE Conference. Faculty of Engineering, University of Peradeniya, 5 November 2015, Kandy, Sri Lanka.

Visvanathan, C. (2015). *Environmental Issues Related to Hydro Power Plants: EIA's Role*. Invitation lecture as a member of Board of Study Committee for M.Sc in Sustainable Hydropower Development Program, University Kuala Lumpur – Malaysia France Institute – UniKL- MFI, 11 August 2015, Kuala Lumpur, Malaysia.

Visvanathan, C. (2015). *Technology and/or Policy: Driving Force Behind Asian Waste Management*. International Conference on Global Environmental Issues, National Green Tribunal, 14-15 March 2015, New Delhi, India.

Water

Introduction

Globally, an estimated 2,000 children under the age of five die every day from diarrheal diseases and of these some 1,800 deaths are linked to water, sanitation and hygiene. Today, 2.5 billion people remain without basic sanitation and at least 748 million people lack access to safe drinking water. Feeding a planet of 9 billion by 2050 will require approximately 50% more water in 2050. More than half of the world's population now lives in urban areas. And the number is growing fast; putting pressures on urban water systems. Currently, 2 billion people live in countries with absolute water scarcity and the number is expected to rise to 4.6 billion by 2080. The thematic area of "water" at AIT broadly covers the following areas: Agricultural Water: Rural water supply and sanitation; Irrigation and drainage, Coastal Water: Protecting vital coastal ecosystems, Urban Water: Urban water supply, sanitation and wastewater management, Water Resources: Water resources development and management; Hydropower; Watershed and wetlands protection, Extreme Events and Risk Management: Floods and droughts; Climate variability and change

Grants and Sponsored Research Completed in 2015

Hydraulic model study of overflow spillway for Nam Bak 1 Hydroelectric power project, Laos PDR

Duration: 01-Apr-2014 to 30-Dec-2015
Project Investigators Arturo G Roa
Sponsor: Nam Gum 2 Power Company limited, Lao PDR
Total Contracted Amount (THB): 5,546,000

Hydraulic model tests for improving the efficiency of the navigation lock fish migration facilities of Xayaburi hydroelectric power project, Lao PDR

Duration: 10-Oct-2014 to 1-Sep-2015

Project Investigator: Arturo G. Roa
Sponsor: TEAM Consulting Engineering and Management Co. Ltd, Thailand
Total Contracted Amount (THB): 363,500

Pilot Model Tests of Filter Nozzles for Bangkhaen and Mahasawat Water Treatment Plants

Duration: 7-Jun-2013 to 1-Sep-2015
Project Investigator: Arturo G. Roa
Sponsor: ASTRA Marketing Ltd., Thailand
Total Contracted Amount (THB): 363,500

Capacity Development on Adaptation and Disaster Management of the Water Section related to Climate Change

Duration: 1-Mar-13 to 31-Dec-15
Project Investigator(s): Mukand S. Babel
Sponsor: Wageningen University (WU), The Netherlands
Total Contracted Amount (THB): 2,529,280

Post-doctoral Research Programme on Adaptation to Climate Change (PROACC2)

Duration: 1-Mar-13 to 28-Feb-15
Project Investigator(s): Prof. Mukand S. Babel
Sponsor: UNESCO-IHE, Delft, The Netherlands
Total Contracted Amount (THB): 1,086,800

Workshop on towards sustainable water and environmental management role of international community and Higher learning institute

Duration: 01-Oct-2014 to 31-Mar-2015
Project Investigators Dr Mukund S Babel
Sponsor UNESCO-IHE, The Netherlands
Total Contracted Amount (THB): 400,000

Capacity building of Moeyingyi wetland conservation in Myanmar in the context of climate change

Duration: 01-Jan-2014 to 31-Dec-2015

Project Investigators Dr Sangam Shrestha, Dr Avishek Datta
Sponsor Ramsar Conventional secretariat, Switzerland
Total Contracted Amount (THB): 1,246,050

Setting up of a hydraulic Laboratory at CUET, Bangladesh

Duration: 01-Jun-2014 to 30-Aug-2015
Project Investigators Prof mukund s Babel
Sponsor UNESCO-IHE, The Netherlands
Total Contracted Amount (THB): 814,000

Developing rain forecasting platform in Bangkok

Duration: 01-Jun-2014 to 30-Jun-2015
Project Investigators Dr Sutat Weesakul
Sponsor NECTEC
Total Contracted Amount (THB): 490,000

Developing an operational water security index, and its application in selected drivers regions of asia

Duration: 01-10-2014 to 31-12-2015
Project Investigators: Prof Mukand S babel
Sponsor: APN Japan
Total Contracted Amount (THB): 1,280,000

Capacity building of Moeyingyi wetland conservation in Myanmar in the context of climate change

Duration: 01-Jan-2014 to 31-Dec-2015
Project Investigators Dr Sangam Shrestha, Dr Avishek Datta
Sponsor Ramsar Conventional secretariat, Switzerland
Total Contracted Amount (THB): 1,246,050

On-going Grants and Sponsored Research

Hydraulic model studies of Upper Yeywa hydroelectric power project, Republic of the Union of Myanmar

Duration: 01-July-2014 to 1-July 2016
Project Investigator Arturo G. Roa
Sponsor: Builder's Trading International Co. Ltd, Thailand
Total Contracted Amount (THB): 7,051,300

Capacity Development of Higher Education on IWRM at CUET

Duration: 1-Sep-13 to 31-Aug-16
Project Investigator(s): Mukand S. Babel
Sponsor: UNESCO-IHE, the Netherlands
Total Contracted Amount (THB): 3,816,280

Prepare extreme and rare events in coastal regions

Duration: 01-Jan-2014 to 31-Dec-2017
Project Investigators Dr Sutat Weesakul
Sponsor UNESCO-IHE, The Netherlands
Total Contracted Amount (THB): 1,212,588

Regional forum on climate change (RFCC) allow carbon and climate resilient societies bridging science practise and policy

Duration: 01-04-2015 to 31-03-2016
Project Investigators: Prof Mukand S babel
Sponsor: participants
Total Contracted Amount (THB): 1,000,000

Physical hydraulic model studies of Nam Theun 1 Hydropower project

Duration: 01-09-2015 to 30-08-2016
Project Investigators: Dr Arturo G Roa
Sponsor: Phonesack Group Co Ltd
Total Contracted Amount (THB): 6,367,300

Agarwal, A., **Babel, M. S.** and S. Maskey (2015). Estimating the Impacts and Uncertainty of Climate Change on the Hydrology and Water Resources of the Koshi River Basin. In Shrestha, S., Anal, A.K., Salam, P.A., van der Valk, M. (eds.) (2015). *Managing Water Resources under Climate Uncertainty: Examples from Asia, Europe, Latin America, and Australia*. Series: *Springer Water*, Springer International Publishing, DOI 10.1007/978-3-319-10467-6_6, pp 105-126.

Shrestha, S. and **M. S. Babel** (2015). Climate Change Projections in South and South East Asia. ADB book chapter

Maharjan, M., and **M. S. Babel** (2015). Impact of Uncertainty of Future Climates on Discharge of the Nam Ou River Basin, Lao PDR. In Shrestha, S., Anal, A.K., Salam, P.A., van der Valk, M. (eds.) (2015). *Managing Water Resources under Climate Uncertainty: Examples from Asia, Europe, Latin America, and Australia*. Series: *Springer Water*, Springer International Publishing, ISBN: 978-3-319-10466-9 65-87, pp 65-87.

Santikayasa, I.P., Babel, M.S., **Shrestha, S.** (2015). Assessment of the impact of climate change on water availability in the Citarum river basin, Indonesia: The use of statistical downscaling and water planning tools. In Shrestha, S., Anal, A.K., Salam, P.A., van der Valk, M. (eds.) (2015). *Managing Water*

Resources under Climate Uncertainty: Examples from Asia, Europe, Latin America, and Australia. Series: *Springer Water*, Springer International Publishing, DOI 10.1007/978-3-319-10467-6_6, pp 105-126.

Datta, A., **Shrestha, S.** Ferdous, Z., Win, CC. (2015). Strategies for Enhancing Phosphorus Efficiency in Crop Production Systems - Nutrient Use Efficiency: from Basics to Advances, 2015.

Htut, A.Y. and **Shrestha, S.** (2015). Uncertainties in SWAT extreme flow simulation under climate change of the Bago River Basin in Myanmar. *Excellent Science in ASEAN*, pp26-43.

Santikayasa, I.P. and **Shrestha, S.** (2015). Climate change impacts on hydrology and rice yield in Northeast of Thailand. *Excellent Science in ASEAN*, pp10-25.

Jourdain, D., Boere, E., van den Berg, M., Quang, D. D., Thanh, C. P., Affholder, F. ((In Printing)). Cash-based vs. Water-based Payment for Ecosystem Services in the uplands of Northern Vietnam: potential farmers' participation using farm modeling. In G. Shivakoti and R. Ullah (eds), *Redefining Diversity and Dynamism of Natural Resource Management in Asia* Elsevier.

Jourdain, D., Srisopaporn, S., Perrret, S. R., Shivakoti, G. ((In Printing)). The role of information provision on public GAP standard adoption: the case of rice farmers in the Central Plains of Thailand. In G. Shivakoti and R. Ullah (eds), *Redefining Diversity and Dynamism of*

Publications

Books

Natural Resource Management in Asia Elsevier.

Jourdain, D., Srisopaporn, S., Perrret, S. R., Shivakoti, G. ((In Printing)). The role of information provision on public GAP standard adoption: the case of rice farmers in the Central Plains of Thailand. In G. Shivakoti and R. Ullah (eds), *Redefining Diversity and Dynamism of Natural Resour*

Srisopaporn, S., **Jourdain, D.**, Perret, S., Shivakoti, G., 2015. Adoption and continued participation in a public Good Agricultural Practices program: the case of rice farmers in the Central Plains of Thailand. *Technological Forecasting and Social Change* 96, 242-253.

Swe, L.M.M., Shrestha, R.P., Ebberts, T., **Jourdain, D.**, 2015. Farmers' perception of and adaptation to climate-change impacts in the Dry Zone of Myanmar. *Climate and Development*, 1-17.

Ullah, R., **Jourdain, D.**, Shivakoti, G.P., Dhakal, S., 2015. Managing catastrophic risks in agriculture: Simultaneous adoption of diversification and precautionary savings. *International Journal of Disaster Risk Reduction* 12).

Books and monographs

Sangam Shrestha, Anil Kumar Anal, Abdul P. Salam and Michael van der Valk (2015). *Managing Water Resources under Climate Uncertainty: Examples from Asian and Europe*. Publisher: Springer. DOI:10.1007/978-3-319-10467-6. ISBN: 978-3-319-10466-9.

International Journal Articles with Impact factor

Mahmood, R., **Babel, M. S.**, and S. Jia (2015). Assessment of spatial and temporal distribution of future climate in the Jhelum River Basin, Pakistan and India. Accepted in *Weather and Climate Extreme*, <http://dx.doi.org/10.1016/j.wace.2015.07.002>. Publisher: Elsevier, Impact factor: 0.119 (SNIP). Citation: -

Babel, M.S., Mullick, M.R.A, Yudianto, D., Prasad, K. C., Perret, S.R., Triweko, R.W. and S. M. Wahid (2015). Optimal system operation of the drops-cascading Konto system, Indonesia, *Journal of Applied Water Engineering and Research*, Vol. 3(2), 105-121. Publisher: Taylor and Francis, Impact factor: -. Citation: -

Shrestha, S., Shrestha, M. and **M. S. Babel** (2015). Assessment of climate change impact on water diversion strategies of Melamchi Water Supply Project in Nepal, *Theoretical and Applied Climatology*, DOI 10.1007/s00704-015-1713-6, Publisher: Springer, Impact factor: 1.742 (2013). Citation: -

Mahmood, R., Babel, M. S. and S. Jia (2015). Assessment of Temporal and Spatial Changes of Future Climate in the Jhelum River Basin, Pakistan and India, *Weather and Climate Extremes*, Vol. 10, Part B, 40-55, Publisher:

Elsevier, Impact factor: 0.119 (SNIP). Citation:-

Deb, P., Kiem, A. S., **Babel, M. S.**, Chu, S. T., and B. Chakma (2015). Evaluation of climate change impacts and adaptation strategies for maize cultivation in the Himalayan foothills of India, *J. of Water and Climate Change*, doi: 10.2166/wcc.2015.070, Publisher: IWA Publishing, Impact factor: 1.044 (2013). Citation: -

Loc, H. H., **Babel, M. S.**, Weesakul, S. and P. M. Duyen (2015). Exploratory Assessment of SUDS Feasibility in Nhieu Loc-Thi Nghe Basin, Ho Chi Minh City, Vietnam, *British Journal of Environment and Climate Change*, 5(2): 91-103, *Article no.BJECC.2015.008*. Publisher: SCIENCEDOMAIN *international*, Impact factor: -. Citation: -

Babel. M. S., Badgujar, G. B. and V. R. Shinde (2015). Using the Mutual Information Technique to Select Explanatory Variables in Artificial Neural Networks for Rainfall Forecasting, *Meteorological Applications*, DOI: 10.1002/met.1495. Publisher: Wiley, Impact factor: 1.518 (2013). Citation: -

Babel, M. S. and E. Turyatunga (2015). Evaluation of Climate Change Impacts and Adaptation Measures for Maize Cultivation in the Western Uganda Agro-ecological Zone, *Theoretical and Applied*

- Climatology*, Vol. 19(1-2), 239-254. DOI 10.1007/s00704-014-1097-z, Publisher: Springer, Impact factor: 1.742 (2013). Citation: -
- Agarwal, A., **Babel, M. S.**, Maskey, S., **Shrestha, S.**, Kawasaki, A. and N. K. Tripathi (2015). Analysis of Temperature Projections in a Himalayan River Basin, *International Journal of Climatology*, DOI: 10.1002/joc.4342, Publisher: Wiley, Impact factor: 3.398 (2013). Citation: -
- Fakhruddin, S. H. M., **Babel, M. S.** and A. Kawasaki (2015). Assessing the vulnerability of infrastructure to climate change on the Islands of Samoa, *Natural Hazards and Earth Systems Sciences*, 15, 1343–1356, doi:10.5194/nhess-15-1343-2015, Publisher: Copernicus, Impact Factor: 1.735 (2014). Citation:-
- Shrestha, S.**, Parajuli, K., **Babel, M. S.**, Dhakal, S., and Shinde V. (2015). Water–Energy–Carbon Nexus: A Case Study of Bangkok, *Water Science & Technology: Water Supply*, doi:10.2166/ws.2015.046, Publisher: IWA Publishing, Impact factor: 0.394 (2014). Citation:-
- Pinto, D., **Shrestha, S.**, **Babel, M. S.** and S. Ninsawat (2015). Delineation of Groundwater Potential Zone in the Comoro Watershed, Timor Leste Using GIS, Remote Sensing and Analytic Hierarchy Process (AHP) Technique, *Applied Water Science*, DOI 10.1007/s13201-015-0270-6, Publisher: Springer, Impact factor: -, Citation: -
- Shrestha, S.**, Adhikari, S., **Babel, M. S.**, Perret, S.R., and S. Dhakal (2015). Evaluation of Groundwater-based Irrigation System Using Water-Energy-Food Nexus Approach: A Case Study from Southeast Nepal. *Journal of Applied Water Engineering and Research*. Vol. 3(2), 53-66. Publisher: Taylor and Francis, Impact factor: -, Citation: -
- Deb, P., **Shrestha, S.** and **M. S. Babel** (2015). Forecasting Climate Change Impacts and Evaluation of Adaptation Options for Maize Cropping in the Hilly Terrain of Himalayas: Sikkim, India, *Theoretical and Applied Climatology*, 121, 649-667, DOI 10.1007/s00704-014-1262-4. Publisher: Springer, Impact factor: 1.742(2013), Citation: -
- Fakhruddin, S. H. M., Kawasaki, A. and **M. S. Babel** (2015). Community Responses to Flood Early Warning System: Case Study in Kaijuri Union, Bangladesh, *International Journal of Disaster Risk Reduction*, doi:10.1016/j.ijdrr.2015.08.004 Publisher: Elsevier, Impact Factor: -. Citation:-
- Wali, E., Datta, A., Shrestha, R.P., **Shrestha, S.** (2015).
- Development of a land suitability model for saffron (*Crocus sativus* L.) cultivation in Khost Province of Afghanistan using GIS and AHP techniques. *Archives of Agronomy and Soil Science*, Publisher: Taylor and Francis, Impact factor: 0.549 (2014). Citation: -
- Muangthong, S., **Shrestha, S.** (2015). Assessment of surface water quality using multivariate statistical techniques: case study of the Nampong River and Songkhram River, Thailand. *Environmental Monitoring and Assessment* 187 (9), 548, Publisher: Springer, Impact factor: 1.679 (2014). Citation: 1
- Shrestha, S., Datta, A. (2015). Field measurements for evaluating the RZWQM and PESTFADE models for the tropical zone of Thailand. *Journal of Environmental Management*, 147, pp. 286-296, Publisher: Elsevier, Impact factor: 2.723 (2014). Citation: -
- Sayasane, R., Kawasaki, A., **Shrestha, S.**, and Takamatsu, M. (2015). Assessment of Potential Impacts of Climate and Land use Changes on Stream flow: A Case Study of the Nam Xong Watershed in Lao PDR. *Journal of Water and Climate Change*. Publisher: International Water Association (IWA), Impact factor: 0.786 (2014). SCOPUS citation: -
- Aung M.T., **Shrestha S.**, Weesakul S., Shrestha P.K. (2015). Multi-model Climate Change Projections for Belu River Basin, Myanmar under

Representative
Concentration Pathways.
Journal of Earth Science &
Climatic Change. Publisher:
OMICS International, Impact
Factor: 1.16 (2015).

Conference publications

Shrestha P.K. and **Shrestha S.** (2015). Multivariate Evaluation of a physically based Distributed Hydrological Model in Snow-fed River Basins of in Hindu Kush Himalaya Region. International Conference on Climate Change Innovation and Resilience for Sustainable Livelihood, 12-14 January 2015, Kathmandu, Nepal.

Shrestha, M., **Shrestha, S.**, Aryal, A., Acharya, S. (2015). Impact of climate change on water availability: A case of Melamchi Water Supply Project, Nepal. 3rd International Young Researchers Workshop on River Basin Environment and Management, 21-22 Dec 2015, Phitsanulok, Thailand.

Shrestha, M., Pradhan, B., **Shrestha, S.** (2015). Review of policy, legal and institutional responses for disaster risk reduction and mitigation in selected Southeast Asian countries. International expert workshop towards urban water security in Southeast Asia: managing risk of extreme events 19-20 Nov 2015, Phnom Penh, Cambodia.

Shrestha, M., **Shrestha, S.**, **Babel, M.S.** (2015). Assessment of climate change impact on water diversion strategies: A case study of Melamchi water supply project in Nepal. Proceedings of Regional Forum on Climate Change (RFCC) 1-3 July 2015 Asian Institute of Technology, Thailand.

Energy

Introduction

Asia drives global economy and its influence is expected to only rise. Faster growth needs greater energy sources to sustain it. In the last decade, energy demand growth trends are already shifting decisively away from OECD countries and to Asia. While energy resources itself might not be of too much problem at global and regional scale, the accessibility, distributional aspect, and infrastructure for energy sources and key energy carriers are key problems for Asia which requires to deliver energy services at a reasonable cost and with least implications to the environment. For these reasons Asia needs a better energy transition to next decades characterized by universal energy access, least cost energy services, enhanced energy security and least pollution. This transition must also dampen the energy demand which necessitates better energy efficiency and the lifestyle choices. This theme represents the publication and project AIT has done significant research in the area of energy and the listing of the projects and publications are provided.

Grants and Sponsored Research Completed in 2015

Livable Low Carbon Cities in ASEAN

Duration: Nov. 2014-Sept. 2015
Investigator: Prof. S. Kumar
Sponsor: ERIA, Indonesia
Total contracted amount: Baht 265,000.00

Professional Master in Energy Business Management (PMEBM)

Duration: Sept.2012-Dec.2014
Investigator: Prof. Nazrul Islam and Dr. P. Abdul Salam
Sponsor: World Bank (EDMAT)
Total contracted amount: Baht 9,990,728.00

Technology Adaptation and National Capacity Building for Climate Technology Center and Network (CTCN) in Thailand

Duration: August 2014 – March 2015
Investigator: Dr. Shobhakar Dhakal, Prof, S Kumar and Dr. Abdul Salam
Sponsor: Institute of Global Environmental Strategies (IGES)
Total contracted amount: Baht 1,200,000

Provision of Technical Services in the Area of Renewable Energy

Duration:Mar 2014-Oct 2015
Investigator: Dr. P.Abdul Salam
Sponsor: UNIDO
Total contracted amount: Baht 1,395,000.00

Subnational Climate Compatible Development Project (CCD)

Duration: June 2013 – June 2014 (Extended to March 2015)
Investigator: Prof. S. Kumar and Dr. K. Kusakabe
Sponsor: CDKN-ICLEI Secretariat GmbH, Germany
Total contracted amount: Baht 704,000

TNA (phase2)-global workshop

Duration: 08-05-2015 to 03-08-2015
Project Investigators: Prof S kumar, Dr P Abdul Salam, Dr Rajendra shrestha
Sponser: UNEP-DTU-Partnership, Denmark
Total Contracted Amount (THB): 1,280,000

Testing of and Training on Improved Cook stoves

Duration: Sept 2014- Feb 2015
Investigator: Dr. P.Abdul Salam
Sponsor:UNDP-Bhutan
Total contracted amount: Baht 240,000.00

Training on Climate Change Mitigation

Duration: Nov 2014-Apr 15
Investigator: Dr. P.Abdul Salam, Prof. S.Kumar, Dr.Shobhakar Dhakal
Sponsor: National Environment Commission (NEC)-Bhutan
Total contracted amount: Baht 1,088,000.00

Use of Empty Fruit Bunch (EFB) Fly Ash

Duration: Sept 2014-Aug2015
Investigator: Dr. P. Abdul Salam and Dr. Avishek Datta
Sponsor:Valmet Co. Ltd., Thailand
Total contracted amount: Baht 856,000.00

Understanding and Quantifying the Water-Energy-Carbon Nexus for Low Carbon Development in Asian Cities

Duration: 3-Jun-2013 to 30-Jun-2015
Investigator: Dr. Shobhakar Dhakal
Sponsor: APN, Japan
Total contracted amount (THB): 2,337,400

Understanding decentralised energy interventions and their success conditions in select countries of Asia-Pacific

Duration: 21-01-2015 to 31-12-2015
Project Investigators: Dr Sobhakar Dhakal
Sponser: TERI University, India
Total Contracted Amount (THB): 345,600

Engendering livable low carbon smart cities in ASEAN as in inclusive green growth model and the opportunities for regional cooperation

Duration: 01-Nov-2014 to 01-Sep-2015
Project Investigators Prof. S. Kumar
Sponser Asean economic Institute for ASEAN and East Asia (ERIA)
Total Contracted Amount (THB): 256,000

Assignment on technology adaptation and national capacity building for climate technology centre and network (CTCN) in Thailand

Duration: 22-Aug-2014 to 21-Mar-2015

Project Investigators Dr Sobhakar Dhakal, Dr P Abdul Salam, Prof. S. Kumar
Sponsor IGES-Japan
Total Contracted Amount (THB): 1,200,000

Capacity building on climate change mitigation for Bhutan

Duration: 01-Nov-2014 to 30-Mar-2015

Project Investigator Dr P Abdul Salam, Prof S Kumar, Dr Sobhakar Dhakal

Sponsor National Environment commission Bhutan

Total Contracted Amount (THB): 1,088,000

Assessment of Potential use of EFB Fly Ash

Duration: 01-Sep-2014 to 31-Aug-2015

Project Investigator Dr P Abdul Salam, Dr Avishek Datta
Sponsor Valmet Co Ltd, Thailand
Total Contracted Amount (THB): 856,000

Testing and Training on Improved Cookstoves

Duration: 19-09-2014 to 15-12-2014

Project Investigators: Dr P Abdul Salam

Sponsor: UNDP-Bhutan
Total Contracted Amount (THB): 240,000

AIT green campus Initiatives project support -Electrical Energy

Duration: 01-02-2014 to 30-09-2014

Project Investigators: Dr J G Singh

Sponsor: ADEME, France
Total Contracted Amount (THB): 100,000

Urban Energy Access in Myanmar: Knowledge and Outreach

Duration: 04-11-2013 to 31-01-2015

Project Investigators: Prof. S. Kumar and Dr. Abdul Salam

Sponsor: Global Network on Energy for Sustainable Development (GNESD)

Total Contracted Amount (THB): 960,000

On-going Grants and Sponsored Research

Energy Publications Project

Duration: 01-01-2013 to 31-12-2017

Project Investigators: Dr. P. Abdul Salam, Prof. S. Kumar, Dr. Weerakorn Ongsakul, Dr. Jai Govind Singh, Dr. Charles O.P. Marpaung and Dr. Shobhakar Dhakal

Sponsor: AIT

Total Contracted Amount (THB): 4,185,824

AIT Green Campus Initiatives

Duration: Dec. 13 – Dec. 15

Investigator: Prof. S. Kumar and Prof. C. Visvanathan

Sponsor: French

Environment and Energy Management Agency, France

Total contracted amount: Baht 2,200,000

Energy Efficiency Initiatives in Asia and Action Plan to Support Countries (EESA-SEE4ALL)

Duration: June 2014 – Dec. 2015

Investigator: Prof. S. Kumar, Dr. P. A. Salam and Dr. S. Dhakal

Sponsor: UNEP-Risoe, Denmark

Total contracted amount: Baht 1,120,000

Energy-Environmental Data Analysis for Low Carbon Society (EEDA)

Duration: 1 Dec. 2009 – 31 Dec. 2016

Investigator: Prof. R. M. Shrestha and Prof. S. Kumar

Sponsor: MHIR (Mizhou), Japan

Total contracted amount: Baht 740,000

International training on design and testing of improved cookstoves

Duration: 01-09-2015 to 30-04-2016

Project Investigators: Dr Abdul Salam

Sponsor: department of renewable energy Bhutan

Total Contracted Amount (THB): 210,000

Murdoch – Research (Myanmar)

Duration: July 2014-July 2016

Investigator: Prof. S. Kumar and Dr. K. Kusakabe

Sponsor: Murdoch University, Australia

Energy
Total contracted amount: Baht 75,000

Murdoch – Workshop (Myanmar)

Duration: July 2014-July 2016

Investigator: Prof. S. Kumar and Dr. K. Kusakabe

Sponsor: Murdoch University Australia

Total contracted amount: Baht 87,000.00

The Greater Mekong Sub region Academic and Research Network (GMSARN)

Duration: 30 Jun 2012 - 31 Sep 2016

Investigator: Dr. Weerakorn Ongsakul

Sponsor: Registration

Revenues/Sponsorships/Grants

Total contracted amount: Baht 1,400,000

Understanding Decentralized Energy Interventions and Its Success Conditions in Select Countries of Asia Pacific Region

Duration: January 2015 - December 2015

Investigator: Dr. Shobhakar Dhakal

Sponsor: TERI University, India

Total contracted amount: 345,600 THB (USD 10,800)

Urban Energy Access in Myanmar: Knowledge and Outreach (UPEA-Myanmar)

Duration: Nov. 2013 – Dec. 2015

Investigator: Prof. S. Kumar and Dr. P. A. Salam

Sponsor: Global Network on Energy for

Sustainable Development (GNESD), Denmark

Total contracted amount: Baht 900,000

GHG Mitigation in Thai Waste Sector

Duration: 1 Mar 2015-28 Feb 2016

Investigator: Dr. P. Abdul Salam

Sponsor: GIZ, Thailand

Total contracted amount: Baht 1,923,340.78

Low Carbon Technology Facilitation in Asia in context of Climate Technology Center and Networks
Duration: 12 Nov 2015 – 30 Apr 2016
Investigator: Dr. Shobhakar Dhakal
Sponsor: Mitsubishi Research Institute, Japan
Total Contract amount: Baht 2,445,870

Promotion of Sustainability in Postgraduate and Research Network (ProSPER. Net) Joint Research Project -Climate Compatible Development in Asian Cities
Duration: 1 Sept 2015 – 31 Oct 2016
Investigator: Dr. Shobhakar Dhakal
Sponsor: UNU-IAS
Total Contracted amount: Baht 1,207,000

Provision of technical services in the area of Renewable Energy
Duration: 01-Mar-2014 to 28-Feb-2015
Project Investigators Dr P Abdul Salam
Sponsor UNIDO-Australia
Total Contracted Amount (THB): 1,395,000

Provision of Technical Services in the Area of Renewable Energy Phase-II
Duration: 1 Mar 2015 -31 Oct 2016
Investigator: Dr. P. Abdul Salam
Sponsor: UNIDO, Austria
Total contracted amount: Baht 1,440,000.00

Renewable Energy Technologies for Integrated Community Farming Systems
Duration: 1 Apr. 2015 – 31 Mar. 2016
Investigator: Prof. S. Kumar, Dr. K. Kusakabe and Dr. A. Datta
Sponsor: Wisions of Sustainability, Germany
Total contracted amount: Baht 455,000

Technology Needs Assessment Phase II – Global Workshop
Duration: 8 May 2015 – Dec. 2015

Investigator: Prof. S. Kumar, Prof. R. Shrestha and Dr. P. A. Salam
Sponsor: UNEP-DTU Partnership, Denmark
Total contracted amount: Baht 1,427,000

Technology Needs Assessment (Phase II) for Asia and CIS Region - Technical
Duration: 8 Jan. 2015 – 28 Feb. 2018
Investigator: Prof. S. Kumar, Prof. R. Shrestha and Dr. P. A. Salam
Sponsor: UNEP-DTU Partnership, Denmark
Total contracted amount: Baht 2,514,000

Technology Needs Assessment (Phase II) for Asia and CIS Region - Missions
Duration: 8 Jan. 2015 – 28 Feb. 2018
Investigator: Prof. S. Kumar, Prof. R. Shrestha and Dr. P. A. Salam
Sponsor: UNEP-DTU Partnership, Denmark
Total contracted amount: Baht 320,000

Technology Needs Assessment (Phase II) for Asia and CIS Region - Workshop
Duration: 8 Jan. 2015 – 28 Feb. 2018
Investigator: Prof. S. Kumar, Prof. R. Shrestha and Dr. P. A. Salam
Sponsor: UNEP-DTU Partnership, Denmark
Total contracted amount: Baht 1,744,000

Energy Publications Project
Duration: 1-Jan-2013 to 31-Dec-2017
Investigator: Dr. P. Abdul Salam, Prof. S. Kumar, Dr. Weerakorn Ongsakul, Dr. Jai Govind Singh, Dr. Charles O.P. Marpaung and Dr. Shobhakar Dhakal
Sponsor: AIT
Total contracted amount (THB): 4,185,824

IEEE Innovative Smart Grid Technologies 2015, International conference
Duration: 01-Oct-2014 to 31-Jan-2016

Energy
Project Investigators Dr Weerakorn Ongsakul
Sponsor Registration revenues/sponsorship/grants
Total Contracted Amount (THB): 797,851

Turning ricestraw into cooking fuel for air quality and climate cobenefit in selected GMS countries
Duration: 15-12-2014 to 31-08-2016
Project Investigators: Prof. Nguyen Thi Kim Oanh, Dr P Abdul Salam
Sponsor: Stockholm environment institute Asia center
Total Contracted Amount (THB): 178,107

Promotion of sustainability in post graduate and research network (Prosper.net) join research project-climate compatible development in Asian cities
Duration: 01-09-2015 to 31-07-2016
Project Investigators: Dr Sobhakar Dhakal, Prof S kumar
Sponsor: UNU-IAS
Total Contracted Amount (THB): 1,122,000

Development on Decision making paper on GHG mitigation options in Thai waste sector
Duration: 01-03-2015 to 28-02-2016
Project Investigators: Dr Abdul Salam, Dr Sobhakar dhakal, Prof. C. Viswanathan, Dr Thammarat Koottatep
Sponsor: GIZ Thailand
Total Contracted Amount (THB): 1,923,341

Technology needs assessments (phase 2)-travel
Duration: 08-01-2015 to 28-02-2018
Project Investigators: Prof S kumar, Dr P Abdul Salam, Dr Rajendra shrestha
Sponsor: UNEP-DTU-Partnership, Denmark
Total Contracted Amount (THB): 320,000

CTCN request incubator program in Bangladesh
Duration: 01-12-2015 to 30-04-2016
Project Investigators: Dr Abdul Salam
Sponsor: CTCN-PCA
Total Contracted Amount (THB): 420,000

Publications

International refereed Journals

Andrew Pascale, Tania Urmee, Jonathan Whale, and **Kumar S.**, Examining the potential for developing women-led solar PV enterprises in rural Myanmar, *Renewable & Sustainable Energy Reviews*, accepted for publication, December 2015 (Impact Factor: 5.901).

Anuman Chanthawong, **Dhakal Shobhakar**. Liquid Biofuels Development in Southeast Asian Countries: An Analysis of Market, Policies and Challenges. *Waste Biomass Valorization* DOI 10.1007/s12649-015-9433-9.

Kawin Ruamsuke, **Dhakal Shobhakar, Marpaung Charles O.P.** (2015). Energy and Economic Impacts of the Global Climate Change Policy on Southeast Asian Countries: A General Equilibrium Analysis. *Energy* 81: 446-461 Elsevier. Impact Factor 4.159.

Kumar, S., and Sasima Charoenkit, Disaster resilience assessment for self-help housing design, *Technology – Asian Outlook on Engineering and Technology*, page 10-14, December 2015

Kyoko Kusakabe, Pujan Shrestha, **Kumar S.** and Khanh Linh Nguyen, Pathways to Sustainable Urban Tourism: Garden Houses in Hue, Vietnam. *International Journal of Sustainable Society*, Volume 7, No 3, 286 – 303, 2015. (Impact Factor: 2.522)

Lipu M S Hossain, Pujan Shrestha, and **Kumar S.**, Energy poverty and Access to Modern Energy of Urban Poor: Case of Dhaka, Bangladesh. accepted for publication in *International Journal of Energy Technology and Policy*, August 2015.

Md. Shazib Uddin and **Kumar S.**, Energy and Environmental Analysis of Domestic Solar Hot Water System in Asian Developing Country Context-Thailand, *Environmental Progress & Sustainable Energy*, accepted for publication, August 2015. (Impact Factor: 1.403)

Najmul Hoque and **Kumar S.**, User Perspectives of Photovoltaic Micro Utility Systems Installed in Rural Bangladesh, *International Journal of Renewable Energy Research*, Volume 5, No 3, 708-715, June 2015.

Sasidharan Nikhil, Nimal Madhu M., **Singh Jai Govind**, Weerakorn Ongsakul (2015). An approach for an efficient hybrid AC/DC solar powered Homegrid system based on the load characteristics of home appliances. *Energy and Buildings*, 108:23–35.

Nimal Madhu M, Anand M.P., **Singh J. G.** (2015). Distributed AC Power Flow Method for AC and AC-DC Hybrid Autonomous Microgrids with Droop Control (2015). *International Journal of Engineering, Science and Technology*, 7(3):58-64.

Noipin, K and **Kumar S.**, Optimization of Ethyl Ester Production from Palm Oil. *Ultrasonic Sonochemistry*, 22, 548-558, 2015. (Impact Factor: 3.816)

Rotchana Intharathirat, P. **Salam Abdul, Kumar, S.** Akarapong Untong, Forecasting of municipal solid waste quantity in a developing country using multivariate grey models, *Waste Management*, 39, 3-14, 2015. (Impact Factor: 3.220)

Rotchana Intharathirat and **Salam P. Abdul**. Valorization of MSW-to-Energy in Thailand: Status, Challenges and Prospects. *Waste and Biomass Valorization*. DOI 10.1007/s12649-015-9422-z.

Energy

Sasima Charoenkit and **Kumar S.**, “A low carbon and disaster resilient assessment tool for self-help housing (LoDAT-SH)”, *Mitigation and Adaptation Strategies for Global Change*, accepted for publication, November 2015. (Impact Factor: 2.669)

Shrestha, S., K. Parajuli, M. S. Babel, **Dhakal S.** and V. Shinde (2015). Water–energy–carbon nexus: a case study of Bangkok Water Science and Technology: Water Supply, In Press, Uncorrected Proof, Available online 10 April 2015, <http://www.iwaponline.com/ws/up/ws2015046.htm>, IWA Publishing. Impact Factor 0.505.

Shrestha, S., S. Adhikari, S., Babel, M.S, Perret, S.R., **Dhakal, S.** (2015). Evaluation of Groundwater-based Irrigation Systems using a Water Energy Food Nexus Approach: A Case Study from Southeast Nepal (2015). *Journal of Applied Water Engineering and Research*, 3(2)53-66, Taylor and Francis Publication.

Somticha Panich and **Singh, Jai Govind** (2015). Impact of Plug-in Electric Vehicles on Voltage Unbalance in Distribution Systems (2015). *International Journal of Engineering, Science and Technology*, 7(3):76-93.

Ullah, R., Jourdain, D., Shivakoti, G.P, and **Dhakal, S.** (2015). Managing Catastrophic Risks in Agriculture: Simultaneous Adoption of Diversification and Precautionary Savings, *International Journal of Disaster Risk Reduction*, 12:268-277, Elsevier.

Vivek Mohan, **Singh, Jai Govind, Ongsakul Weerakorn** (2015). An efficient two stage stochastic optimal energy and reserve management in a microgrid. *Applied Energy*, Elsevier, 160:28-38

Conference proceedings

- Anand M.P., **Ongsakul Weerakorn** , **Singh, Jai Govind** and Sajjad Golshannavaz (2015). Economic operational planning of a Smart distribution network considering demand response, Electric vehicles and Network reconfiguration. PowerTech Eindhoven 2015 conference, 29 June - 2 July 2015, Netherlands.
- Anand M.P., **Ongsakul Weerakorn** , **Singh, Jai Govind** and Sudhesh K.M. (2015). Optimal Allocation and Sizing of Distributed Generators in Autonomous Microgrids based on LSF and PSO. International Conference on Energy, Economics and Environment (1st UPCON-ICEEE2015), 27-28 March, 2015, Greater Noida, India.
- Anand M.P., **Ongsakul Weerakorn** , **Singh, Jai Govind** and Sudhesh K.M. (2015). Impact of Economic Dispatch in a Smart Distribution Network considering Demand Response and Power Market. International Conference on Energy, Economics and Environment (1st UPCON-ICEEE2015), 27-28 March, 2015, Greater Noida, India.
- Mohanty B.**, (2015). Cogeneration and district energy networks in East and South-East Asia, International Conference on Polygeneration (ICP 2015): Technologies for Smart Cities, Anna University, Chennai, 18-20 February 2015
- Mohanty B., (2015). Introduction to Energy Positive Habitat, Seminar on Energy Positive Habitat, Auroville, 4-6 February 2015
- Sasidharan Nikhil, **Singh Jai Govind** and Sudhin P. K. (2015). Hybrid AC/DC Solar Powered Net Zero Energy Home, 2015 IEEE International Conference on Electrical, Computer and Communication Technologies (IEEE ICECCT 2015), SVS College of Engineering, Coimbatore, Tamil Nadu, India, 05 - 07th March 2015.
- Sasidharan Nikhil, Nimal Madhu M, **Ongsakul Weerakorn** , **Singh, Jai Govind** (2015). Real Time Active Power Ancillary Service using DC Community Grid with Electric vehicles and Demand Response. International Conference on SMART GRID Technologies, August 6-8, 2015, Amrita School of Engineering, Coimbatore, India.
- Nimal Madhu M, Nikhil Sasidharan and **Singh Jai Govind** (2015). Droop Control Incorporated Power Flow Method for Distribution and Microgrid Systems. IEEE PES Innovative Smart Grid Technologies in Asia 2015 Bangkok International Conference (ISGT Asia 2015 Bangkok).
- Salam P. Abdul.** Energy Food Nexus: The Case of Rice Production in the Mekong Region. Workshop on “Water Energy Food Nexus: International Cooperation and Technology Transfer”. Science and Technology Days. Organized by SEA-EU-NET. 17-19, March 2015. Paris.
- Salam P. Abdul.** Economic Potential of Biomass Utilization: Case of Thailand. Sixth Regional 3R Forum in Asia and the Pacific. 16-19 August, 2015. Male’, Maldives.
- Sasidharan Sreedharan, Reza Ghorbani, Saeed Sepasi, **Ongsakul Weerakorn** , **Singh, Jai Govind** (2015). Simultaneous Optimization of Renewable Power at Transmission and Distribution Grid. International Conference on SMART GRID Technologies, August 6-8, 2015, Amrita School of Engineering, Coimbatore, India.
- Dhakal S.**, Feasibility of 2°C world: Key Findings from IPCC AR 5 WG III, International Conference on Climate Change Innovation and Resilience for Sustainable Livelihood, Kathmandu, Nepal, 12-14 January 2015.
- Dhakal S**, Human Settlements and Climate Change Mitigation: Key findings from the latest IPCC WG3 report, GCP Workshop at Toyota High-level Symposium on Sustainable Cities, Toyota City, 16 January, 2015.
- Dhakal S**, Water-Energy-Carbon Nexus in Cities- Cases from Bangkok, New Delhi and Tokyo”, Expert workshop on “Development Planning and Decisions: Impact on Water Energy Food Nexus in Mekong Region, AIT Center, AIT, Thailand, 22 January 2015.
- Dhakal S**, Cities, Climate Change and Technologies: An Introduction, Climate Technology Center & Network, Asian Institute of Technology, 25th February 2015.
- Dhakal S**, Process of submitting CTCN request and sample request for CTCN assistance, Bangkok Regional Workshop on Low Carbon Technology Transfer and Diffusion, Institute for Global Environmental Strategies and Asian Institute of Technology, Novotel Bangkok, Siam Square, Bangkok, 2-3 March 2015.
- Dhakal S**, Key Findings of IPCC 2014 Mitigation Report, International Conference on Climate Change and Energy, Hilton Hotel, Gyeongju City, South Korea, 13-14 March 2015.
- Dhakal S**, “Human Settlements and Climate Change Mitigation: Key findings from the latest IPCC WG3 report”, Humphrey School of Public Affairs, University of Minnesota, Minneapolis, 26 March 2015.
- Dhakal S**, “IPCC Process” Humphrey School of Public Affairs, University of Minnesota, Minneapolis, 27 March 2015.

Dhakal S, Energy Thematic area-assisting for sustainable energy transition in Asia based on Concept Note on Regional Priority Areas on Energy Sector for AIT's Future Capacity Building, Research and Outreach Direction, AIT Faculty Retreat, Pattaya, Thailand, May 5, 2015.

Dhakal S, Human Settlements and Climate Change Mitigation: Key findings from the latest IPCC WG3 report, Annual Meeting of Low Carbon Society Research Network (LCS-RN), Collège des Bernardins, The French Ministry of Ecology, Sustainable Development, and Energy & The International Research Center on Environment and Development (CIRED), Paris, 15-16 June, 2015.

Dhakal S, Urban carbon activity - A proposal for discussion, 14th Annual Scientific Steering Committee Meeting of the Global Carbon Project, Hotel Mario Sorio, Center for International Climate and Environmental Research – Oslo (CICERO), Oslo, 22-25 June 2015.

Dhakal S, Water-Energy-Carbon Nexus: Analogies of three Asian Cities Cases, Asia Pacific Network for Global Change Research at their session at the Regional Forum on Climate Change (RFCC) – Low Carbon and Climate Resilient: Bridging Science, Practice, and Policy, AIT, Thailand, 1-3 July 2015.

Dhakal S, Enhancing the actions for a better response to climate change in cities at the Regional Forum on Climate Change (RFCC) – Low Carbon and Climate Resilient: Bridging Science, Practice, and Policy, AIT, Thailand, 1-3 July 2015.

Dhakal S, Future-cities in the carbon-constrained world at International Scientific Conference Our Common

Future Under Climate Change, Paris, France, 7-10 July 2015

Dhakal S, Unprecedented urbanization and challenges to model them in IAMs at Session S3322 (a) of International Scientific Conference Our Common Future Under Climate Change, Paris, France, 8 July 2015.

Dhakal S Cities Dialogue, European Space Agency, Paris, 8 July 2015.

Dhakal S, Human Settlements and Climate Change Mitigation: Key findings from the latest IPCC WG3 report, IPCC Fifth Assessment Report Outreach Event, Media Workshop, United Nations Conference Centre, Bangkok, Thailand, 17 August 2015.

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Dhakal S, Climate change 2014 Mitigation of climate change, IPCC fifth Assessment Report, 4 September 2015.

Dhakal S, Carbon Finance: Concept, Status and Examples on Cook stoves, International Training on Design and Testing of Improved Cook stoves (ICS), Asian Institute of Technology, 8 October, 2015.

Dhakal S, Sustainable cities: In rapidly urbanizing and carbon constrained world, Asian Institute of Technology, 9 October, 2015.

Dhakal S, SCP and Climate Change: Crucial linkages and opportunities, SWITCH-Asia Comprehensive Networking Event, New Delhi, INDIA, 4-6 November 2015.

Dhakal S, Energy Policies in ASEAN, Energy FoS, at AIT, Bangkok, Thailand, 20 November 2015.

Dhakal S, Evaluation of Energy Projects, Energy FoS, at AIT, Bangkok, Thailand Taiwan, 20 November 2015.

Dhakal S, Expectations at COP 21 and future of GHG emission mitigation, 20 November 2015.

Dhakal S, Key Findings of IPCC Mitigation Report in the Context of UNFCCC/COP21 Outcomes, Seminar to Society of Meteorology and Hydrology, at Nepal Tourism Board Conference Hall, Kathmandu, Nepal, 6 January 2016.

Kumar S., Engendering livable low carbon smart cities in ASEAN as an inclusive green model and the opportunities for regional cooperation, presented at the Framing ASCC Post- 2015 Technical Workshops Program, Jakarta, 19-20 January 2015

Kumar S, Low carbon energy indicators, ERIA Workshop on “Working Group meeting on Low carbon Energy Systems and Green Growth: Implications for Regional Economic Cooperation and Integration”, Jakarta, 14-15 March 2015

Kumar S, Towards Economic Integration and Regional Cooperation for Low-Carbon Energy Systems in Regional Groupings and Advanced Economies in ASEAN – CLMV, Technical Workshop Low-Carbon Energy Systems and Green Growth: Implications for Regional Economic Cooperation, 11 -13 July 2015, Bangkok, Thailand

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GOM International Symposium on Stronger ASCC, Closer ASEAN, 16 November 2015, Kuala Lumpur, Malaysia.

Kumar S, Solar PV in Greater Mekong Sub Region (GMS): Status and Prospects The 2nd Clean Energy Forum of East Asia Summit, November 18-19, 2015. Haikou, China.

Kumar S, Improving energy efficiency and building low-carbon cities through the carbon-emission market in Thailand, The 2nd Clean Energy Form of East Asia Summit, November 18-19, 2015, Haikou, China.

Kumar S, Renewable energy research and application in SE Asia: perspectives from AIT, International Conference on Alternative energy technologies, 25-26 November 2015, Coimbatore, India.

Kumar S, Renewable energy hybrid systems, International Conference on Mechanical engineering and advanced materials, 3 - 4 December 2015, Kota Kinabalu, Malaysia.

Vivek Mohan, **Singh, Jai Govind, Ongsakul Weerakorn** (2015). Stochastic Optimal Power Dispatch Combining Probabilistic and Interval Uncertainties of Renewable Energy in a Microgrid. 19th Power Systems Computation Conference, 20-24th June, 2016, Genoa, Italy. (accepted)

Vivek Mohan, **Singh, Jai Govind, Ongsakul Weerakorn** (2015). Online Benefit Optimization in a Liberalized/Free Microgrid Market Model. IEEE International Conference TAP Energy, 24-26th June 2015, Amrita Vishwa Vidya Peetham, Amritapuri, Kerala, India

Vivek Mohan, **Singh, Jai Govind, Ongsakul Weerakorn** and Nikhil Sasidharan (2015). Stochastic Effects of Renewable Energy and Loads on

Optimizing Microgrid Market Benefits. International Conference on SMART GRID Technologies, August 6-8, 2015, Amrita School of Engineering, Coimbatore, India.

Vivek Mohan, Reshma Suresh M P, **Singh, Jai Govind, Ongsakul Weerakorn** and Boddeti Kalyan Kumar (2015). Online Optimal Power Management Considering Electric Vehicles, Load Curtailment and Grid Trade in a Microgrid Energy Market. IEEE PES Innovative Smart Grid Technologies in Asia 2015 Bangkok International Conference (ISGT Asia 2015 Bangkok).

Ye Thu Win, **Dhakal, S.**, Urban Transport Scenario of Myanmar, GCP workshop at Toyota High Level Symposium on sustainable cities, Toyota city, Aichi, Japan, 15-17 January 2015.

Workshops/Conferences Organized Workshop on Low Carbon Technology Transfer and Diffusion
Date and location: 12 February, 2015, at Hotel Novotel (Siam Square)
Organizer: Institute of Global Environmental Strategies (IGES) & AIT
Number of Participants: 20
Contact Person: Dr. Shobhakar Dhakal

Bangkok Regional Workshop on Low Carbon Technology Transfer and Diffusion
Date and location: 2-3 March 2015, at Hotel Novotel (Siam Square)
Organizer: Institute of Global Environmental Strategies (IGES) & AIT
Number of Participants: 47
Contact Person: Dr. Shobhakar Dhakal

TNA Phase II Global Launching and Experience Sharing Workshop
Date and location: 26-27 May 2015, Bangkok, Thailand
Organizer: AIT/UNEP-DTU Partnership

Energy

Number of Participants: 16
Contact Person: Prof. S. Kumar, Prof. R. Shrestha and Dr. P. A. Salam

TNA Phase II Global Launching and Experience Sharing Workshop
Date and location: 26-27 May 2015, Bangkok, Thailand
Organizer: AIT/UNEP-DTU Partnership
Number of Participants: 46
Contact Person: Prof. S. Kumar, Prof. R. Shrestha and Dr. P. A. Salam

TNA Phase II – First Regional Capacity Building Workshop for Asia and CIS Region
Date and location: 6-8 July 2015, Bangkok, Thailand
Organizer: AIT/UNEP-DTU Partnership
Number of Participants: 24
Contact Person: Prof. S. Kumar, Prof. R. Shrestha and Dr. P. A. Salam

TNA Phase II – First Regional Capacity Building Workshop for Asia and CIS Region
Date and location: 6-8 July 2015, Bangkok, Thailand
Organizer: AIT/UNEP-DTU Partnership
Number of Participants: 24
Contact Person: Prof. S. Kumar, Prof. R. Shrestha and Dr. P. A. Salam

International Training on Improved Cook stoves
Date and location: Oct 5-9, 2015. AIT
Organizer: Energy FoS
Number of Participants: 9
Contact Person: Dr. P. Abdul Salam

10th GMSARN International Conference 2015 on "Smart Energy, Environment and Community Development in GMS"
Date and location: 14-16 December 2015, Phnom Penh, Cambodia
Organizer: AIT, Pathumthani, Thailand
Number of Participants: 90

Contact Person:

**Workshop on Future Energy
Research: Competences-
Opportunities-Networking**

Date and location: 17-18 Dec. 2015,
Pathumthani, Thailand

Organizer: AIT/Murdoch University

Number of Participants:

Contact Person: Prof. S. Kumar

**Workshop on Water, Energy, Carbon
Nexus in Asian Cities**

Date and Location: Feb 2-3, 2016,

TERI University

Organizer: TERI University

AIT Participants: 6

Contact Person: Dr. Shobhakar
Dhakar

INDUSTRY

Introduction

Industry is a major factor in countries regional developments. Industrial revolution has shown abrupt development of world economics. The nation's GDP has had a big influence from industrial production creating jobs and employment and lead to societal development. AIT strength in the theme comes with its rich experience from its engagements with the industrial sector with the development, and implementation of integrated systems. It includes the areas of technology ,finance, information, materials, analysis and synthesis, as well as the application of social sciences together with the principles and methods of engineering design to specify, predict, and evaluate the results to be obtained from such industrial processes There are many current fields of study and programs which are under the umbrella of the theme "Industry"; namely Industrial Engineering and Management, Mechatronics, Microelectronics and Embedded System and the School of Management.

Grants and Sponsored Research Completed in 2015

Life Cycle Assessment Fine Paper

Duration: June 2008 – September 2015
Project Investigator (s): Ir. Erik L.J. Bohez
Sponsor: Double A
Total Contracted Amount (THB): 1,275,000.00

Carbon Foot Point of Double A Paper and Development

Duration: October 2009 – September 2015
Project Investigator (s): Ir. Erik L.J. Bohez
Sponsor: RTG/Advanced Agro
Total Contracted Amount (THB): 2,000,000.00

Professional master degree program in IEM and ISCM

Duration: 01-10-2014 to 31-12-2015
Project Investigators Dr. Huynh trung Luong
Sponser HCM City_Vietnam
Total Contracted Amount (THB): 96,400

Development of Imbalance Monitoring and Balancing Control System for Two-Wheel Vehicle

Duration: December 2012 – December 2015
Project Investigator (s): Prof. Manukid Parnichkun
Sponsor: National Science and Technology Development Agency
Total Contracted Amount (THB): 1,991,000.00

Development of Force-Feedback Exoskeleton System for Virtual Reality

Duration: November 2008 – September 2015
Project Investigator (s): Prof. Manukid Parnichkun
Sponsor: Royal Thai Government
Total Contracted Amount (THB): 952,000.00

Brain-Computer Interface Based Mental Detection for Accident Prevention and Machine Control: Applications in Fatig Alarming and Robot Control

Duration: July 2009 – September 2015
Project Investigator (s): Prof. Manukid Parnichkun

Sponsor: Royal Thai Government
Total Contracted Amount (THB): 1,000,000.00

Development of Robot Controller

Duration: November 2008 – September 2015
Project Investigator (s): Prof. Manukid Parnichkun
Sponsor: Aerofluid Co.,Ltd and Royal Thai Government
Total Contracted Amount (THB): 2,000,000.00

On-going Grants and Sponsored Research

Preparation of Commercialization of Walking Rehabilitation Robot Project

Duration: 01 December 2015 – 30 November 2017
Project Investigator (s): Prof. Manukid Parnichkun
Sponsor: Thailand Center of Excellent for Life Sciences
Total Contracted Amount (THB): 800,000.00

Development of Autonomous Mobile Robotic Chair with Ability of Staircase Climbing for Handicapped and Elderly People Project

Duration: 01 February 2015 – 31 January 2017
Project Investigator (s): Prof. Manukid Parnichkun
Sponsor: Health Systems Research Institute
Total Contracted Amount (THB): 1,590,000.00

Development of a Leg Exo-Skeleton Robot for Walking Rehabilitation Project

Duration: 01 October 2014 – 30 September 2016

Project Investigator (s): Prof. Manukid Parnichkun
Sponsor: Thailand Center of Excellent for Life Sciences
Total Contracted Amount (THB): 1,496,000.00

The Development of Capacitance Instrument, Capacitor Bank Placement's Equipment, and Corrective Maintenance from Capacitance Value of Capacitor Unit

Duration: 01 January 2014 – 31 December 2016
Project Investigator (s): Prof. Manukid Parnichkun, Dr. Mongkol Ekpanyapong
Sponsor: Electricity Generating Authority of Thailand
Total Contracted Amount (THB): 1,606,500.00

Automatic Helmet Wearing Detection for the Safety of Motorcycle Rider

Duration: 15 March 2015 – 30 June 2016
Project Investigator (s): Dr. Mongkol Ekpanyapong
Sponsor: Thailand Research Fund
Total Contracted Amount (THB): 1,975,000.00

The Feasibility Study to Industrialize Direct Rice Seeding's Machine

Duration: 08 October 2014 – 31 December 2016
Project Investigator (s): Dr. Mongkol Ekpanyapong
Sponsor: Agricultural Research Development Agency
Total Contracted Amount (THB): 3,867,710.00

Development of a Versatile Mobile Robot Platform for Future Research on Field based Navigation

Duration: 01 January 2016 – 30 June 2016

Project Investigator (s): Dr. A.M. Harsha S. Abeykoon
Sponsor: Research Initiation Grant
Total Contracted Amount (THB): 58,000.00

Master Degree in HDD Engineering Technology #5

Duration: 01 Jul 11 – 30 June 2015
Project Investigator(s): Nitin Afzulpurkar
Sponsor: Western Digital Co. Ltd.
Total Contracted Amount (THB): 9,776,000

Master Degree in HDD Engineering Technology #6

Duration: 01 Jul 12 – 31 Aug. 2016
Project Investigator(s): Nitin Afzulpurkar
Sponsor: Western Digital Co. Ltd.
Total Contracted Amount (THB): 6,016,000

Optimal Design of Turbine Geometry for Small Hydroelectric Power Plant of PEA

Duration: June 2012 – December 2016
Project Investigator (s): Ir. Erik L.J. Bohez
Sponsor: Provincial Electricity Authority
Total Contracted Amount (THB): 12,762,000.00

Product Design & Development of Nawaplastic Industries

Duration: 01 October 2015 – 30 September 2016
Project Investigator (s): Dr. Pisut Koomsap
Sponsor: Nawaplastic Industries

Total Contracted Amount (THB): 135,000.00

The 10 International Federation of Logistics and SCM Systems

Duration: 01 January 2015 – 31 December 2016
Project Investigator (s): Prof. Voratas Kachitvichyanukul
Sponsor: Conference Participants
Total Contracted Amount (THB): 1,500,000.00

International Executive MBA-Vietnam for Hanoi#13.1 & Hanoi#13.2 Group

Duration: 1-Aug-2012 to 31-Dec-2017
Project Investigator(s): Barbara Igel
Sponsor: Multi-donor
Total Contracted Amount (THB): 12,246,000

International Executive MBA-Vietnam for HCMC#9th Group

Duration: 1-Aug-2012 to 31-Dec-2017
Project Investigator(s): Barbara Igel
Sponsor: Multi-donor
Total Contracted Amount (THB): 10,332,562.5

International Executive MBA-Vietnam for Dongnai#4 Group

Duration: 1-Jan-2012 to 31-Dec-2016
Project Investigator(s): Barbara Igel
Sponsor: Multi-donor
Total Contracted Amount (THB): 8,801,812.5

International Executive MBA-Vietnam for Vung Tau#4th Group

Duration: 1-Jan-2012 to 31-Dec-2016
Project Investigator(s): Barbara Igel
Sponsor: Multi-donor
Total Contracted Amount (THB): 9,119,749.275

International Executive MBA Vietnam for ong Nai 4th group

Duration: 1-Jan-2012 to 31-Dec-2016
 Project Investigator(s): Barbara Igel
 Sponsor: Multi-donor
 Total Contracted Amount (THB): 8,625,000

International Executive MBA Vietnam for Vung Tau 4th group

Duration: 1-Jan-2012 to 31-Dec-2016
 Project Investigator(s): Barbara Igel
 Sponsor: Multi-donor
 Total Contracted Amount (THB): 8,936,550

International Executive MBA Vietnam for HCMSC#8 group

Duration: 1-Aug-2011 to 31-Dec-2016
 Project Investigator(s): Barbara Igel
 Sponsor: Multi-donor
 Total Contracted Amount (THB): 11,250,000

International Executive MBA Vietnam for Hanoi #12.2 and # Hanoi 12.3 group

Duration: 1-Aug-2011 to 31-Dec-2016
 Project Investigator(s): Barbara Igel
 Sponsor: Multi-donor
 Total Contracted Amount (THB): 13,875,000

Doctor of Business Administration

Duration: 1-Aug-2012 to 31-Jun-2019
 Project Investigator(s): Winai Wongsurawat
 Sponsor: -
 Total Contracted Amount (THB): 19,440,000

International Executive MBA-Vietnam for Hanoi 16

Duration: 01-10-2015 to 31-12-2020

Project Investigators : Prof Nazrul Islam
 Sponsor:
 Total Contracted Amount (THB): 9,520,000

Entrepreneurship:A study of personal attributes leadership behavior and firm performance

Duration: 01-01-2016 to 30-06-2016
 Project Investigators: Dr Vimolwan Yukongdi
 Sponsor: AIT
 Total Contracted Amount (THB): 50,000

International Executive MBA-Vietnam for HCMC#12

Duration: 01-08-2015 to 01-05-2020
 Project Investigators: Prof Nazrul Islam
 Sponsor:
 Total Contracted Amount (THB): 9,520,000

International Executive MBA-Vietnam for Hanoi#14Th

Duration: 01-08-2013 to 31-05-2018
 Project Investigators: Dr.Donyaprueth Krairit
 Sponsor: AIT
 Total Contracted Amount (THB): 8,820,000

International Executive MBA-Vietnam for Vung Tau#5Th Group

Duration: 01-01-2013 to 31-12-2017
 Project Investigators: Dr. Barbara Igel
 Sponsor: AIT
 Total Contracted Amount (THB): 8,511,000

International Executive MBA-Vietnam for Tau#6Th Group

Duration: 26-10-2013 to 31-12-2018

Project Investigators:
 Dr.Donyaprueth Krairit
 Sponsor: AIT
 Total Contracted Amount (THB): 10,822,650

International Executive MBA-Vietnam for HCMC#10

Duration: 01-08-2013 to 31-12-2018
 Project Investigators:
 Dr.Donyaprueth Krairit
 Sponsor: AIT
 Total Contracted Amount (THB): 8,820,000

International Executive MBA-Vietnam for Hanoi#13.1 & Hanoi#13.2 Group

Duration: 01-08-2012 to 31-12-2017
 Project Investigators: Dr. Barbara Igel
 Sponsor: Multi-donor
 Total Contracted Amount (THB): 12,246,000

International Executive MBA-Vietnam for HCMC#9th Group

Duration: 01-08-2012 to 31-12-2017
 Project Investigators: Dr. Barbara Igel
 Sponsor: Multi-donor
 Total Contracted Amount (THB): 10,332,563

International Executive MBA-Vietnam for Dongnai#4 Group

Duration: 01-01-2012 to 31-12-2016
 Project Investigators: Dr. Barbara Igel
 Sponsor: Multi-donor
 Total Contracted Amount (THB): 8,801,813

International Executive MBA-Vietnam for Vung Tau#4th Group

Duration: 01-01-2012 to 31-12-2016

Project Investigators: Dr. Barbara Igel

Sponsor: Multi-donor
Total Contracted Amount (THB): 9,119,749

DBA Program in Bangkok 2007

Duration: 01-02-2007 to 31-12-2016

Project Investigators: Indra Pandey, Nicholas Dimmit, Freidric Swirczek, Rian Beise-zee, Nazrul Islam, Do Ba Khang, Sundar

Venkatesh, Sununta Siengthai, Lalit Johri

Sponsor: Participants
Total Contracted Amount (THB): 19,440,000

DBA Program in Sri Lanka 2006

Duration: 31-10-2006 to 31-07-2016

Project Investigators: Nicholas Dimmit, Do Ba Khang, Sundar Venkatesh, Sununta Siengthai, Nazrul Islam, Lalit Johri

Sponsor: Participants
Total Contracted Amount (THB): 11,988,000

DBA Program in Bangkok 2006

Duration: 31-10-2006 to 31-07-2016

Project Investigators: Indra Pandey, Nicholas Dimmit, Freidric Swirczek, Rian Beise-zee, Nazrul Islam, Do Ba Khang, Sundar

Venkatesh, Sununta Siengthai, Lalit Johri

Sponsor: Participants
Total Contracted Amount (THB): 15,552,000

Publications

Patent

M. Ekpanyapong, T. Watwai, C. Pruetong, Direct rice seeding machine with the rice feeding and land opener system, (Thai patent, submitted Sep 2015, jointly owned by NSTDA and AIT)

Book

Kachitvichyanukul, V., Sethanan, K. and Golinska-Dawson, P. (Editors) *Toward sustainable operations of supply chain and logistics systems*, Springer, ISBN: 978-3-319-19005-1, 2015.

Book Chapters

Kunnapapdeert, S. and Kachitvichyanukul, V. Modified DE Algorithms for Solving Multi-depot Vehicle Routing Problem with Multiple Pickup and Delivery Requests, in "Toward sustainable operations of supply chain and logistics systems," (Editors: Kachitvichyanukul, V., Sethanan, K. and Golinska-Dawson, P.), Springer, July 2015.

International Journal Articles with Impact factor

Sununta Siengthai (2015): A reflection on a leadership training programme of the Ministry of Interior, Thailand, *Human Resource Development International*,

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Badir Yuosre F. and Gina O'Connor. 2015. The formation of tie-strength in a strategic alliance's first new product development project: The influence of project and partners' characteristics. *Journal of Product Innovation Management*, 32 (1), 154-169, Impact factor: 1.572 & 5-year impact factor: 3.111

Bilal Afsar and **Badir Yuosre F.** . 2015. The impacts of person-organization fit and perceived organizational support on innovative work behavior: The mediating effects of knowledge sharing behaviour. *International Journal of Information Systems and Change Management*. Vol 7 (4), 263-285.

Napasri, T. & **Yukongdi, V.** (2015). A Study of Thai Female Executives: Perceived Barriers to Career Advancement, *Review of Integrative Business and Economics Research*, Vol 4(3).

Degihama, N. D. P., Igel, B., G. Goel and A.J. Fernando (2015): The Link between Creativity and Credibility with Sustainable Growth of Entrepreneurial Firms – *Journal for Global Business Advancement* (accepted).

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Somphong Thanok and **Manukid Parnichkun.**

“Longitudinal Control of an Intelligent Vehicle Using Particle Swarm Optimization based Sliding Mode Control,” International Journal of Advanced Robotics. Robotics Society of Japan. Vol.29, No.8, (2015), Impact Factor 0.73.

Suppachai Howimanporn and **Manukid Parnichkun.** “Control of an X-Y Planar Inverted Pendulum Using PSO based SMC,” International Journal of Robotics and Automation. ACTA Press, (2015), Impact Factor 0.44.

P. Ruangurai, **M. Ekpanyapong**, C. Pruetong, and T. Watwai, “Autonomous Control for Three-Wheel Rice Seeding Robot operating in Dry Paddy Fields”, Maejo International Journal of Science and Technology (MIJST), 2015, Impact factor 0.367 [to fulfill ARDA research requirement]

Applying SVM to Data Bypass Prediction in Multi Core Last-Level Caches, W. Sritriratanarak, M. Ekpanyapong, P. Chongstitvatana, IEICE Electronics Express, in press, Impact factor 0.39

QuickBlaze: Early Fire Detection Using a Combined Video Processing Approach, Waqar S. Qureshi, **Mongkol Ekpanyapong**, Matthew N. Dailey, Suchet Rinsurongkawong, Anton Malenichev and Olga Krasotkina, Fire Technology, in press, Impact factor 1.0

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Shafiq, M. and **Luong, H.T.** (2015). Production Allocation Decision using Revenue Sharing Contract with Prior Commitment and Two-Way Penalties. *International Journal of Industrial and Systems Engineering* (accepted)

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10.1080/00207543.2015.1037933, Impact Factor 1.477

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Two Solution Representations for Solving Multi-Depot Vehicle Routing Problem with Multiple Pickup and Delivery Requests via PSO, *Computers & Industrial Engineering* 89(2015), 125-136. (doi: 10.1016/j.cie.2015.04.011), Impact Factor 1.783

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Wisittipanich, W. and Kachitvichyanukul, V. A Multiobjective Differential Evolution Algorithm for Flexible Job Shop Scheduling Problems, *International Journal of Logistics and SCM Systems*, (ISSN 1881-5456), Volume 8, Number 1, pp1-10, 2015

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activity of zinc stannate particles and zinc stannate/zinc oxide composites for the removal of phenol from water and a study on the effect of pH on photocatalytic efficiency, *Materials Science in Semiconductor Processing*, **36**, 124-133 (2015)

Conference Publications

Napasri, T. and **Yukongdi, V.** (2015). A Study of Thai Female Executives: Perceived Barriers to Career Advancement, SIBR-Thammasat Conference on Interdisciplinary Business & Economics Research Conference, 4-6 June, Bangkok, Thailand. (**Best Paper Award**).

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C.A. Pandey, H.R.A. Rahim, G.L. Hornyak and W.S. Mohammed; Synthesis and characterization of hydrothermally-grown zinc oxide (ZnO) nanorods for optical waveguide applications, Conference Proceedings, Volume 9659, *International Conference on Photonics Solutions 2015*, S. Chianga and S. Sumriddetchkajorn; Eds.; Spie Digital Library, Hua Hin, Thailand, July 6-8, 2015

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Manufacture, Machine Design and Tribology, (ICMDT2015 Japan), April 22-25, 2015, Okinawa, Japan

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Life Cycle Assessment of Greenhouse-Grown Tomatoes in Thailand, By Davaasuren Dashzegv, Vilas.M.Salokhe , Erik Bohez² and Peeyush Soni, International conference on Life Cycle Assessment as reference methodology for assessing supply chains and supporting global sustainability challenges, LCA for "Feeding The Planet And Energy For Life", Stresa, 06-07th October 2015 - Milano, Italy, Expo 2015, 08th October 2015

Luong, H.T., and Opassuwan, T. (2015). Bidirectional Option Contract in a Two-Period Newsvendor Problem. Proceedings of the 16th Asia Pacific Industrial Engineering and Management Conference (APIEMS2015), Vietnam.

Luong, H.T., and Phyo Htet, Z.M.M. (2015). Developing Control Charts for Monitoring Time Interval between Nonconforming Items in High Quality Processes. Proceedings of the 10th International Congress on Logistics and SCM Systems (ICLS 2015), Thailand.

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Multi-depot Vehicle Routing Problem with Multiple Pickup and Delivery Requests, International Congress on Logistic and SCM Systems 2015, Chiangmai, Thailand, July 2015

FOOD

Introduction

Global food system today is beset by serious challenges and risks. Food demand is on rise due to population growth and changing consumption patterns; production and prices have become more volatile; hunger and poverty levels remain high and unsustainable practices exacerbate environmental challenges. Agriculture is increasingly called upon to address a wide range of critical needs; safe and nutritious food for nine billion people by 2050; and higher and more resilient incomes for livelihoods. The fundamental needs to boost productivity, especially of small to medium holders, increase access to markets, reduce risks, boost rural employment, and provide environmental services come in a context where agriculture is challenged by accelerating climate change. World food production needs to be multifold in coming decades, with far less resources (land, water, farmers, energy) available than today. Sustainable agricultural production in developing countries is facing ever increasing challenges from high use rate of synthetic fertilizers, over reliance on pesticides, very low adoption of biological pest control, low use rate of animal and green manure, and low level of farm diversification. To address these issues the conventional intensification solutions need to be re-visited for their unsustainable effects; and rather more sustainable yet appropriate solutions need to be prescribed in the decades to come to attain self-sufficiency in food production.

Grants and Sponsored Research Completed in 2015

Laboratory training program instrumentation and advanced technology.

Duration: 24-Nov-2014 to 30-Jan-2015

Project Investigators Dr Anil kumar Anal, Imran Ahmad
Sponser

Total Contracted Amount (THB): 74,431.00

Development of low cost microfluidic sensing platforms for point of care food safety

Duration: 01-Dec-2014 to 01-May-2015

Project Investigators Loc T Nguyen

Sponser AIR reasearch initial grant

Total Contracted Amount (THB): 50,000

Laboratory training program instrumentation and advanced technology

Duration: 24-Nov-2014 to 30-Jan-2015

Project Investigators Dr Anil kumar Anal, Imran Ahmad

Sponser

Total Contracted Amount (THB): 74,431

Development of low-cost microfluidic sensing platforms for point-of-care food safety.

Duration: December 2014 – July 2015

Project Investigator(s): Dr. Loc Thai Nguyen

Sponsor: AIT Research Initiation Grant

Total Contracted Amount (THB): 50,000.00

Development of low-cost microfluidic sensing platforms for point-of-care food safety.

Duration: December 2014 – July 2015

Project Investigator(s): Dr. Loc Thai Nguyen

Sponsor:AIT Research Initiation Grant

Total Contracted Amount (THB): 50,000.00

The Effect of Shrimp Waste Fermented Products on Growth and Disease Protection of Rice and Chili.

Project Investigator(s): Dr. Anil K. Anal, Dr. Rostaman, Dr. Budi Prakoso and Dr. Trang Si Trung
Duration: April 2012- March 2015

Sponsor:Govt of Indonesia

Total Contracted Amount (THB): 900,000.00 (30,000 US\$)

intership and training at FEBT

Duration: 01-05-2014 to 31-05-2015

Project Investigators : Dr Anil Kumar Anal

Sponsor: various

Total Contracted Amount (THB): 40,000

Taking Stock How SMART Food Producth and Processing Food Losses and GHG Emissions

Duration: 01-12-2013 to 30-06-2014

Project Investigators: Dr. Anil Kumar Anal

Sponsor: Food and Agriculture Organization

Total Contracted Amount (THB): 480,000

Health food traditions of Asia (HFTA)

Duration: 01-01-2015 to 30-06-2015

Project Investigators: Prof Anil Kumar Anal

Sponsor: Ministry of environment, Japan

Total Contracted Amount (THB): 128,000

Development of Rural Aquaculture through Entrepreneurship in Women, in Myanmar (eWomen project):

Duration: 1 Jan-13 – 31-Dec-15

Project Investigator: Dr. Ram C. Bhujel

Sponsor: Ministry of Foreign Affairs, the Government of Italy, in partnership with the University of Tuscia (UoT)- Italy and the Environmental and Economic Research Institute (EERI) - Myanmar

Total Contracted Amount: THB: 4.5 mil.

Capacity Development in Fisheries/ Aquaculture for Sustainable Food Security and Livelihoods Programme in Rakhine state of Myanmar (Mynmar Dev project):

Duration: 01-Jan-2014 to 31-Dec-2015

Project Investigator: Dr. Ram C. Bhujel

Sponsor OXFAM, UK.

Total Contracted Amount (THB): 3.2 mil.

Studying patterns of genetic diversity in Farmed red tilapia strains

Duration: 01-Dec-2014 to 30-Dec-2015

Project Investigator: Dr. K. R. Salin

Sponsor Uddaraju Ananda Raju Foundation, Ananda Group, AP, India

Total Contracted Amount (THB): 160,000

Evaluation of genetic quality tilapia stocks farmed in AIT

Duration: 01-Dec-2014 to 30-Jul-2015

Project Investigator: Dr. K. R. Salin

Sponsor: AIT

Total Contracted Amount (THB): 50,000.

Exposure visits to Aquaculture facilities in Thailand

Duration: 1 July – 31 December 2015

Project Investigator: Dr. K.R. Salin

Sponsor: International delegates

Total Contracted Amount (THB): 148,481

Aquaculture Development

Duration: 1-Jan-15 – 31-Dec-15

Project Investigator(s): Dr. Ram C. Bhujel Sponsor: University students, Private farms, NGOs, Government Agencies

Total Contracted Amount (THB): 1,486,701

Evaluation of genetic quality tilapia stocks farmed in ait

Duration: 01-12-2014 to 30-05-2015

Project Investigators: Dr. K R Salin

Sponsor: AIT

Total Contracted Amount (THB): 50,000

Studying patterns of genetic diversity in Farmed red tilapia strains

Duration: 01-12-2014 to 30-12-2015

Project Investigators: Dr. K R Salin

Sponsor: Uddaraju ananda raju foundation ananda group AP, India

Total Contracted Amount (THB): 160,000

Promoting participatory homestead sustainable vegetable production to AIT community

Duration: February 2014–July 2015

Project Investigator(s): Avishek Datta and Anil Kumar Anal

Sponsor: French Agency for Environment and Energy Management, France

Total Contracted Amount (THB): 100,000

Assessment of empty fruit bunches (EFB) fly ash as fertilizer

Duration: 1-Sep 2014–31-Jul 2015

Project Investigator(s): Abdul Salam and Avishek Datta

Sponsor: Valmet Private Ltd., Chonburi, Thailand

Total Contracted Amount (THB): 856,000

Capacity building for the Moeyingyi wetland conservation in Myanmar in the context of climate change

Duration: January 2014–December 2015

Project Investigator(s): Sangam Shrestha and Avishek Datta

Sponsor: Ramsar Convention Secretariat, Switzerland

Total Contracted Amount (THB): 1,246,050

Horticulture Collaborative Research Support Program (Ph.D.)

Duration: 15-Nov-2011 to 15-Jul-2015

Project Investigator(s): Ganesh P. Shivakoti

Total Contracted Amount (US\$): 96,051

CNH: When Strengths can become weaknesses: Emerging vulnerabilities in coupled Natural Human systems under globalization and climate change

Duration: 16-10-2011 to 01-09-2015

Project Investigators: Ganesh Shivakoti

Sponsor: NSF

Total Contracted Amount (THB): 4,405,959

On-going Grants and Sponsored Research

Short-term training/internship program on agribusiness and agro-industries

Duration: 1-Aug-11 to 31 Dec-2015

Project Investigator(s): Peeyush Soni

Sponsor: Sam Higginbottom Institute of Agriculture, Technology and Sciences, India

Total Contracted Amount (THB): 1,482,562

Enhancing Productivity and Market Linkages – Improving the Livelihoods and Food Security of Smallholders in Asia

Duration: May 2013 to April 2016

Project Investigator(s): Gopal B. Thapa, Ganesh P. Shivakoti, Peeyush Soni, Avishek Datta

Sponsor: USAID/RDMA

Total Contracted Amount (US\$): 899,337

Durability stress tests for agricultural tractor under extreme traction conditions

Duration: 01-09-2015 to 31-12-2015

Project Investigators: Dr Peeyush soni

Sponsor: John Deere India Pvt limited, India

Total Contracted Amount

(THB): 552,000

Promoting participatory homestead sustainable vegetable production to AIT community

Duration: February 2014–July 2015

Project Investigator(s): Avishek Datta and Anil Kumar Anal

Sponsor: French Agency for Environment and Energy Management, France

Total Contracted Amount (THB):100,000

The Collaborative Graduate program in Integrated Natural Resources Management between Hanoi University of Agriculture and Hue University of Agriculture and Forestry

Duration: 15-07-2009 to 31-12-2014

Project Investigators: Ganesh Shivakoti

Sponsor: Ford Foundation Hanoi

Total Contracted Amount

(THB): 12,184,992

Assessment of empty fruit bunches (EFB) fly ash as fertilizer

Duration: 1-Sep 2014–31-Jul 2015

Project Investigator(s): Abdul Salam and Avishek Datta

Sponsor: Valmet Private Ltd., Chonburi, Thailand

Total Contracted Amount (THB):856,000

Capacity building for the Moeyingyi wetland conservation in Myanmar in the context of climate change

Duration: January 2014–December 2015

Project Investigator(s): Sangam Shrestha and Avishek Datta

Sponsor: Ramsar Convention Secretariat, Switzerland

Total Contracted Amount (THB): 1,246,050

Horticulture Collaborative Research Support Program (Ph.D.)

Duration: 15-Nov-2011 to 15-Jul-2015

Project Investigator(s):Ganesh P. Shivakoti

Total Contracted Amount (US\$): 96,051

ASIFOODS: University as Key Partners for the New Challenges Regarding Food Safety and Food Quality in South East Asian Institute of Technology

Duration: October 2015-September 2018

Project Investigators Dr Anil Kumar Anal

Sponsor: European Union

Total Contracted Amount (THB): Approx 4,000,000.

Development of Anti-fungal Acrylic Fibre for Novel Applications. (Thai Acrylic)

Duration: 20 January 2009 - 31 December 2016

Project Investigators: Dr. Anil K. Anal

Sponsor: Various

Total Contracted Amount (THB): 5,373,433.00

Exploration of Bioactive Value Added Compounds from Dammar and Seedlac.

Duration: 1 May 2015 – 30 June 2016

Project Investigators Dr Anil K. Anal

Sponsor:Thevaraya Co.Ltd, Thailand

Total Contracted Amount (THB): 700,000.00

EU-ASEAN Science and Technology Cooperation to Jointly Tackle Societal Challenges (SEA-EU-NET2)

Duration: 1-Nov-2012 to 31-Oct-2016

Project Investigator(s): Anil Kumar Anal, P.Abdul Salam, Sangam Shrestha

Sponsor;European Union FP7

Total Contracted Amount (THB): 8,779,888.00

Health Food Traditions of Asia (HFTA)

Duration: 1 January 2015 – February 2016

Project Investigators Dr Anil K. Anal

Sponsor: Ministry of Environment, Japan

Total Contracted Amount (THB): 128,000.00

Internship and training at FEBT

Duration: 01-May-2014 to 31-May-2015

Project Investigators Dr Anil Kumar Anal

Sponsor: Various

Total Contracted Amount (THB): 71,823.65

Internet of Thing (IoT) based Intelligent Quality Traceability and Control Technologies for Aquatic Products Supply Chain. (TICA)

Duration: 1 November 2015 – 31 December 2017
 Project Investigators: Prof. Athapol Noomhorm
 Sponsor: Thailand International Development Cooperation Agency (TICA)
 Total Contracted Amount (THB): 138,500.00

Sustain and Enhance Cooperation on Sustainable Development Research for Local Resource Utilization and Efficiency.

Duration: 1-Jul -13 – 30 June 2016
 Project Investigator(s): Dr. Anil K. Anal
 Sponsor: SUSTAIN EU-ASEAN
 Total Contracted Amount (THB): 2,469,810.00

SEA-EU-NET 2-EU-ASEAN S&T Cooperation to Jointly

Duration: 01-11-2012 to 31-10-2016
 Project Investigators: Dr. Anil Kumar Anal, Dr.P. Abdul Salam and Dr. Sangam Shrestha
 Sponsor: European Union FP7
 Total Contracted Amount (THB): 8,779,888

ERASMUS+, GeoServices-4-Sustainability (GeoS4S) (2015-2018)

Project Co-Investigator: Dr. K.R. Salin
 Duration: Oct 2015 – Dec 2018
 Sponsor: European Commission
 Total Contracted Amount (THB): 2.73 million

Aquaculture development through Training, outreach and consultancy

Duration: 01-Nov-2014 to 31-Dec-2016
 Project Investigator: Dr. Ram C. Bhujel
 Sponsors: Trainees, students Private and public companies. In 2015, a total of 143 participants joined the training under this program.

Total Contracted Amount (THB): 5.8 million.

Biomin feed supplement testing:

Duration: 01-Mar-2015 to 31-Dec-2017
 Project Investigator: Dr. Ram C. Bhujel
 Sponsor: Biomin Holding, Austria.
 Total Contracted Amount (THB): 632,000

Shrimp Biofloc Farming Technology

Project Investigator: Dr. K.R. Salin
 Duration: 1-June-15 – 31-Dec-2016
 Sponsor: Various international sources
 Total Contracted Amount (THB): 2,522,098

Establishment of an Advanced RAS and Aquaponics System

Project Investigator: Dr. K.R. Salin
 Duration: 1-Nov-15 – 31-Dec-2016
 Sponsor: Various sources
 Total Contracted Amount (THB): 1,386,754

Capacity Building Program for Aquafarmers in India

Project Investigator: Dr. K.R. Salin
 Duration: 3-April-15 – 31-Mar-2016
 Sponsor: Uddaraju Ananda Raju Foundation, Ananda Group, AP, India
 Total Contracted Amount (THB): 239,400

Netherlands Initiative for capacity development in Higher Education (NICHE): Integrated management of crop fish water resources to

enhance productivity towards sustainable food security in Bangladesh

Duration: 01-09-2013 to 22-08-2016
 Project Investigators: Dr Ram C Bhujel
 Sponsor: NUFFIC via Wageningen University Netherlands
 Total Contracted Amount (THB): 5,207,816

Publications

Book

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Datta A, Shrestha S, Ferdous Z, Win CC. (2015). Strategies for Enhancing Phosphorus Efficiency in Crop Production Systems. In: A Rakshit, HB Singh, A Sen (Eds.), Nutrient Use Efficiency: from Basics to Advances. Springer, ISBN 978-81-322-2169-2, pp. 59–71

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Wali, E., Datta, A., Shrestha, R. P., & Shrestha, S. (2015). Development of a land suitability model for saffron (*Crocus sativus* L.) cultivation in Khost Province of Afghanistan using GIS and AHP techniques. *Archives of Agronomy and Soil Science*, 1-14.

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ICT

Introduction

Today's fast-booming world of Telecommunications and Computer networking plays a significant leadership role. This theme focuses on world-class teaching and research into the foundations and applications of computing systems, planning the effective use of information and communication technologies within organizations, developing corporate and government policies to maximize the benefits resulting from the wide-spread use of these technologies and increasing the productivity and creativity of managers and executives who work with information resources. Research subjects include those on ICT applications (e-services such as e-learning, e-health, e-governance, rural development, knowledge creation and knowledge dissemination); on the information technologies (e.g. operating systems, programming languages, information storage and retrieval); on the communication infrastructure (e.g. networks, transmission technologies, switching and routing). Research specializations are in adaptive technologies; computer-supported collaboration; Home networking; ICT security; online communities; and voice over IP.

Grants and Sponsored Research Completed in 2015

Video analytics platform for CCTV Security

Duration: 01-Aug-2014 to 31-Jul-2015

Project Investigators Dr Mathew N. Dailey

Sponsor National science and technology Development agency (NSTDA)

Total Contracted Amount (THB): 994,000

Traffic flow system

Duration: 15-04-2015 to 15-08-2015

Project Investigators: Dr Mathew N Dailey

Sponsor: Pineapple vision system

Total Contracted Amount (THB): 970,000

Identifying specific disease and pests on sugarcane leaves and trunks using image processing

Duration: 01-04-2015 to 31-07-2015

Project Investigators: Dr Mathew N Dailey

Sponsor: Mitr Phol sugarcane research centre co lts

Total Contracted Amount (THB): 4,000,000

Prototyping system development for Ontology-Based Data Retrieval Support System

Duration: 1-Apr-13 to 31-Mar-15

Project Investigator(s): Dr. Nitin Kumar Tripathi and Dr. Masahiko Nagai

Sponsor: The University of Tokyo

Total Contracted Amount (THB) 1,252,548

Prototyping system development for global Urban and infrastructure data

Duration: 1-Apr-13 to 31-Mar-15

Project Investigator(s): Dr. Nitin Kumar Tripathi and Dr. Masahiko Nagai

Sponsor: The University of Tokyo

Total Contracted Amount (THB) 1,100,724

Basic Investigation and Prototyping for Overseas

Duration: 1-Apr-12 to 31-March-15

Project Investigator(s): Dr. Masahiko Nagai

Sponsor: The University of Tokyo

Total Contracted Amount (THB) 1,760,822.06

Survey for Information Distribution and Decision

Duration: 1-Apr-12 to 31-March-15

Project Investigator(s): Dr. Masahiko Nagai

Sponsor: The University of Tokyo

Total Contracted Amount (THB) 1,546,392.12

Design and Prototype development for Ontology-Based Data Retrieval Support System

Duration: 1-Apr-12 to 31-March-15

Project Investigator(s): Dr. Masahiko Nagai

Sponsor: The University of Tokyo

Total Contracted Amount (THB) 1,760,822.08

Development of Web Service and Survey of Analytical Model and Data Flow for Critical Earth Observation Parameters

Duration: 1-Apr-12 to 31-March-15

Project Investigator(s): Dr. Masahiko Nagai

Sponsor: The University of Tokyo

Total Contracted Amount (THB) 883,652.79

Jaxa-Capacity Building 2014-15

Duration: 01-Sep-2014 to 31-Dec-2015

Project Investigators Dr Lal samarakoon Sponser Japan aerospace exploration company

Total	Contracted	Amount
(THB): 5,620,000		

Sentinel Asia

Duration: 01-Oct-2014 to 01-Oct-2015

Project Investigators Dr Lal samarakoon Sponser Japan aerospace exploration company

Total	Contracted	Amount
(THB): 2,344,752		

Asian summer school for geoinformatics and issues on sustainable development in Asia

Duration: 01-Aug-2014 to 31-Jul-2015

Project Investigators Dr sarawut Ninsawat

Sponser Chubu university

Total Contracted Amount (THB): 600,000

Developing GIS based sugar system for sugar cane management

Duration: 25-Jul-2014 to 24-July-2015

Project Investigators Dr Sarawat Ninsawat
 Sponser mitr phol sugarcane reasearc center
 Total Contracted Amount (THB): 796,000

Upgrade and improvement of MRC information system

Duration: 01-Apr-2014 to 31-Dec-2015
 Project Investigators Dr Lal samarakoon
 Sponser Mekong river commision /MRC
 Total Contracted Amount (THB): 3,446,592

CANAsia

Duration: 01-Oct-2011 to 31-Oct-2015
 Project Investigators Lal Samarakoon
 Sponser CANAsia Geoinformatics Solution Ltd
 Total Contracted Amount (THB): 870,000

Rowing NAVIS

Duration: 01-Jul-2012 to 30-Apr-2015
 Project Investigators Dr. Lal Samarakon
 Sponser Navigation Technologies Research Area Institute Superio Mario Boella, Italy
 Total Contracted Amount (THB): 1,174,080

Survey for Information Disribution and Decision Making during Flood in Thailand

Duration: 01-Apr-2012 to 31-Mar-2015
 Project Investigators Dr. Masahiko Nagai
 Sponser The University of Tokyo
 Total Contracted Amount (THB): 1,546,392.12

Basic Investigation and Prototyping for Overseas Preparation Systems of Urban and Infrastructure Data

Duration: 01-Apr-2012 to 31-Mar-2015
 Project Investigators Dr. Masahiko Nagai
 Sponser The University of Tokyo
 Total Contracted Amount (THB): 1,760,822.06

Developing GIS based system for sugarcane management 2015

Duration: 30-03-2015 to 31-07-2015
 Project Investigators: Dr Sarawat Ninsawat (THB): 3,200,000

Sponsor: Mitr Phol sugarcane research centre co lts

Total Contracted Amount (THB): 456,000

On-going Grants and Sponsored Research

Automatic helmet wearing detection for the safety of motorcycle rider

Duration: 15-03-2015 to 14-03-2016

Project Investigators: Dr Mongkol Ekpanyapong Dr Mathew m Dailey

Sponsor: Thailand research fund

Total Contracted Amount (THB): 1,975,000

Toyota vehicle speed estimation system

Duration: 01-09-2015 to 31-01-2016

Project Investigators: Dr Mathew N Dailey

Sponsor: Pinapple vision systems

Total Contracted Amount (THB): 265,000

Prototyping of Overseas preperation system of Urban and infrastructure Data

Duration: 01-Apr-2014 to 31-Mar-2016

Project Investigators Dr Masahiko Nagai
 Sponser University of Tokyo

Total Contracted Amount (THB): 1,518,720

Winter eduction campand study tour for JIS Group of institutions

Duration: 01-Jan-2015 to 31-Dec-2016

Project Investigators Nitin Kumar Tripathi
 Sponser JIS group of institutions, India

Total Contracted Amount (THB): 592,000

Local Ionospheric scintillation in Asia (LISA)

Duration: 21-Oct-2014 to 31-Dec-2016

Project Investigators Nitin Kumar Tripathi
 Sponser Asian office of aerospace and R&D

Total Contracted Amount (THB): 638,400

ADB-RETEC

Duration: 01-Sep-2014 to 30-Oct-2016
 Project Investigators Dr Lal samarakoon

Sponser ADB, Remote sensing technology of Japan

Total Contracted Amount (THB): 3,200,000

Eduction campand study tour for JIS Group of institutions

Duration: 01-Jul-2014 to 31-Jul-2016

Project Investigators Nitin Kumar Tripathi
 Sponser United group of institutions ,

India

Total Contracted Amount (THB): 950,000

Operational Design of Ontology-based data retrieval support system

Duration: 01-Apr-2014 to 31-Mar-2016

Project Investigators Dr Masahiko Nagai
 Sponser University of Tokyo

Total Contracted Amount (THB): 618,156

Asian summer school for geoinformatics and issues on sustainable development in asia

Duration: 01-08-2015 to 31-07-2016

Project Investigators: Dr Sarawat Ninsawat

Sponsor: Chubu university

Total Contracted Amount (THB): 600,000

FOSS4G Training

Duration: 15-07-2015 to 15-07-2016

Project Investigators : Dr Sarawat Ninsawat

Sponsor:

Total Contracted Amount (THB): 300,000

Geospacial data analysiss

Duration: 01-06-2015 to 31-05-2017

Project Investigators: Dr Masahiko Nagai, Dr Apichon Witayangkurn

Sponsor: The University of Tokyo

Total Contracted Amount (THB): 1,360,497

Development of GPGPU real time tsunami simualtion system for rimes

Duration: 04-11-2014 to 31-05-2016

Project Investigators: Dr Masahiko Nagai, Dr Apichon Witayangkurn

Sponsor: Earth system science corporation

Total Contracted Amount (THB): 920,000

Development of GESTISS web site for international users

Duration: 08-02-2015 to 31-03-2016
 Project Investigators: Dr Masahiko Nagai, Dr Apichon Witayangkurn
 Sponsor: the University of Tokyo
 Total Contracted Amount (THB): 255,949

Goeinformatics training

Duration: 20-10-2015 to 31-10-2016
 Project Investigators: Dr Nitin kumar Thripathi
 Sponsor: UNESCAP
 Total Contracted Amount (THB): 105,000

Goeservices 4 sustainability

Duration: 01-09-2015 to 30-12-2017
 Project Investigators: Dr Nitin kumar Thripathi
 Sponsor: ERASMUS+University of Saizburg
 Total Contracted Amount (THB): 2,730,000

education workshop and study tour

Duration: 01-01-2016 to 30-01-2018
 Project Investigators: Dr Nitin kumar Thripathi
 Sponsor: JIS Group and downtown university
 Total Contracted Amount (THB): 760,000

SRMU Educational camp and study tour 2016 for sri ram memorial university, India

Duration: 09-09-2015 to 30-09-2017
 Project Investigators: Dr Nitin kumar Thripathi
 Sponsor: Sr Ram Memorial University
 Total Contracted Amount (THB): 255,000

3.1.1 Publications

International Journal Articles with Impact factor

C Tantasirin, M Nagai, T Tipdecho, **Nitin Kumar Tripathi**. 2015, Reducing hillslope size in digital elevation models at various scales and the effects on slope gradient

estimation, *Geocarto International*, 02/2015, 1-32,

DOI: 10.1080/10106049.2015.1004133 ;

Link:

<http://dx.doi.org/10.1080/1016049.2015.1004133>, (Impact Factor: 0.9)

Saad Saleem Bhatti, **Nitin Kumar**

Tripathi, Vilas Nitivattananon, Irfan Ahmad Rana, Chitrini Mozumder. 2015. A

multi-scale modeling approach for simulating urbanization in a metropolitan region, *Habitat International* 50 (2015), 354-365,

<http://dx.doi.org/10.1016/j.habitatint.2015.09.005>, 0197-3975/© 2015 Elsevier

Ltd.

V Rajesh Chowdhary, **Nitin K. Tripathi**, Sanit Arunpold, Durairaju Kumaran Raju, and Taravudh Tipdecho, 2015. Characterization of GPS-TEC in a low-latitude region over Thailand during 2010–2012", *Annals of Geophysics*. (Impact Factor: 1.157)

Sawaid Abbas, Faisal Qamer, MSR Murthy, **Nitin Kumar Tripathi**, Wu Ning, Eklabya Sharma, Ghaffar Ali, 2015.

"Grassland Phenology in Response to Climate Variability in the Upper Indus Basin, Pakistan", *Climate*. EISSN: 22251154, MDPI, (Accepted for publication: 21 July 2015)

Abbadi Girmay Reda, **Nitin K Tripathi**,

Peeyush Soni and Taravudh Tipdecho, 2015. Rain Fed Rice Agriculture under

Climate Variability in Southeast Asia: The

Case of Thailand, *J Earth Sci Clim Change*, Vol. 6, Issue 8,(Impact Factor: 2.089)

Siriwan Hassarangsee, **Nitin Kumar Tripathi** and Marc Souris, 2015. "Spatial Pattern Detection of Tuberculosis: A Case Study of Si Sa Ket Province, Thailand", *Int. J. Environ. Res. Public Health*, 12, 16005–16018; doi:10.3390/ijerph121215040, www.mdpi.com/journal/ijerph

Priyanka Kakria, **Nitin Kumar Tripathi** and Peerapong Kitipawang, 2015.

"A Real-Time Health Monitoring System for Remote Cardiac Patients using Smartphone and Wearable Sensors", *Int. J. of Telemedicine and Applications*, Volume 2015 (2015), Article ID 373474, 11 pages, <http://dx.doi.org/10.1155/2015/373474> (Impact Factor:)

D. Pinto, S. Shrestha, M. S. Babel, and S. Ninsawat (2015). Delineation of groundwater potential zones in the Comoro watershed, Timor Leste using GIS, remote sensing and analytic hierarchy process (AHP) technique. *Applied Water Science*, 17 pages. (ISSN: 2190-5495)

R. B. Reyes, M. Nagai, Y. Kamiya, T. Tipdecho and S. Ninsawat (2015). Effect of sea level rise in the validation of geopotential/geoid models in Metro Manila, Philippines. *Survey Review*, 47(342). pp. 211-219. (ISSN: 0039-6265)

A. Basit, W.S. Qureshi, M.N. Dailey, and T. Krajnik (2015), "Joint localization of pursuit quadcopters and target using monocular cues", *Journal of Intelligent and Robotic Systems*, 78(3-4): 613-630, 2015.

A. Basit, M.N. Dailey, J. Moonrinta, and P. Laksanacharoen (2015), "Joint localization and target tracking with a monocular camera", *Robotics and Autonomous Systems*, 74: 1-14, 2015.

Y. Nakaguro, W.S. Qureshi, M.N. Dailey, M. Ekpanyapong, P. Bunnun, and K. Tungpimolrut (2015), *Volumetric 3D*

- reconstruction and parametric shape modeling from RGB-D sequences”, in Internal Conference on Image Analysis and Processing, page 500-516, 2015.
- R. Rhienmora, P. Haddawy, S. Suebnukarn, P. Shrestha, and M.N. Dailey (2015), “Recognizing clinical styles in a dental surgery simulator”, studies in Health Technology and Informatics, 2015.
- S. Chomchaiya, and V. Esichaikul (2015), “Consolidated performance measurement framework for government e-procurement focusing on internet stakeholders, Information Technology & People (Accepted for publication).
- J. Khemprasit, and V. Esichaikul (2015), “Design and implementation of a mobile crime analysis and monitoring system (MCMA) based on service-oriented architecture (SOA), Information Development (First published on 15 March 2015).
- N. Sangbuapuan, and S. Guha (2015), “Improving rice farming in Thailand using information kiosks”, accepted and appeared online (<http://idv.sagepub.com/content/early/2015/07/28/0266666915598350.full.pdf?ijkey=3b58sl33O2MM3Se&keytype=finance>) print to follow Information Development, July, 2015.
- S. Guha, “3D mesh segmentation using local geometry”, International Journal of Computer Graphics & Animation 5, 37-45, 2015.
- S. Guha, “Mesh simplification via a volume cost measure”, International Journal of Computer Graphics & Animation 5, 53-64, 2015.
- Teerapat Sanguankotchakorn, Supattra Wiriyapant, Thanapol Saengsrichun: *OLSR Control Overhead and Energy Consumption Reduction using Game Theory*, Network Protocols and Networks, Macro Institute, Vol.7, No.2, pp.96-112, 2015. (Impact factor: 0.439)
- Attaphongse Taparugssanagorn, Siwaruk Siwamogsatham, and Carlos Pomalaza-Ráez, “A Non-destructive Oil Palm Ripeness Recognition System using Relative Entropy,” Computers and Electronics in Agriculture, vol 118, pp. 340–349, Oct. 2015.
- R. A. Shah, N. Rajatheva, Yusheng Ji, Performance analysis of dual hop OFDM relay system with subcarrier mapping in Nakagami-m fading, IEICE Transactions on Communications E98 B(4), pp 723-735, 2015.
- Khan, Z.A, Hwang, J.K., Rajatheva, N., Deng, J.H., Novel Femto Cooperative Scheme with Interference Mitigation and Performance Analysis under Different Fading Channels, Journal of the Chinese Institute of Engineers, Transactions of the Chinese Institute of Engineers, Series A/Chung-kuo Kung Ch’eng Hsueh K’an, 38(1), pp 57-56, 2015.
- R. A. Shah, N. Rajatheva, Yusheng Ji, Performance analysis of dual hop OFDM relay system with subcarrier mapping in Nakagami-m fading, IEICE Transactions on Communications E98 B(4), pp 723-735, 2015.
- “Delay Performance of Multi-Hop WRANs Under the Self-Coexistence Situation,” *International technical conference of IEEE Region 10 (IEEE TENCON)*, Jan. 2015.
- T. Sanguanpuak, S. Guruacharya, N. Rajatheva, M. Latva-aho (2015). Resource Allocation for Co-Primary Spectrum Sharing in MIMO Networks, IEEE ICC Workshop on 5G & Beyond - Enabling Technologies and Applications, London, June.
- R. A. Shah, N. Rajatheva, Yusheng Ji, (2015), Outage Analysis of dual-hop OFDM relay system with Subcarrier Mapping in Nakagami-m fading, Communications (ICC), 2015 IEEE International Conference on, London, June.
- R. A. Shah, N. Rajatheva, Yusheng Ji, (2015), Outage Analysis of dual-hop OFDM relay system with Subcarrier Mapping in Nakagami-m fading, Communications (ICC), 2015 IEEE International Conference on, London, June.

Conference Publications

W. Thitimajshima, V. Esichaikul, and D. Krairit (2015), “Developing a conceptual framework to evaluate public B2B e-marketplaces, Proceedings of PACIS 2015, 5-9 July 2015, Singapore.

V. Esichaikul, and P.T. Latt (2015), “Multidimensional data analysis of call records in a telecommunication company”, Proceedings of ICEMCS 2015, 28-29 October 2015, Kula Lumpur, Malaysia.

Teerapat Sanguankotchakorn and Supattra Wiriyapant: *OLSR Power Consumption Reduction using Game Theory*, The 7th IEEE International Conference on Ubiquitous and Future Network (ICUFN2015), Sapporo, Japan, pp.295-299, July 7th-10th, 2015

Sheraz Khan, Poompat Saengudomlert, and Attaphongse Taparugssanagorn,

Chapter 3: SCHOOL OF ENGINEERING AND TECHNOLOGY

3.1.1 VISION

The School of Engineering and Technology (SET) aims to become a unique and prestigious multicultural hub of higher learning in engineering and technology, offering state-of-the-art multidisciplinary programs and cutting-edge research in partnership with the industries for sustainable growth of the region. SET focus is on growth and long-term sustainability by enriching academic reputation and internationality.

3.1.2 CORE VALUES

Reflecting the uniqueness of AIT, the following core values are advocated by SET:

- Excellence in teaching / learning
- Excellence in research
- Transparency of administration
- Quality assurance
- Unity in Diversity
- Culture of Collaboration

The school is currently organized in three thematic areas and 8 academic outreach centers.

SET emphasizes on a learning process that combines theoretical problem-solving and real life application of engineering principles. Its research orientation is outward-looking; addressing the actual and anticipated needs of the region. SET enhances its academic portfolio by emphatically

injecting the “5I” features namely **internationality, innovation, integration, information technology and industrial partnership**. The school is currently working on the international accreditation process for all programs.

In line with the mission of the Institute, the mission of the School of Engineering and Technology is:

To develop highly qualified engineers and technologists who play leading roles in promoting the region's industrial competitiveness in its integration into the global economy.

More information about the school can be accessed at the SET's homepage <http://www.set.ait.asia/>

3.1.3 Thematic Groups, Fields of Study and Multidisciplinary Programs

CIVIL AND INFRASTRUCTURE ENGINEERING GROUP

Since the founding of AIT, its civil engineering fields have promoted modern methodologies, emerging technologies and innovative materials for the design and construction of safe and economical infrastructure in the region. The Civil and Infrastructure Engineering group includes the following fields of study:

- 1) Construction, Engineering and Infrastructure Management (CEIM)
- 2) Geotechnical and Earth Resources Engineering (GTE).
- 3) Structural Engineering (STE)
- 4) Transportation Engineering (TRE)
- 5) Water Engineering and Management (WEM)

INDUSTRIAL SYSTEMS ENGINEERING GROUP

For several decades, AIT has served in the development of the region by equipping young engineers with the high-tech knowledge required to work in complex industrial environments. Since its inception, the Industrial Systems Engineering (ISE) thematic group at AIT has contributed to this mission by focusing on industrial competitiveness and innovation for sustainable growth in the region. The ISE group is comprised of the following fields of study:

- 1) Industrial and Manufacturing Engineering (IME)
- 2) Nanotechnology (NT)
- 3) Mechatronics (MEC)
- 4) Microelectronics and Embedded Systems (MES)

INFORMATION AND COMMUNICATIONS GROUP

Information and communications enable access, connections and sharing, in turn enable knowledge creation and economic opportunity. The

fields in the Information and Communications group are:

- 1) Computer Science (CS)
- 2) Computer Science with specialization in Software Engineering
- 3) Information Management (IM)
- 4) Remote Sensing and Geographic Information Systems (RSGIS)
- 5) Telecommunications (TC)

Interdisciplinary Programs

- 1) Disaster Preparedness, Mitigation and Management (DPMM)
- 2) Geo- Exploration & Petroleum Geoengineering (GEPG)
- 3) Information and Communications Technologies (ICT)
- 4) Offshore Technology and Management (OTM)

3.1.4 Strategic Research Areas

The School of Engineering and Technology has identified broad research areas related to the strengths of its faculty, its curriculum and its existing facilities that are the building blocks for education niches in engineering and advanced technologies.

The following lists the information about the specific focal areas grouped by Fields of Study.

Computer Science and Information Management (CSIM)

Software Engineering and Development; Information and Knowledge Management

Industrial Systems Engineering (ISE)

Design and development of devices and sensors; Automation and control of machines; Product design and integration of machines and processes; Planning, operation, control and logistics of Industrial systems

Remote Sensing and Geographic Information Systems (RS&GIS)

Remote Sensing (RS); Geographic Information System (GIS); Global Navigation Satellite System (GNSS); Geoinformatics Applications in Environment, Agriculture and Disaster Management, Sensor and Web GIS, Advance Mapping - UAV, LIDAR, Kinematic GPS, Monitoring Upper Atmosphere, Health GIS.

Telecommunications, Information and Communications Technologies (TC, ICT)

Mobile Wireless Communications, Network Performance Analysis, Digital Communications

Geotechnical and Earth Resources Engineering (GTE).

Sustainable geological exploitation for engineering activities; Design of safe structures; Disaster mitigation and rehabilitation

Structural Engineering

Computational Mechanics, Earthquake Resistant Design, Experimentation Methods, Advanced Structural Materials.

Transportation Engineering (TRE)

Transportation Planning, Traffic Engineering, Highway and Pavement Engineering, Road Safety and Accident Analysis and Transportation Logistics

Water Engineering and Management (WEM)

Water resources management; Climate change impact and adaptation in water sector; Water related disaster management

3.1.5 Academic Outreach Centers

The School of Engineering and Technology has a wealth of innovative and untapped knowledge database from its master's and doctoral research activities. Many outreach and research centers are set up to transform the knowledge into industrial needs. These centers also serve to transfer the practical aspects and the society impacts of the knowledge and technology back to the class room.

ACSIG: Asian Center for Soil Improvement and Geosynthetic

ACSIG provides a strategic location for advanced technological education, researches and outreach activities on the application and effective utilization of ground improvement techniques. Visit ACSIG: <http://www.set.ait.asia/acsig/>

ACTS: Asian Center for Transportation Studies

ACTS activities include modules on intelligent transportation systems, traffic simulation, freight transport,

urban road safety and road safety audit. Visit ACTS: <http://www.set.ait.asia/acts/>

Regional Network Office for Urban Safety

The Regional Network Office for Urban Safety (RNUS) is a collaborative center jointly operated by the AIT and the University of Tokyo for the promotion of urban safety engineering utilizing advanced engineering technologies including remote sensing and GIS. Visit RNUS: <http://www.set.ait.asia/rnus/>

Thailand Accident Research Center

The Thailand Accident Research Center is an offspring of MOTC's Road Safety Master Plan acknowledging the lack of information on accidents in Thailand and the need to establish TARC. TARC provides academic back up and a base for road safety research. Visit TARC:

<http://www.tarc.ait.asia>,
<http://www.tarc.or.th/>

AIT Center of Excellence in Nanotechnology

The Center of Excellence in Nano-technology is jointly supported by Thailand's Nanotechnology Center (NANOTEC) and AIT, to cultivate and foster multidisciplinary activities including research and education in the applications of Nanotechnology in Developing World. Visit CoEN: <http://www.nano.ait.asia>

3.1.6 Governance

Dean

VORATAS
KACHITVICHYANUKUL, BS, Natl Taiwan Univ; MEng, AIT, Thailand; PhD, Purdue Univ, Indiana, USA.

Professor (Simulation; ERP; Scheduling, Metaheuristics; Parallel Computing) [Planning and Scheduling Systems; Enterprise Resource Planning Systems; Supply Chain Modeling and Analysis; Discrete Event Simulation Software Development; Manufacturing System Simulation; Manufacturing Decision Support Systems; Just-in-Time Manufacturing System]

Chapter 3.2 SET: COMPUTER SCIENCE AND INFORMATION MANAGEMENT FIELDS OF STUDY



3.2.1 Introduction

Computer Science Field of Study

This field of study focuses on world-class teaching and research into the foundations and applications of computing systems. The curriculum covers a broad range of topics in computer systems, theory, software engineering, information science, and applications. The faculty members are particularly active in artificial intelligence, security, computer graphics, machine learning and data mining, robotics, computer vision and image processing, software engineering, networking, and information systems.

The courses and research topics span the range from theory to practice. Students are encouraged to take courses and conduct research in areas related to computer science such as Information Management, Telecommunications, Information and Communication Technologies, Remote Sensing and

Geographic Information Systems, Mechatronics, Microelectronics and Embedded Systems, Industrial Engineering, and other fields of study at the Institute.

Software Engineering Area of Study

In addition to the traditional Masters program in computer science, the Computer Science field of study also offers a Masters degree in Computer Science with Specialization in Software Engineering. The Software Engineering Area of Specialization is specially designed to fill the Asia-Pacific region's need for highly-trained specialists in software development and the management of software development projects.

Information Management Field of Study

The Information Management field of study at AIT aims to fulfill the growing need for information management skills in government and private organizations. It was the first program of its kind in Asia.

The field focuses on planning

the effective use of information and communication technologies within organizations, developing corporate and government policies to maximize the benefits resulting from the wide-spread use of these technologies, improving the strategic management of information resources in business, government, and non-profit organizations, and increasing the productivity and creativity of managers and executives who work with information resources.

3.2.2 Research Facilities and Laboratories

CSIM Laboratories are well-equipped for teaching and research. The program maintains its own file, Web, email, and database servers for experimental and daily use. The teaching lab is kept up to date with modern desktop systems and can seat up to 60 students for practical sessions. Specialized equipment includes a production ready Open Stack heterogeneous private compute cloud, experimental broadband satellite links to

Japan and other countries in the region, video and image processing equipment, and augmented/virtual reality equipment. Full wireless coverage in the building allows students to conveniently work with their personal notebook computers.

Faculty and Research Staff

Full-time Faculty

KANCHANA KANCHANASUT, PhD, MSc, Computer Science, University of Melbourne, Australia; Graduate Diploma, Computer Science, BSc Mathematics, University of Queensland, Australia.

Chair Professor, Thai Network Information Center (THNIC) and InterLab Director (*Networking and Distributed Computing, Algorithms, Programming Languages*)

PHAN MINH DUNG, MSc, PhD, University of Technology, Dresden, Germany.

Professor (*Computer and Network Security, Autonomous Computing, Logic Programming, Artificial Intelligence*)

SUMANTA GUHA, MS, PhD, University of Michigan, Ann Arbor, USA; PhD, Indian Statistical Institute, Calcutta, India; BSc, MSc, University of Calcutta, India.

Professor (*Algorithms, Computer Graphics, Computational Geometry, Robotics*)

VATCHARAPORN ESICHAIKUL, BAcc, Chulalongkorn University, Thailand; MBA, Oklahoma State University; PhD, Kent State University, USA.

Associate Professor (*Electronic Commerce/Electronic Business, Web-based Information Systems, Hypermedia,*

Electronic Government)

MATTHEW N. DAILEY, BSc, MSc, North Carolina State University, PhD, University of California, San Diego.

Associate Professor (*Machine Vision & Learning, Robotics, Software Engineering and Open-source Software Development*)

Visiting and Adjunct Faculty

PAUL JANECEK, BSEE, US Military Academy; MSc, University of London, UK; PhD, Swiss Federal Institute of Technology, Switzerland.

Visiting Faculty (*Human-Computer Interaction; Analysis and Design of Information Visualization Systems, Semantic Fisheye Views, Software Engineering and Open-source Software Development, and Information System Development*)

RAPHAEL DUBOZ, MA, University of Marseille, France; MA, University of Paris 6, France; PhD, University of Littoral Cote d'Opale, France.

Visiting Assistant Professor and Researcher in Centre de Cooperation Internationale en Rechercher Agronomique Pour Le Development (CIRAD) (*Computing Modeling and Simulation, with Applications in the Environmental Sciences*)

CHUTIPORN ANUTARIYA, BSc, First Class Honors, Chulalongkorn University, Thailand; MSc, D.Tech.Sc., Asian Institute of Technology.

Adjunct Faculty (*Database Systems, XML and Web Technologies, Knowledge Representation, Intelligent Systems, Semantic and Linked Data Technologies*)

Research Staff

LAKINDU BOTEJU, B.Sc., Asian Institute of Technology, Thailand.

RAMESH MARIKHU, BEng, Kathmandu University, Nepal; MEng, Information & Communication Technologies, Asian Institute of Technology, Thailand.

JEDNIPAT MOONRINTA, BEng, Computer Engineering, Second-Class Honors, Chiang Mai University, Thailand; MEng, Computer Science, Asian Institute of Technology, Thailand.

PHAN MINH THANG, BEng, Kaldol Kalman College, Hungary; MEng, Computer Science, Asian Institute of Technology, Thailand.

ANURAG TIWARI, B.Sc., Asian Institute of Technology, Thailand.

3.2.3 Doctoral Students' Dissertation

Computer Science

Machine Vision Platform for Agricultural Crop Monitoring and Phenotyping for Plant Breeding.

By Supavadee Chaivivatrakul
Supervisor: Dr. Matthew Dailey

A Machine Learning Approach for Web Caching

By Areerat Songwattana
Supervisor: Dr. Matthew Dailey/Dr. Thanaruk Theeramunkong

Model-Based Target Tracking from Monocular Camera.

By Abdul Basit
Supervisor: Dr. Matthew Dailey

Self-Services and Disservices.

By Hakan K. Alm

Supervisor: Dr. Paul Janecek

3.2.4 Masters Students' Theses and Research Studies

Computer Science

*Analysis Activity Censorship
Behavior in Facebook Pages*

By Sakares Saengkaew

Supervisor: Dr. Raphael
Duboz/Prof. Noel Crespi

*Research Study: Feature Point
Mapping for Agricultural
Environments using an
Airborne Quadcopter.*

By Niraj Shakya

Supervisor: Dr. Matthew Dailey

*Research Study: Evaluation and
Comparison of E-services in
Myanmar and Thailand.*

By Aye Mya Moe

Supervisor: Prof. Sumanta
Guha

*Customized 3D Virtual Reality
Environment for Mobile
Commerce.*

By Atitaya Yakaew

Supervisor: Prof. Sumanta
Guha

*An Empirical Study of License
Plate Detection and
Recognition Algorithm for
Automatic Traffic Law
Enforcement.*

By Nasa Zata Dina

Supervisor: Dr. Matthew Dailey

*An Analysis of a Chaos-based
Fast Image Encryption
Algorithm.*

By Wendy Mistarika
Rahmawati

Supervisor: Dr. Matthew Dailey

*Healthcare Insurance Exchange
Systems in Thailand.*

By Suwantha Xanthavanij

Supervisor: Prof. Phan Minh
Dung

Information Management

*Research Study: Challenges to
Implement E-Gov Application:
National Identity (NID) Card in
Nepal*

By Prakash Subedi

Supervisor: Dr. Vatcharaporn
Esichaikul

*Drivers and Barriers of E-
Business Adoption for Small
Medium Sized Enterprises
(SMEs) in the Agricultural
Sector: A Case Study Indonesia.*

By Faishal Mufied Al-Anshary

Supervisor: Dr. Vatcharaporn
Esichaikul

*Analysis and Evaluation of E-
Government Services in
Afganistan*

By Mohammad Anwer Anwer

Supervisor: Dr. Vatcharaporn
Esichaikul

*Research Study: Give Me Some
Credit: Predictive Analysis on
the Risk of Credits.*

By Paul Honore

Supervisor: Prof. Sumanta

Guha

*Research Study: Mining News
Articles to Predict a Stock
Trend.*

By Salih Khan

Supervisor: Prof. Sumanta
Guha

*Research Study: Prognosis of
Diabetes Disease using Data
Mining Classification
Techniques: A Case Study of
Phra Pok Klao Chanthaburi
Hospital.*

By Sherya Pradhan

Supervisor: Prof. Sumanta
Guha

*Research Study: Data Mining
Applied to Driver's Alertness
Prediction.*

By Mohamed Karim Touhari

Supervisor: Prof. Sumanta
Guha

*Web-Based Interactive 3D
Cartography: A Case Study of
AIT.*

By Watanee Jearanaiwongkul

Supervisor: Prof. Sumanta
Guha

*Cloud Service for Recognition of
Specific 3D Objects.*

By Apiporn Simapornchai

Supervisor: Dr. Matthew Dailey

*DisQover: Location-based
Social Network with Content
Consolidation Capability.*

By Phatsakorn Thaveekittikul

Supervisor: Prof. Sumanta
Guha

Chapter 3.3 SET: CONSTRUCTION ENGINEERING AND INFRASTRUCTURE MANAGEMENT FIELD OF STUDY



3.3.1 Introduction

The Construction, Engineering and Infrastructure Management field trains professionals to play leading roles in the international construction industry and in infrastructure development and management. It offers courses in four levels - operations, project, strategic

emphasis is on shifting from classical to innovative knowledge.

3.3.2 Faculty and Research Staff

CHOTCHAI CHAROENNGAM, BEng, King Mongkut's Inst of Tech, Thonburi, Thailand; MS, Univ of Kansas; PhD, Univ of Texas at Austin, USA

Associate Professor (Project Planning, Scheduling, and

issues and corporate issues. It prepares students to become effective managers and decision-makers familiar with modern techniques of construction management, engineering management and infrastructure management.

Controls; Construction Productivity Improvement; Public Private Partnership Project; Project Financing)

BONAVENTURA H W HADIKUSUMO, BEng, Univ of Diponegoro, Indonesia; MEng, AIT; PhD, Univ of Hong Kong.

Associate Professor (Construction Information Technology; Construction Project Management; Construction Site Safety, Virtual Reality application in

The field's courses are delivered based on a hierarchical knowledge scale that considers principles and fundamentals, applications (tools and techniques), and emerging issues. In offering courses spanning fundamentals to advanced,

construction; Web-based project design and management; System Dynamic Simulation in Construction; Construction site safety)

DJOEN SAN SANTOSO, BEng., Parahyangan Catholic University, Indonesia; M.Eng, AIT; PhD, Saitama University, Japan

Assistant Professor (Infrastructure management in developing countries, construction project

management, public transportation, non-motorized transportation, risk management)

3.3.3 Doctoral Students' Theses

Schedule Delays in EPC Petrochemical Projects in Vietnam: A Qualitative Research Study

by: Mr. Pham Hong Linh
Supervisor: Dr. Bonaventura H.W. Hadikusumo

3.3.4 Masters Students' Theses

Service Quality in Construction Projects: A Case Study of a Construction Company in Vietnam
by: Mr. Ha Cong Huy
Supervisor : Dr. Bonaventura H.W. Hadikusumo

Owner Project Management Approach for Quality Performance in the Construction Phase of a Social Housing Project
by: Mr. Duong Vo Dat Chi
Supervisor : Dr. Bonaventura H.W. Hadikusumo

Project Owner's Quality Management System: A Case Study of Thao Dien Pearl Project
by: Mr. Nguyen Duc Do
Supervisor : Dr. Chotchai Charoenngam

Financial Feasibility Study in Real Estate: A Case Study of Saigon Panorama Project
by: Mr. Tran Quang Vinh
Supervisor : Dr. Chotchai Charoenngam

The Construction Delay Factors in Vietnam: A Case Study of Long Phuoc A Pumping Station Project in Tay Ninh Province, Vietnam
by: Mr. Tran Van Cang
Supervisor : Dr. Bonaventura H.W. Hadikusumo

Quality Problems in Construction Projects in Vietnam
by: Mr. Phan Phu Cuong
Supervisor : Dr. Bonaventura H.W. Hadikusumo

Contractor's Quality Assurance and Quality Controlling Construction: A Case Study of the Lotus Garden Project in Ho Chi Minh City, Vietnam
by: Mr. Hoang Bao Tu
Supervisor : Dr. Chotchai Charoenngam

Assessment of Risk in Pre-Construction Stages (Design and Tender) of Luxury Apartment Building Development: A Case Study of Caesar Palace Project
by: Mrs. Pham Thi Thu Thuy
Supervisor : Dr. Bonaventura H.W. Hadikusumo

Risk Management in Residential Projects: A Case Study of Hiep Phuoc 1 Resident at Hiep Phuoc Ward, Nha Be District, Ho Chi Minh City
by: Mr. Ha Pham Viet Bang
Supervisor : Dr. Chotchai Charoenngam

Subcontractor's Contract Condition in Finishing a Work Contract Package
by: Mr. Le Dinh Giap
Supervisor : Dr. Bonaventura H.W. Hadikusumo

Project Owners in Consultancy Contract Management of a Waterways Development Project
by: Mr. Hoang Van Phuc
Supervisor : Dr. Bonaventura H.W. Hadikusumo

Delay Risk Management in High-Voltage Network Projects at the Southern Part of Vietnam: A Case Study of 220KV Duyen Hai Power Center - Tra Vinh Transmission Line
by: Mr. Phan Nguyen Hoai Anh
Supervisor : Dr. Bonaventura H.W. Hadikusumo

Construction Contract Problems in Expressway Projects: A Case Study of an Expressway Project in Vietnam
by: Mr. Tran Quang Nhat
Supervisor : Dr. Bonaventura H.W. Hadikusumo

Empowerment of Project Teams in Contractor Organizations in Yangon
by: Mr. Kaung Myat Tun
Supervisor : Dr. Bonaventura H.W. Hadikusumo

Analyzing Communication Practices on Quality and Safety in Construction Projects in Nepal
by: Miss Deeptara Luitel
Supervisor : Dr. Djoen San Santoso

The Effects of Team Factors on the Safety Behaviour of Workers
by: Mr. Muhammad Mahfooz Hayat
Supervisor : Dr. Bonaventura H.W. Hadikusumo

A Study of Project Management Processes for Building Retrofitting Project in Nepal
by: Mr. Suyog Krishna Shrestha
Supervisor : Dr. Bonaventura H.W. Hadikusumo

A Study to Analyze Factors of Project Communication Affecting Cost Performance of Construction Projects
by: Mr. Irtiaz Mahmud
Supervisor : Dr. Bonaventura H.W. Hadikusumo

Client's Behavior in Design and Construction Process
by: Mr. Shankar Shrestha
Supervisor : Dr. Bonaventura H.W. Hadikusumo

- Contractual Scope Management of International Agencies' Funded Projects in Afghanistan
by: Mr. Ahmadullah Hilali
Supervisor : Dr. Chotchai Charoenngam
- Supply Chain Management for Precast Concrete Products in Emerging Construction Industry of Pakistan
by: Mr. Muhammad Imran Qadir
Supervisor : Dr. Chotchai Charoenngam
- Competitive Strategy Formulation of Real Estate Developers in the Poipet Border Town, Cambodia
by: Miss Houn Keriya
Supervisor : Dr. Chotchai Charoenngam
- Cash Flow Management in Construction Enterprise Operations in Pakistan
by: Mr. Muhammad Afzal
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Key Factors for Developing Supply Chain Management: Case Studies of Japanese Contractors in Thailand
by: Mr. Takehiko Yamaji
Supervisor : Dr. Chotchai Charoenngam
- Owner's Quality Management in Construction Project: A Case Study of Hoa Lac Hi-Tech Park Infrastructure Development Project in Hanoi, Vietnam
by: Mrs. Tran Ngoc Ha
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Owner's Contract Administration in Public Infrastructure Projects: A Case Study of the Long My Dike System - Hau Giang Province
by: Mr. Hung Chi Tran
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Improving the Government's Efficiency of Commercial Housing Development Project Process and Procedures in Ho Chi Minh City
by: Mr. Luu Hoang Nam
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Evaluation of the Safety Management System of Transport Contractors: A Case Study of Saigon Transport Project Company
by: Mr. Luong Nhat Binh
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Effective Financial Feasibility Assessments of the Building Projects: A Case Study of XYZ Building Project in Ho Chi Minh City
by: Miss Nguyen Thi My Trinh
Supervisor : Dr. Chotchai Charoenngam
- Owner's Quality Management in Bridge Projects: A Case Study of Hoa An Bridge Project in Dong Nai Province, Vietnam
by: Mr. Hoang Loc
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Effective Communication in Construction Projects: A Case Study of the Mulberry Lane Project
by: Mr. Nguyen Dang Cao Dai
Supervisor : Dr. Chotchai Charoenngam
- Joint Venture of Construction and Operation of Korea - Vietnam Incubator Park Project
by: Mr. Thong Quoc Phan
Supervisor : Dr. Djoen San Santoso
- Lessons Learnt from Developing BOT Highway Project Investment: A Case Study of the Thanh Hoa BOT Highway Project
by: Mr. Nguyen Tuan Minh
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Project Management Strategies of Japanese Contractors: The Case Study of a Japanese Contractor's Project in Vietnam
by: Mr. Nguyen Duy Quang
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Project Management System for Industrial Estate Development: A Case Study of Ready Built Factory of Amata Vietnam
by: Mr. Luong Phuoc Sang
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Corporate Financial Analysis: A Case Study of Construction Company in Vietnam
by: Mr. Le Van Hiep
Supervisor : Dr. Chotchai Charoenngam
- Singapore Owner's Quality Management System Applied in High Rise Building Construction: A Case Study of Estella Heights-Phase 1 Project
by: Mr. Nguyen Tuan Tu
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Industrial Project Development Strategy: A Case Study of a Factory Project in Binh Duong Province, Vietnam
by: Mr. Nguyen Tran Thien Tam
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Process Management of Building Information Modeling (BIM)
by: Miss Lam Thanh Xuan
Supervisor : Dr. Bonaventura H.W. Hadikusumo

Using Building Information Management (BIM) for Infrastructure Project in Vietnam: The Case Studies of Two Bridge Construction Components of the Central Mekong Delta Connectivity Project
by: Mr. Tran Quoc Tuan
Supervisor : Dr. Bonaventura
H.W. Hadikusumo

Project Financing Structure, Indicators and Requirement in Worlbank Funded Projects: A Case Study of Green Transport Development Project
by: Mr. Le Ta Phu Quy
Supervisor : Dr. Chotchai Charoenngam

Scheduling Planning and Control for EPC Petrochemical Project: A Case Study of DAP 2 Project
by: Mr. Than The Linh
Supervisor : Dr. Bonaventura
H.W. Hadikusumo

Contract Payment Strategies for EPC Project Case Study of Vung Ang No. 1 Coal Fired Power Plant Project and Long Phu No. 1 Coal Fired Power Plant Project of Petrovietnam, Location in Vietnam
by: Mr. Bui Minh Tuan
Supervisor : Dr. Chotchai Charoenngam
Project Development Process and Strategy of Real Estate Housing Developer: A Case Study of Palm Garden Project
by: Mr. Pham Dinh Dung
Supervisor : Dr. Bonaventura
H.W. Hadikusumo

ADB Project Delay During Pre-Construction Stage: A Case Study of Water Supply Project in Ho Chi Minh City
by: Mr. Pham Quang Tien
Supervisor : Dr. Chotchai Charoenngam

Quality Management Model for Design and Construction in Construction Project: A Case Study of FPT Dormitory in Hoa Lac Hi-Tech Park in Hanoi, Vietnam
by: Mr. Vu Hong Phuc
Supervisor : Dr. Bonaventura
H.W. Hadikusumo

Financial Model of PPP in Road Project under Uncertainties: A Case Study of National Highway No. 45 Improvement Project
by: Mr. Nguyen Quang Hai
Supervisor : Dr. Chotchai Charoenngam

Employer's Contract Management for Detailed Design and Construction Supervision Consultant in Transportation Projects: A Case Study of the Hung Ha Bridge Construction Project
by: Miss Nguyen Thi Huyen Trang
Supervisor : Dr. Bonaventura
H.W. Hadikusumo

Fast Track Project Delivery Strategy and Process for Texhong Ngan Long Textile Factory Project
by: Mr. Dao Duc Phong
Supervisor : Dr. Bonaventura
H.W. Hadikusumo

Owner's Design Management in EPC Projects: A Case Study of the Civil Work of Vung Ang 1 Thermal Power Plant
by: Mr. Nguyen Xuan Hoang
Supervisor : Dr. Bonaventura
H.W. Hadikusumo

Problems in Implementing Infrastructure Project Funded by the World Bank in Vietnam: A Case Study of the Mekong Delta Region Urban Upgrading Project, Can Tho City Sub-Project
by: Mrs. Doan Vu Vi
Supervisor : Dr. Bonaventura
H.W. Hadikusumo

Tendering Management for Government Building Project: A Case Study of Tendering in Naypyitaw Council Development Projects
by: Mr. Win Tint
Supervisor : Dr. Bonaventura
H.W. Hadikusumo

Arterial Road Network Master Plan and Project Implementation Strategy in Myanmar: A Case Study of Upgrading and Reconstruction Project on Mawlamyine-Ye-Dawei-Myeik-Kawthaung Section of AH-112 in Myanmar
by: Mr. Myint Oo
Supervisor : Dr. Chotchai Charoenngam

Owner's Project Quality Management for Public Project in Myanmar
by: Mrs. Yin Yin Swe
Supervisor : Dr. Bonaventura
H.W. Hadikusumo

Contract Administration in ODA-JICA Fund Project: A Case Study of Monywa-Ayataw-Shwebo Road Project
by: Mr. Win Min Htut
Supervisor : Dr. Bonaventura
H.W. Hadikusumo

Safety Regulatory Framework for Construction Industry Myanmar
by: Miss Than Than Oo
Supervisor : Dr. Bonaventura
H.W. Hadikusumo

Project Development Strategy for Housing Relocation Project: A Case Study of 51st Public Housing Redevelopment Project (A PPP Approach in Myanmar)
by: Miss Htar Htar Soe
Supervisor : Dr. Bonaventura
H.W. Hadikusumo

- Tendering Process for International and ODA Construction Projects in Myanmar
by: Mr. Shwe Lay
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Owner's Contract Administration in a Case Study of National Guest House Project
by: Miss Lai Yin Win
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Practice of Quality Management in Construction Project
by: Mr. Thet Win
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Project Control Strategy for Oil and Gas Offshore Facilities Construction: A Case Study of Platong Gas 2 Project in Thailand and Leverage the Thailand Project Best Practice to Apply to Vietnam Block B Gas Project
by: Miss Tran Hai Quynh
Supervisor : Dr. Chotchai Charoenngam
- Contract Administration and Management in JICA-ODA Fund Projects: A Case Study of "MakyeKan-NhatAwSan-KyaikHtaw" Project and "KawHmu-WarPloutThout-ThaYetTaw" Project
by: Mr. Wunna Zaw
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Project Monitoring and Control Strategy for Road Construction Project: A Case Study of Yangon-Mandalay Expressway
by: Mr. Zaw Htun
Supervisor : Dr. Djoen San Santoso
- Project Risk Management for Infrastructure in Housing Development Project: A Case Study of Parliament Staff Housing Project in Nay Pyi Taw
by: Miss Nwe Ni Tun
Supervisor : Dr. Djoen San Santoso
- Risk Management of Highway Construction Project in Myanmar: A Case Study of Maei-Kyauk Phyu Road Construction Project
by: Mr. Kyaw Thet
Supervisor : Dr. Djoen San Santoso
- Comparison of PPP Implementation in Myanmar with other International PPP Projects
by: Mr. Kyi Zaw Myint
Supervisor : Dr. Chotchai Charoenngam
- Successful Management of PPP Road Projects in Myanmar
by: Mr. Kyaw Linn
Supervisor : Dr. Chotchai Charoenngam
- Evaluation of PPP Regulations for Road Construction Projects in Myanmar
by: Mr. Win Pe
Supervisor : Dr. Chotchai Charoenngam
- A Model for Restructuring the Construction Industry Governance in Myanmar
by: Mr. Thein Zaw
Supervisor : Dr. Chotchai Charoenngam
- Implementation of Safety Management in Road Construction Project: A Case Study of the Construction Project of JICA-ODA-LOAN Project in Myanmar
by: Mr. Hla Htun Oo
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Owner's Project Quality Management for Road Construction Project in Myanmar: A Case Study of Yangon Mandalay Expressway
by: Mr. Nay Linn Htun
Supervisor : Dr. Bonaventura H.W. Hadikusumo
- Project Planning and Control for Road Construction Project: A Case Study of Pandan-Ngape-Sidoktaya-Laungshe-Tigone-Saw Road Construction Project
by: Mr. Ohn Lwin
Supervisor : Dr. Djoen San Santoso
- Risks in B.O.T. Road Projects in Myanmar (Construction of Bypass Lashio Township)
by: Mr. Sai Kyaw Moe
Supervisor : Dr. Chotchai Charoenngam

Chapter 3.4 SET – GEOTECHNICAL AND EARTH RESOURCES ENGINEERING FIELD OF STUDY



3.4.1 Introduction

The Geotechnical and Earth Resources Engineering field of study (GTE) provides with the education and training on the following areas of geotechnical engineering specializations, i.e., Soil Engineering, Engineering & Applied Geology and an interdisciplinary program of Geo-exploration & Petroleum Geo-engineering (GEPG). Beside the traditional topics

of soil mechanics, rock mechanics, foundation engineering and design, underground excavations and tunneling, soil dynamics and earthquake engineering, analytical and numerical analyses, ground improvement, geosynthetics engineering, groundwater engineering and land subsidence, earth structures, slope stability, landslide mitigations, land reclamation, geotechnical engineers and researchers are increasingly

Since 2008 the field had successfully opened and operated two professional programs in Geoexploration & Petroleum Geo-engineering (PME-GEPG) and Geotechnical Engineering & Management (PME-GEM), respectively, in both Hanoi and HCM City to meet the increasing demands of Vietnam in these areas.

involved in many new and dynamic areas of geoengineering and geoexploration.

They are also challenged to solve Geoenvironmental problems, the reduction of construction wastes, clean-up of contaminated sites, new types of geological-related hazards as well as onshore and offshore exploration and production of new mineral and energy resource

engineering behavior and properties of soil and rock; geologic mapping; environmental geophysical surveys; and testing of geosynthetic materials conducted by ACSIG, consists of six (6) sections, i.e., *Soil Mechanics, Rock Mechanics, Engineering Geology, Geo-exploration & Petroleum Geoengineering (GEPG), Geophysics, and Geoenvironmental Engineering.*

3.4.2 Research Facilities and Laboratories

The Geotechnical Laboratory is one of the most long-standing and diversely-equipped laboratories in the region with more than 30 years of experience in both soil and rock testing as well as geoexploration. The laboratory, which offer technical services on testing and research on the

Soil Mechanics Laboratory

The Soil Mechanics Laboratory has facilities for testing and research on the engineering behavior and fundamental properties of soil. It is equipped to test compaction, seepage, compressibility, deformation and shear strength, soil dynamics, and ground improvement.

Among other equipment, it has an automatic Central Data Acquisition System (CDAS) and two temperature-controlled rooms that house triaxial and consolidation equipment. Its field operation unit has a full range of tools for sampling soils and rocks and field test equipments for vane tests, Dutch cone tests, piezocone tests, pressure-meter tests, screw plate tests, electric logging, and vibration measurements.

Rock Mechanics Laboratory

The Rock Mechanics Laboratory has facilities to determine a variety of the physical and mechanical properties of rocks and rock aggregates required for research and practice.

Moreover, the laboratory is capable of determining hardness, swelling and slake durability index properties of weak rocks. The laboratory has provided testing services to a large number of infrastructure projects in the region.

Engineering Geology Laboratory

The Engineering Geology Laboratory has facilities for research on the engineering behavior and fundamental

properties of rocks and minerals.

It provides classification and characterization tests for rock and minerals including petrographic and X-ray diffraction studies. It has stereoscopes, radial line planimetric plotter, stereo-sketch and sketch masters for analysis and interpretation of airphotos as applied to mineral explorations, transportation route studies, forestry, and civil engineering.

Geophysics Laboratory

The Geophysics Laboratory is being developed for training and researches in Geosystem Exploration and Petroleum Geoengineering. It has a number of seismic, electric, magnetic and radiometric instruments, including some of the most advanced equipment such as G-856AX PROTON MAGNETOMETER, GRADIOMETER, GEODE SEISMIC SYSTEM and SYSCAL R1 Plus (IRIS Instruments), an all-in-one multi-electrode resistivity and induced polarization (IP) imaging system.

The Laboratory is capable of conducting and assisting in geophysical field surveys for engineering, environmental applications, mineral and groundwater resources, as well as in performing analysis, interpretation and visualization of geophysical data acquired.

Geoexploration and Petroleum Geoengineering (GEPG) Laboratory

This new laboratory unit hosts high-capacity computers installed with very specialized software used in the upstream sector of petroleum E&P industry, notably with the well-known software for subsurface exploration, petrophysical characterization and reservoir simulation such as Petrel, Techlog, Eclipse, Pipesim, PetroMOD etc. which are worth of more than 2

million USD as donated by Schlumberger to AIT.

3.4.3 Faculty and Research Staff

Full-time Faculty

NOPPADOL PHIEN-WEJ, BEng, Chulalongkorn Univ, Thailand; MS, PhD, Illinois at Urbana-Champaign, USA.

Associate Professor (Tunnelling and underground excavations in rocks and soils; Slope stability and retaining structures; Landslides; Earth structures and dams; Pile foundations; Buried pipes and culverts)

PHAM HUY GIAO, DEng, MEng, Asian Institute of Technology, Thailand; Dipl Ing (MSc), Bucharest University, Romania

Associate Professor (Exploration and Engineering Geophysics; Petrophysics; Computer-aided Analysis in Geoengineering; Site investigation; Groundwater and land subsidence analysis)

3.4.4 Doctoral Students' Theses

Application of Risk Assessment in Design of a Long Mountain Tunnel in Northern Thailand
By Mr. Kan Kaewkongkaew
Supervisor: Dr. Noppadol Phien-wej

3.4.5 Masters Students' Theses

Safety Assessment and Rehabilitation of Lampao Dam
By Miss Bharadee Soontronrojna
Supervisor: Dr. Noppadol Phien-wej

Mitigation of Wellbore Instability on the Upper Section of a North Eastern Natural Gas Field, Thailand

By Mr. Pongpatch Vongyimyong
Supervisor: Dr. Pham Huy Giao

Soft Computing-Based Prediction of Porosity for a Fractured Granite Basement Reservoir
By Mr. Nakaret Kano
Supervisor: Dr. Pham Huy Giao

Characteristics of Lateral Wall Movements in Deep Excavations in Ho Chi Minh City
By Mr. Than Duc Quoc Viet
Supervisor: Dr. Noppadol Phien-wej

Facies Analysis Using Borehole Imaging Data for an Oligocene Clastic Reservoir in the Cuu Long Basin
By Miss Thuong Nguyen Phuong Trang
Supervisor: Dr. Pham Huy Giao

Osterberg Cell Testing for Cable-Stayed Bridge in Mekong Delta River
By Mr. Nguyen Quoc Khanh
Supervisor: Dr. Pham Huy Giao

Prediction of Long-term Settlement of the Thi Binh Soft Clay Improved by PVDs and Vacuum
By Mr. Do Xuan Hoang
Supervisor: Dr. Pham Huy Giao

Application of Fiber Optic Sensor in of PHC Pile Testing: A Case Study in Busan, Korea
By Mr. Do Tran Nam
Supervisor: Dr. Pham Huy Giao

3-Dimensional Analysis of Pile Response to Tunneling using Hardening Soil Model
By Mr. Sai Zayar Kyaw

Supervisor: Dr. Noppadol Phien-wej

Assessment of Subsoil Conditions and Behaviour of Axially Loaded Single Pile in the Subsoil of Lahore
By Mr. Salman Ali Suhail
Supervisor: Dr. Noppadol Phien-wej

Well Logging Interpretation for Pongsaikham Oil Field
By Ms. Charinrut Noiwiw
Supervisor: Dr. Pham Huy Giao
Rock Slope Engineering for Stability Evaluation of South Block Area at Trubaindo Coal Mining company
By Mr. Pricha Sonkaeo
Supervisor: Dr. Noppadol Phien-wej

Ngapali-Yenandaung Petroleum System Modelling
By Mr. Aung Thwin Thu Aye
Supervisor: Dr. Pham Huy Giao

Well Test Analysis Using Pressure Derivative for Fractured Reservoir
By Mr. Vijak Khupviwat
Supervisor: Dr. Pham Huy Giao

A Study of Foundation on Arid Soil in Kandahar City, Afghanistan
By Mr. Abdul Wahid Wahidi
Supervisor: Dr. Noppadol Phien-wej

Applications of Near-Surface Geophysics to Detect a Buried Gas Pipe
By Mr. Pollathorn Chariprasit
Supervisor: Dr. Pham Huy Giao

Preliminary Assessment of Potential Shale Gas Resources for some Sedimentary Basins of Thailand
By Miss Chittanan Somakettarin

Supervisor: Dr. Pham Huy Giao

Soil Characterization for the UMRT Line from Nam Thang Long to Tran Hung Dao, Hanoi
By Mr. Nguyen Dang Han
Supervisor: Dr. Pham Huy Giao

Settlement Analysis for Dinh Vu Soft Clay Improved by PVD
By Mr. Nguyen Dinh Cuong
Supervisor: Dr. Pham Huy Giao

Comparison of Geotechnical Properties between Hai Phong and Ninh Binh Clays
By Miss Tran Thi Phuc
Supervisor: Dr. Pham Huy Giao

Investigation on the Characteristics of Geosynthetic Clay Liners in the Laboratory
By Mr. Ekramuddin Tamim
Supervisor: Dr. Noppadol Phien-wej

Undrained Shear Strength of Soft Clay Deposits Underlying Long Phu Thermal Power Plant
By Mr. Bui Anh Tuan
Supervisor: Dr. Noppadol Phien-wej

Settlement Analysis of Soft Ground Improvement by CDM at the SP-PSA International Port, Ba Ria Vung Tau, Vietnam
By Mr. Vu Minh Tam
Supervisor: Dr. Noppadol Phien-wej

Erosion and Control for Exploration Works at KTL Mine, Phonsavan, Lao PDR
By Mr. Nguyen Quy Huy
Supervisor: Dr. Noppadol Phien-wej

Chapter 3.5: SET INDUSTRIAL AND MANUFACTURING ENGINEERING FIELD OF STUDY



3.5.1 Introduction

Industrial and Manufacturing Engineering field of study prepares students for manufacturing management and decision support positions in industry and public sector, by equipping them with a broad range of decision making skills for a variety of applications. The IME curriculum reflects the objective of imparting fundamental knowledge to develop the ability to address complex industrial issues, emphasizing on how to design, operate, control, and optimize the production systems.

3.5.2 Research Facilities and Laboratories

IME field shares all the laboratory facilities with Mechatronics and Microelectronics and

Embedded Systems fields of study. There are several well equipped laboratories with the primary function of supporting the students and faculty for teaching and research and to conduct outreach programs.

Computer Integrated Manufacturing Laboratory (CIM)

The Computer Integrated Manufacturing (CIM) laboratory was officially inaugurated on September 23, 1991. It provides the hardware and software support for Industrial Systems Engineering.

Many research activities have been carried out in close collaboration with industry and government sectors in the areas of Computer Aided Design (CAD), Computer Aided Manufacturing (CAM), Computer Numerical Control (CNC), Rapid Prototyping (RP)

and Medical Technology. The CIM Laboratory also provides specialized training and consultancy services in CAD, CAM, CNC Machining, Reverse Engineering, Rapid Prototyping, Packaging Technology, Flexible Manufacturing Systems [FMS], and Development of Postprocessor for 5-axis CNC.

The CIM Laboratory is equipped with training CNC machines. The available CAD/CAM software includes UNIGRAPHICS NX4, Master CAM 9.1, Mechanical Desktop 6, AutoCAD Inventor Series, SolidWorks 2005, CAM 2000, Mimics 6.3 & Magic 5.4.

Metrology Laboratory

Metrology Laboratory provides the hardware and software support for teaching and research activities in Industrial Systems Engineering. Metrology Laboratory is equipped with Measuring

Instruments (Zeiss CMM, Mitutoyo Profile Projector, Taylor Hobson Surface Roughness Tester, Lab View Hardware & Software).

Simulation Laboratory

This lab is equipped with networks of Pentium PC for general applications and internet access, high end CAD/CAM & Simulation software such as ARENA and AutoMOD. In addition, a high performance computer facility with parallel cluster is also available for research use.

3.5.3 Faculty and Research Staff

Full-time Faculty

VORATAS

KACHITVICHYANUKUL, BS, Natl Taiwan Univ; MEng, AIT, Thailand; PhD, Purdue Univ, Indiana, USA.

Professor(Simulation; ERP; Scheduling, Metaheuristics; Parallel Computing) [Planning and Scheduling Systems; Enterprise Resource Planning Systems; Supply Chain Modeling and Analysis; Discrete Event Simulation Software Development; Manufacturing System Simulation; Manufacturing Decision Support Systems; Just-in-Time Manufacturing System]

ERIK L J BOHEZ, BurgerlijkWerktuigKundig Electro- TechnischIngenieur, RijksUniversiteit Gent (State University Ghent, Belgium); KandidatuurBurgerlijkIngenieur, RijksUniversiteit Gent (State

University Ghent, Belgium); TechnischIngenieur Electro-Mechanica, HogerTechnischInstituutSint Antonius Gent, (High Technical Institute Saint Antonius Ghent; Belgium).

Associate Professor(Computer Aided Design; Computer Aided Manufacturing; Computer Graphics; Computer Numerical Control; Five Axis Machining; Robust Control; Simulation of Metal Removal; [CNC/CAD/CAM ; Mold and Die Design, Eco-Design, Biomechanics, Industrial Packaging]

HUYNH TRUNG LUONG, BEng, Ho Chi Minh City Univ of Tech, Vietnam; MEng; DEng, AIT, Thailand.

Associate

Professor[Emergency inventory policies and inventory policies for perishable products; Supply chain design; Measures of bullwhip effect in supply chains; Availability-based and reliability-based maintenance; Fuzzy quality control charts; Statistical design of experiments; Network flows related problems]

PISUT KOOMSAP, BEng, ThammasatUniv, Thailand; MSc, Univ of Louisville; PhD, Pennsylvania State Univ, USA

Associate Professor (Sensing and Control for Manufacturing Processes and Systems; Laser Applications in Manufacturing; Rapid Prototyping; Condition-Based Maintenance; Continuous Improvement)

[Rapid Prototyping; Sensing and Control for Manufacturing Processes and Systems; Laser Applications in Manufacturing; Condition- Based Maintenance; Continuous Improvement]

Visiting Faculty

Dr. Ravipudi Venkata Rao, Ph.D. in BITS Pilani, India.

Visiting Professor, currently Professor in the Mechanical Engineering Department of the S. V. National Institute of Technology (SVNIT) Surat, India. He received his BTech degree from Nagarjuna University, MTech degree from BHU Varanasi, India

Dr. Rajesh Kumar Nema, Ph.D. in Electrical engineering Bhopal University, India,

Visiting Professor, currently Professor in the Electrical Engineering Department of the M.A. National Institute of Technology (MANIT) Bhopal, India

Dr. Deepak Sharma, PhD degrees from IIT Kanpur, India **Visiting Professor**, currently he is an Assistant Professor in the department of Mechanical Engineering at Indian Institute of Technology (IIT) Guwahati, Assam, India.

Dr. Shrikrishna Nandkishor Joshi Ph. D in "Intelligent process modeling and optimization of electric discharge machining" from Indian Institute of Technology (IIT) Bombay, India **Visiting professor**, currently is an Assistant Professor in the Department of Mechanical Engineering, Indian Institute of

Technology (IIT) Guwahati,
India.

3.5.4 *Doctoral Students' Dissertation*

**Industrial and Manufacturing
Engineering**

Quantity Flexibility Contract with Order Commitment and Capacity Allocation

by: Mrs. Nguyen Thi Xuan Hoa
Supervisor : Dr. Huynh Trung
Luong

Revenue Sharing Contract with Prior Commitment and Two-Way Penalties for a Supply Chain with One Manufacturer and Two Retailers

by: Mr. Muhammad Shafiq
Supervisor : Dr. Huynh Trung
Luong.

3.5.5 *Masters Students Theses and Projects*

**Industrial and Manufacturing
Engineering**

Life Cycle Assessment of Pickup Truck's Air-Conditioner

by: Mr. Arun Udomsinrot
Supervisor : Assoc. Prof. Erik L.
J. Bohez

Redesigning the Coffee
Laminate from Aluminum Foil
Based Laminate to Metalized
Polyethylene Terephthalate
Laminate: A Comparative Study
by: Mr. Abhishek Dutta
Supervisor : Assoc. Prof. Erik L.
J. Bohez

Developing Control Charts for
Monitoring Time Interval
between Non-Conforming
Items in High Quality Processes
by: Mr. Zin Maung Maung Phy
Htet
Supervisor : Dr. Huynh Trung
Luong

Innovative Design for Alcohol
Packaging: A Case Study in
Myanmar
by: Miss Me Me Tun
Supervisor : Assoc. Prof. Erik L.
J. Bohez

Mathematical Models for
Integrated Planning of
Harvesting and Processing of
Agricultural Produce
by: Miss Shiela Carillo Salde
Supervisor: Prof. Voratas
Kachitvichyanukul

Integrating Quality Aspect into
Service Evaluation of Design for
Service Excellence
by: Miss Thuangporn
Charoenchokdilok
Supervisor: Dr. Pisut Koomsap

Evolutionary Algorithms for
Multi-Commodity Distribution
Network Design Problem
by: Miss Benyaphorn Chiamchit
Supervisor: Prof. Voratas
Kachitvichyanukul

Improvement of a Small Biogas
Power Plant by using Eco-
design and LCA
by: Mr. Chanon Wichian
Supervisor : Assoc. Prof. Erik L.
J. Bohez

Environmental Performance
Improvement of Cement

Production Process: A Case in
Kyankhin Plant, Myanmar
by: Miss Lwin Kyi Phyu Than
Supervisor : Assoc. Prof. Erik L.
J. Bohez

Optimization of Centrifugal
Pump Used as Impulse Turbine
by: Miss Pattiya Thongkruer
Supervisor : Assoc. Prof. Erik L.
J. Bohez

Three-Level Supply Chain
Coordination through a
Spanning Revenue Sharing
Contract
by: Mr. Zhao Min
Supervisor : Dr. Huynh Trung
Luong

Experimental Investigation of
Near-Field Deposition for
Fabrication of Controllable
Pattern Scaffolds
by: Mr. Deepak Parajuli

Supervisor : Dr. Pisut Koomsap
Analysing the Effect of Realized
Demand Under Bidirectional
Option Contracts in Supply
Chains
by: Mr. Modhika Isuru Bandara
Mudannayake
Supervisor : Dr. Huynh Trung
Luong

Coordinating a Three-Stage
Supply Chain Using Buyback
and Revenue Sharing Contracts
by: Miss Perera Kumudu
Anuradha Colombathanthri
Supervisor : Dr. Huynh Trung
Luong

Supply Chain with the
Bidirectional Option Contract
in a Two-Period Newsvendor
Problem
by: Mr. Takron Opassuwan

Supervisor : Dr. Huynh Trung
Luong

A Framework of Product
Attributes for Analysis for
Product Co-Creation

by: Mr. Faisal Rasool
Supervisor : Dr. Pisut Koomsap

Chapter 3.6: SET – MECHATRONICS and MICROELECTRONICS & EMBEDDED SYSTEMS FIELDS OF STUDY



3.6.1 Introduction

Mechatronics

At present, most academic institutions and industries in the Asian region are only system integrators. Components are procured from more developed countries (e.g. computer numerically controlled machines, robots, and automated guided vehicles) and are integrated as a system (e.g. flexible manufacturing system). To support the growth of the region's economy, expertise not only as system integrators but also as builders of components of advanced technologies must be developed. The growing number of electronic devices and the strong interactions between mechanical and electronic parts no longer permit separate investigations of these components.

Mechatronics provides new insights through an integrated consideration of mechanics, electronics and information technology. The curriculum is designed to provide multidisciplinary knowledge and to develop the ability to design mechatronics systems.

Microelectronics and Embedded Systems

The region's growing industrial sector and the increasing demand for high technologies have brought the need for expertise in microelectronics to a critical level. The students are prepared to cope with the needs of the electronics industry in the region. The curriculum is equally balanced between the analog and digital design of circuits as well as the processing related topics including failure analysis,

suitable for this electronics industrial sector in the region. The curriculum has been designed and constantly adapted in partnership with microelectronics industries and collaborating universities overseas. Miniaturisation of IC and the possibilities of completely new technologies like nanotechnology have also been introduced.

3.6.2 Research Facilities and Laboratories

Mechatronics and Microelectronics and Embedded Systems fields of study share all the laboratory facilities with the Industrial & Manufacturing Engineering field of study. There are several well equipped laboratories with the primary function of supporting the students and faculty for

teaching and research and to conduct outreach programs.

Mechatronics and Automation Laboratory

The Mechatronics and Automation laboratory is well equipped with many PLC systems (S5, S7200/300/400, INDRAMAT, BOSCH), distributed control systems (PCS7), operator panels (OP5, OP17/DP and OP35), a PC-based human machine interface package (WINCC) and networked field buses (PROFIBUS, INTER-BUS and SERCOS). The lab has mobile robots (NOMAD, PIONEER 2), robot arms (CRS), an industrial robot (KUKAKR15), a self-made open architecture CNC machine, CNC control systems (MTC200, SINUMERIK 8100/8400), image processing systems (DVT, MATROX) and FPGA's (XILINX-1i VIRTEX PRO, ALTERA). Software such as SYNOPSIS IC Design, ANYSIM, ANSYS, ADAMS and many types of special sensors and actuators are also available for research use.

The Integrated Circuit Design laboratory gives students access to a wide variety of professional software applications including ANSYS, Orcad, ModelSim SE, Xilinx ISE, Synopsys, Leonardo Spectrum LS and Tanner (S-Edit for Schematic Capture, T-Spice and W-Edit for Simulation and LEdit for Physical Layout). The laboratory's facilities are used for analog and digital circuit design, microchip design and fabrication, MEMS,

microactuators and micro-sensors design, computational electronics, and so on. Fabrication facilities are available through the National Electronics Technology Center and the National Science and Technology Development Administration located in nearby Science Park.

Mechatronics faculty and students work in close collaboration with industry and government sectors in the areas of industrial automation, robotics, control, system design and integration. Some examples of ongoing projects include a medical tele-analyzer, automated visual inspection systems, MEMS design, an autonomous flying robot, automating centrifuge machines, an autonomous underwater robot and automating crystallization processes.

Simulation Laboratory

This lab is equipped with networks of Pentium PC for general applications and internet access, high end CAD/CAM & Simulation software such as ARENA and AutoMOD. In addition, a high performance computer facility with parallel cluster is also available for research use.

IC Design Laboratory

The Integrated Circuit Design laboratory gives students access to a wide variety of professional software applications including ANSYS, Orcad, ModelSim SE, Xilinx ISE, Synopsys, Leonardo Spectrum

LS and Tanner (S-Edit for Schematic Capture, T-Spice and W-Edit for Simulation and LEdit for Physical Layout). The laboratory's facilities are used for analog and digital circuit design, microchip design and fabrication, MEMS, microactuators and micro-sensors design, computational electronics, and so on. Fabrication facilities are available through the National Electronics Technology Center and the National Science and Technology Development Administration located in nearby Science Park.

Nanotechnology Center of Excellence (CoEN)

The Center of Excellence in Nanotechnology addresses the creation of knowledge in areas relevant to industries. Activities include joint research with other local and international universities and institutes, education and training personnel in the field of nanotechnology, technology transfer and promotion of public and industrial awareness of nanotechnology. This center provides international platform for academicians and researchers from the region, AIT and our partnered universities worldwide to work together with the industries. Current research activities at the CoEN is based on a unifying concept of using inexpensive wet chemical methods and self-organisation processes to fabricate innovative materials, develop diagnostic tools, and apply nanoparticles to environmental issues amongst

others. Activities of the CoE at AIT include, but not exclusively, research and development focused on the application of nanoparticles, nanomaterials, devices and sensors. The CoE will support innovative research suited to the region, education and training of highly qualified personnel and in increasing public and industrial awareness of nanotechnology, amongst other activities like arranging conferences, workshops etc.

3.6.3 Faculty and Research Staff

Full-time Faculty

MANUKID PARNICHKUN, BEng, Chulalongkorn Univ, Thailand; MEng, PhD, Univ of Tokyo, Japan

Associate Professor [Robotics, control, and measurement (involves with design and development of hardware and software of mechatronics devices); New robot mechanism, novel control algorithm, and innovative measurement concept are investigated]

HARSHA ABEYKOON, B.Sc Honours degree in Electrical Engineering from the Department of Electrical Engineering, Faculty of Engineering, University of Moratuwa.

Assistant Professor [Mobile robotics, bilateral control, motion control, active vibration suppression and

haptics are the main focus areas]

MONGKOL EKPANYAPONG, B.Eng., Chulalongkorn, Univ, Thailand; M.Eng. Asian Institute of Technology, Thailand, M.Sc., Ph.D., Georgia Institute of Technology, USA

Assistant Professor[Embedded Systems, Computer Architecture, VLSI design(Low power design), Physical VLSI design, High Performance Computing, GPGPU, DSP]

Visiting Faculty

NITIN V AFZULPURKAR, BEng, Univ of Poona, India; PhD, Univ of Canterbury, New Zealand

Associate Professor [Computer vision (pattern recognition and image processing); MEMS design, fabrication for electronic and bio medical applications; Soft computing algorithms for robotics and automation applications; Mechatronics applications for industrial use]

SHIMIZU, MASASHI, Ph.D. from Tohoku University, Japan.

Visiting Professor, [Control Engineering, Bio-Medical Engineering]

TONSIRIN, SITT, Ph.D. Electrical Engineering) from University of Kaiserslautern, Kaiserslautern, Germany

Adjunct Faculty, [Designing Modeling and Characterizing Various Analog and Digital Circuit for High Speed Serial Transceivers]

CHANCHANA THANACHAYANONT, Ph.D., Imperial College, London, U.K.

Adjunct Faculty [Transmission Electron Microscopy; Semiconductor Physics; Quantum Physics; Solar Cells; and Nanoparticles]

3.6.4 Doctoral Students' Dissertation

Mechatronics

Design Analysis and Fabrication of MEMS Based Ambient Energy Harvesting or Scavenging System (NANOGENERATOR)
by: Mr. Naveed Sheikh
Supervisor : Dr. Nitin V. Afzulpurkar

Automated Analysis of Visual Cues for Real World Monitoring Tasks
by: Mr. Waqar Shahid Qureshi
Supervisor : Dr. Mongkol Ekpanyapong

A Facile, Cost Effective, Patterned ZnO Microwires Synthesis for Large-Scale Fabrication of Piezoelectric-Generator
by: Mr. Salman Ahmed Khan
Supervisor : Dr. Nitin V. Afzulpurkar

Microelectronics and Embedded Systems

Controlling of an FPGA-Based Multi-Unit Permanent Magnet Synchronous Motor Drive System
by: Mr. Sarayut Amornwongpeeti
Supervisor : Dr. Mongkol Ekpanyapong

3.6.5 Masters Students' Theses and Projects

Microelectronics and Embedded Systems

Examine of the Effect of Extended Pinned Layers on the Magnetic Tunneling Read Head by: Miss Phakchira Ekbanphot Supervisor : Dr. Huynh Trung Luong	Development of an Optical Biosensor for Real Time Detection of Bovine Serum Albumin by: Miss Pulak Bhushan Supervisor : Dr. Mongkol Ekpanyapong	Study of High Precision Bonding Process for Heat Assisted Magnetic Recording Head by: Mr. Bin Ouyang Supervisor : Dr. Nitin V. Afzulpurkar
Multiple Product Support for Tilt and Twist Tester by: Mr. Kittipong Ngoenthavon Supervisor : Dr. Mongkol Ekpanyapong	Automatic Electric Omelet Maker by: Miss Khin Yi Kyaw Supervisor : Dr. Mongkol Ekpanyapong	Study of High Precision Bonding Process for Heat Assisted Magnetic Recording Head by: Mr. Bin Ouyang Supervisor : Assoc. Prof. Erik L. J. Bohez
Write Encroachment Detection in Shingle Magnetic Recording Using Feed-Forward Position Error Signal from Adjacent Track by: Mr. Suttisak Nilchim Supervisor : Dr. Huynh Trung Luong	Self-Powerd High Performance Real-Time Traffic Violation Detection System by: Mr. Chanin Pakdeethammasakul Supervisor : Dr. Mongkol Ekpanyapong	Modeling of APFA Arm Tip Adjustment and Optimization by: Mr. Jetsada Nontree Supervisor : Dr. Mongkol Ekpanyapong
Head Disk Interface Prediction Using the Servo Variable Gain Amplifier and Head Media Spacing by: Mr. Weerayoot Wachirapornpongsa Supervisor : Dr. Mongkol Ekpanyapong	Simulation of Optical Properties of Nanocomposites Using Effective Medium Theory by: Miss Prerona Majumder Supervisor : Dr. Mongkol Ekpanyapong	Modeling of APFA Arm Tip Adjustment and Optimization by: Mr. Jetsada Nontree Supervisor : Dr. Nitin V. Afzulpurkar
Effect of Grinding Parameters on Grinding Wheel Load and Wear Rate in Slider Fabrication Manufacturing by: Mr. Natthapon Kongsang Supervisor : Assoc. Prof. Erik L. J. Bohez	Mechatronics Cavity Etched Wall Angle Optimization for Slider Head Fabrication using DOE by: Miss Punnuttha Pinkaew Supervisor : Assoc. Prof. Erik L. J. Bohez	Position Control of A Spherical Robot by: Mr. Paing Htoo Supervisor : Dr. Manukid Parnichkun
Synthesis of Gold Nanoparticles Decorating Graphene Foam and its Application to Electrochemical and SERS-Based Sensor by: Mr. Mohammad Ali Sultani Supervisor : Dr. Mongkol Ekpanyapong	A Study of Magnetic Recording Head Defects and Auto Classification by: Mr. Mongklon Lerttaveevit Supervisor : Dr. Mongkol Ekpanyapong	Development of an AGV for Foods Delivery in a Restaurant by: Mr. Sao Kyaw Zeya Supervisor : Dr. Manukid Parnichkun
Fabrication of Polythiophene Based Ammonia Gas Sensing Element by: Mr. Tanmoy Goswami Supervisor : Dr. Mongkol Ekpanyapong	Experimental Design for Reduction of Twist and Tilt in the Hard Disk Drive Assembly Process by: Mr. Chanchai Chairut Supervisor : Assoc. Prof. Erik L. J. Bohez	Real Time Human Recognition, Tracking and Servoing for Vision-Based Autonomous Robot Cart by: Miss Ya Min Mo Mo Supervisor : Dr. Manukid Parnichkun

Hardware and Software-Based Planar Vibration Compensation for Cameras
by: Mr. Tran Phi Vu
Supervisor : Dr. Manukid Parnichkun

Application of Supervisory Control and Data Acquisition System in AIT Electrical Distribution Network (22kV 400V/230V)
by: Mr. Abu Salman Shaikat
Supervisor : Assoc. Prof. Erik L. J. Bohez

Control and Monitoring of Automatic Generation in Micro Hydro Power Plant with Impulse Turbine and Synchronous Generator
by: Mr. Nazib Sobhan
Supervisor : Assoc. Prof. Erik L. J. Bohez

The Development of a Capacitance Instrument to Optimize Capacitor Bank Placement's Equipment for Corrective Maintenance from

the Capacitance Value of Capacitor Units
by: Mr. Rachan Chaihan
Supervisor : Dr. Mongkol Ekpanyapong

Design and Application of a Legged-Wall Climbing Robot
by: Mr. Pravesh Kumar Pradhan
Supervisor : Dr. Manukid Parnichkun

Development of a Table Tennis Playing Robot
by: Mr. Janitha Ananda Thalagoda
Supervisor : Dr. Manukid Parnichkun

Unmanned Vehicle Guidance Using Global Positioning System (GPS)
by: Mr. Geemal Sri Deepanjana Bandara Wattarantenne
Supervisor : Dr. Manukid Parnichkun

Simulation and Optimization of Existing Weld Robot Cell and Develop Offline Programming

by: Mr. Lindamulage Ushan Rukshan Pramod Munasinghe
Supervisor : Assoc. Prof. Erik L. J. Bohez

Development of a Helicopter Flight Simulator Prototype
by: Mr. Ambalangoda Guruge Tharindu Dulan Perera
Supervisor : Dr. Manukid Parnichkun

Development and Motion Control of Single-Axis Reaction Wheels Based Cubic Robot
by: Mr. Radampola Gamage Vimukthi Pathirana
Supervisor : Dr. Manukid Parnichkun

Swing Up and Balancing of a Reaction Wheel Inverted Pendulum
by: Mr. Thasleem Mohamed Imthishan
Supervisor : Dr. Manukid Parnichkun

Chapter 3.7: SET – NANOTECHNOLOGY FIELD OF STUDY



3.7.1 Introduction

The Nanotechnology Program at AIT is made of two components: 1. The academic program that is housed as an independent Field of Study (FoS) in SET, and 2. The research component, known as the Center of Excellence in Nanotechnology (COEN), which is an institute-wide research center with participation of all AIT schools and centers. COEN opened its doors in 2009 and has since graduated approximately 30 students, 85% of which were granted a Ph.D. from our Nanotechnology Program or from other quality institutions worldwide following graduation from AIT. Our website is found at www.nano.ait.asia.

COEN is serious about establishing relationships with industry and we have designed our curriculum and research programs to stay in tune with the dynamic and rapidly changing developments of the

21st Century— especially with regard to interdisciplinary technologies and the societal aspects associated with those technologies. Our aim is to prepare our students to be professionals able to address the needs of knowledge-based industries, government institutions and evolving institutions of higher learning. The graduate is expected to make contributions in diverse fields such as energy, environment and agriculture and other technology centric areas important to local communities, countries and the ASEAN region.

3.7.2 Facilities: Office, Classroom and Laboratories

COEN currently has seven laboratories designed to support various aspects of research ongoing at COEN. There is a general chemistry laboratory where most of our nanoparticles are made from ‘bottom-up’ chemistry. A physical applications laboratory is the site of solar

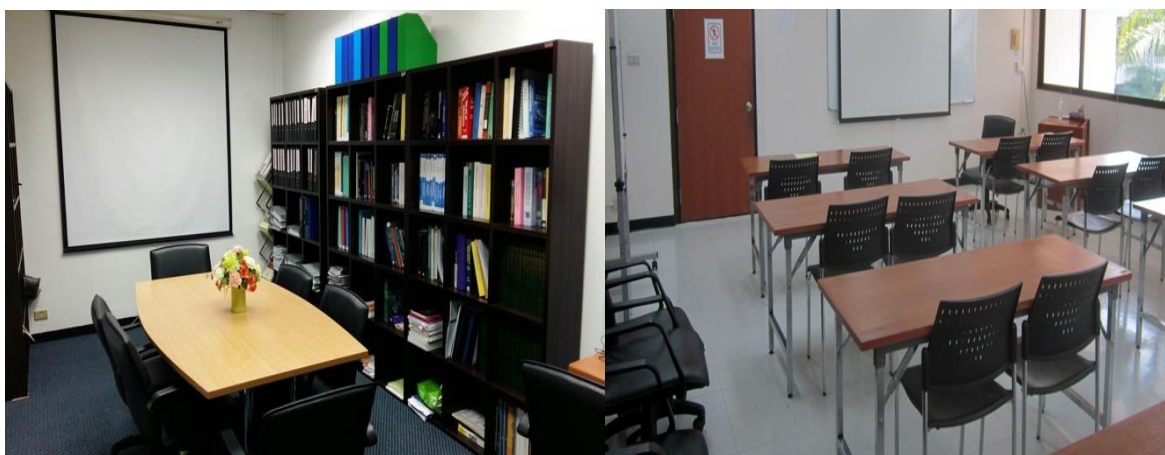
energy research, carbon nanotube synthesis, catalytic development and nanofluidic studies. A self-contained bio-nano lab in which work with *Escherichia coli* bacteria and *Aspergillus niger* mold in development of anti-microbial coatings takes place. A centralized characterization facility includes optical microscopy, uv-visible, infrared, and fluorescence spectroscopy along with an electronics workshop. Adjacent to these, a laboratory dedicated to coating development by layer-by-layer synthesis of nanocoatings, anodize and superhydrophobic coating characterization has become a hub of activity. A lab is currently dedicated to a project supported by PTT, a major Thai petrochemical company, for the purpose of developing an effective antifouling coating for their marine structures. And lastly, a mechanical workshop and store room round out the facilities that support research at COEN. COEN supplements

its capability by partnering with government institutions located in Thailand Science Park. AT NANOTEC (National Nanotechnology Center) and MTEC (National Metals and Materials Technology Center), COEN has access to transmission electron microscopy (TEM), scanning electron microscopy (SEM), atomic force microscopy (AFM), x-ray diffraction (XRD), specific surface area

determination (BET), dynamic light scattering (DLS) and many more types of instrumentation.

COEN has recently added a 'Nanotechnology Resource Center' (NRC) in the area adjacent to the major laboratory. The NRC contains our ever growing library, computer station and presentation facilities. Students are always welcome to USE the NRC for a quiet

study area. Our classroom is capable of holding 20+ students and has seen significant use over the past several years. Our student office is capable of accommodating 16 students, mostly second year Master's students and doctoral students. Our office and lobby area is a beautiful venue for entertaining the many visitors that come to COEN over the years.



3.7.3 Academic Programs

The academic program is part of SET as an independent field of study. We are working on developing the nanotechnology field of study to become an independent department—the Department of Nanotechnology—in SET. There are two kinds of students in the Nanotechnology Academic Program: 1. Students that pursue the 'engineering track'; and 2. Students that pursue the 'life sciences track'. Both are vitally important to nanotechnology which is a

highly interdisciplinary form of technology—very much like academic platforms related to Materials Science. Core courses include 'Nanomaterials and Nanotechnology', 'Chemical Synthesis of Nanomaterials' and 'Characterization Tools for Nanotechnology'. We offer Master's of Science, Master's of Engineering and Doctoral degrees.

3.7.4 Faculty and COEN Staff



Dr. G. Louis Hornyak, Ph.D. (Colorado State University) is the

interim Director of COEN. In addition to primary functions such as fund-raising and student recruitment, Dr. Hornyak is responsible for teaching several courses in the academic program including 'Nanomaterials and Nanotechnology', 'Societal Implications of Nanotechnology', 'Self Assembly and Molecular

Manufacturing’, and ‘Nano-Biotechnology’. Research interests include carbon nanotubes, porous alumina anodic membranes, superhydrophobic surfaces, electrochemistry and electromagnetic simulation.



Dr. Supamas Danwittayakul, Ph.D. (Asian Institute of Technology) is a senior researcher from MTEC that teaches several courses including ‘Characterization Tools for Nanotechnology’ and ‘Colloids and Surface Chemistry’. In addition to her position her as an adjunct faculty, Dr. Danwittayakul serves on several student thesis committees. Her research interests include methanol reforming for catalytic hydrogen, photocatalytic purification of waste-waters, and applications of metal oxide materials.



Professor Siddharth Jabade, Ph.D. (Indian Institute of Technology, Mumbai, India) is soon to be appointed a joint faculty with Vishwakarma Institute of Technology (VIT) in Pune, India. He teaches ‘Intellectual Property Technology Development and Management’ for the nanotechnology academic program. He is the author of a technology bestseller titled

‘Nanotechnology and Intellectual Property Rights’ published by CRC Press.



Dr. Waleed S. Mohammed, Ph.D. (Central Florida University, USA) is from Egypt and is a valued adjunct faculty. He is a research scholar at Bangkok University at the BU-CROCCS (Bangkok University Center of Research in Optoelectronics, Communications and Control Systems). He has taught ‘Microelectronics Fabrication Technology’ and ‘Nanomaterials and Nanotechnology’ over the years. He is an expert in optical physics and his research interests include electromagnetic simulation of metamaterials, Raman spectroscopy, nanoparticle plasmon coupling, surface plasmon resonance and several other areas in the field of optics.



Professor Ishtiaque Syed, Ph.D. (Case Western Reserve University, USA) is involved in the field of solid state physics. He taught ‘Solid State Physics for Nanotechnology’ for the nanotechnology academic program in the capacity of an adjunct faculty. His research interests include graphene based optics, titanium oxide dye-sensitized solar cells, amorphous nickel dynamics,



nematic liquid crystal simulation, molecular dynamics simulation, thermodynamics of liquid copper and silver melting temperatures among others.

Dr. Noppadon Nunwatum, Ph.D. (University of New Mexico, USA) is a senior researcher at the National Electronics and Computer Technology Center (NECTEC) in Thailand Science Park. He has taught ‘Characterization Tools for Nanotechnology’ and is guiding student research projects in areas that are of interest to NECTEC and AIT. Dr. Nunwatum is interested in physical vapor deposition, Raman spectroscopy for trace elemental analysis and thin film coatings.



Dr. Vivarad Phonekeo, Ph.D. (Asian Institute of Technology). Dr. Phonekeo is a recent addition to our AIT family and is a senior research associate. He is a specialist in geographical information systems and computer technology. He is assisting students in linking nanosensors to information and communication systems. Dr. Phonekeo is also responsible for recruitment of Thai students and to develop relations with Thai universities.



Mr. Suchart Junteing is the laboratory manager for COEN.

He has several years of experience with Pulp & Paper Department of AIT. He is currently assisting researchers and students with projects. One key contribution was his support of the PTT antifouling project in which he helped to coat panels and design facilities for the research.



Ms. Aphisoru Suwannasuk is the administrative officer for COEN and the nanotechnology program.

She has a bachelor's degree in Business Computers and a Master's degree in Business Administration (MBA) from Eastern Asian University. In addition to running the office, she is responsible for developing relationships with Thai universities and in assisting Dr. Phonekeo in that capacity.

3.7.5 Master's Degree Student Research and Theses Accomplished at COEN

Pulak Bhushan (st11554), Development of an Optical Biosensor for Real Time Detection of Bovine Serum Albumin; Thesis Committee: Dr. Mongkol Ekpanyapong (Chairperson), Dr. Shantanu Bhattacharya, Dr. Waleed S. Mohammed (Bangkok University) and Dr. G. Louis Hornyak; Master of Engineering in Microelectronics and Embedded Systems, July 2015.

Tanmoy Goswami, Fabrication of Polythiophene Based Ammonia Gas Sensing Element; Thesis Committee: Dr. Mongkol Ekpanyapong (Chairperson), Dr. G. Louis Hornyak and Dr. Chanchana Thanachayanont (MTEC); Master of Engineering in Microelectronics and Embedded Systems, December 2015.

Abdullah-Al-Muti Fakruddin, Effect of Zinc Oxide and Silica Nanoparticle Concentration on Nanofluid Boiling Point; Thesis

Committee: Dr. G. Louis Hornyak, (Chairperson), Dr. Mongkol Ekpanyapong and Dr. Supamas Danwittayakul (MTEC); Master of Engineering, Nanotechnology, July 2015.

Prerona Majumder, Simulation of Optical Properties of Nanocomposites Using Effective Medium Theory; Dr. Mongkol Ekpanyapong (Chairperson), Dr. G. Louis Hornyak and Dr. Waleed S. Mohammed (Bangkok University); Master of Engineering in Microelectronics and Embedded Systems, December 2015.

3.7.6 Doctoral Student Dissertation Accomplished at COEN

Dr. Mohammad Najam Khan (Malghani), Zinc Stannate Structures Synthesized at Room Temperature for Photodegradation of Dyes and Phenol; Prof. Joydeep Dutta (Chairperson), Ph.D. Engineering, Nanotechnology, July 2015

Chapter 3.8: SET REMOTE SENSING AND GEOGRAPHIC INFORMATION SYSTEMS FIELD OF STUDY



3.8.1 Introduction

Geoinformatics comprising Remote Sensing (RS), Geographic Information Systems (GIS) and Global Navigation Satellite System (GNSS) provide extremely useful tools for environmental and natural resources management. They are widely recognized as supporting tools for the planning, monitoring, and management of the appropriate utilization of resources at the country, regional and global levels.

While they represent multidisciplinary backgrounds, students in RS&GIS share a common interest, that is, to use remote sensing, GIS, GNSS and other space technologies as tools in pursuing their academic work as well as in developing new technologies that are applicable to the region. Because of the complexity of the technologies together with the heavy

dependence on advanced computer skills, application specialists need to have a sound knowledge of the theoretical aspects and practical approaches to integrate many resources of information that address different applications, such as Web GIS or online GIS and Location Based Services (LBS). Using WebGIS, GIS data and functions are made available to the users from a single, central server computer via the internet, so that users need not install and learn the complicated use of GIS software for solving their purpose. On the other hand, LBS provide personalized services to mobile users based on their current location. Such applications are extremely useful for the society which is transforming day by day towards more technology driven.

Satellite remote sensing has tremendous applications for

understanding climate system and its changes, by quantifying processes and spatio-temporal states of the atmosphere, land and oceans. In addition, remote sensing also plays a great role in disaster management in areas such as flooding, cyclones, drought, earthquake, land subsidence etc. To address all the above mentioned issues effectively, scientists, planners or engineers interested in these technologies should be familiar with past, present and future satellite systems, their appropriate usage, data acquisition and handling and integration with other data sources.

The curriculum well covers the theoretical aspects and application of space technology, especially in Remote Sensing and GIS. It provides students ample time to gain application know-how through laboratory sessions. . Recently open source

Geoinformatics, Advanced Application Development, Advanced Analysis Methods and Microwave Remote Sensing have been added.

Major areas covered in the coursework are fundamentals of remote sensing and GIS, earth energy interaction, atmospheric correction, application potential in various disciplines, GIS data sources, map projection, geostatistics, spatial modeling, automated mapping, digital terrain model, GPS data acquisition, and integration of GIS, remote sensing using GNSS, high dimensional data analysis and classification algorithms, feature selection and feature extraction algorithms, target detection and anomaly detection algorithms.

The demand for RS&GIS graduates is very high as there is lack of professionals in these disciplines, particularly those with a vast knowledge of the practical utilization of these technologies. Employment opportunities are available in a wide range of areas, including agriculture, forestry, coastal development and management, urban planning and development, medical technology, mapping and planning, disaster mitigation and environmental management.

3.8.2 Research Facilities and Laboratories

The RS&GIS field of study provides excellent facilities for learning, research and projects as described in the following points.

1. Software: Erdas Imagine 2015,

Geomedia, ArcGIS 10.3, ENVI and access to all open source software through internal network infrastructure over wireless-ethernet.

2. Remote Sensing instruments: UAV-DJI Inspire one Pro along with its software PIX4D, ASD Field Spectrometer along with its software for data processing, Leaf Area Index (LAI) measurement instrument, JAVAD Real Time Kinematic (RTK) GNSS sets, Total Station, Trimble geoexplorer, Gramin GPS series III and V, Digital camera, table and personal stereoscopes, RFID reader/writer, Laser range finder, Echo sounder, SCINDA GPS Base Station, TOPCON Photogrammetry Station
3. Data for research work: Topographic, landuse, soil, geology maps of Thailand and some aerial photographs, ALOS data, access to all open source satellite images and other remote sensing data and 1000 scenes free from Planet Lab every year for research purpose
4. Online e-library where students can access all the thesis and exam papers
5. RS&GIS library provides students specialized books, journals and computer manuals
6. Technical magazines like GIM International,

GIS@Development, International Journal of Geoinformatics

7. Black and white color laser printers, A1 size plotter, A4 and A3 scanners

3.8.3 Faculty and Research Staff

Full-time Faculty

NITIN KUMAR TRIPATHI, BTech, National Institute of Technology, Warangal, India; MTech, IIT; PhD, IIT, Kanpur, India.

Associate Professor (*GIS, Remote Sensing, RFID and Vehicle Tracking, Indoor Positioning Systems, Environment, Disaster, Agriculture, Health, Applications*)

SARAWUT NINSAWAT, BSci, Silpakorn University; MSci, Asian Institute of Technology, Thailand; Doctor of Creative Cities, Osaka City University, Japan

Lecturer (*WebGIS, OGC Web Services & Specifications, SensorWeb, LBS, Mobile GIS Application*)

Visiting Faculty

KIYOSHI HONDA, BAg, DEng, University of Tokyo, Japan

Visiting Professor (*Image Processing, Erosion control, Terrain modeling, Sensor Web GIS*).

MARC SOURIS, PhD, Université de La Rochelle, France

Visiting Professor (*Computational geometry and algorithms, GIS development, Spatial analysis, GIS and Remote Sensing for Epidemiology*)

RYOSUKE SHIBASAKI, BEng, MEng, University of Tokyo; DEng

Visiting Professor (*integration of data and models based on GIS to reconstruct spati-temporal dynamics of objects, micro-simulation modeling, 3D mapping of urban areas, and their applications*)

MASAHIKO NAGAI, BS, St. Cloud State University, USA; MS, Asian Institute of Technology, Thailand; DEng, The University of Tokyo, Japan

Visiting Faculty (Spatial Information Engineering, Remote Sensing, GIS, Image Processing, Mobile Mapping Ontology, Data Interoperability, Environmental Information Science)

Affiliated Faculty and Research Staff

TARAVUDH TIPDECHO, BSc, MSc, Chiangmai Univ, Thailand; DTechSc, Remote Sensing & GIS, Asian Institute of Technology, Thailand

Research Specialist I (*Advanced Mapping, Terrestrial Scanning*)

3.8.4 Doctoral Students' Dissertation

Ionospheric Impacts of Severe Space Weather Events on GNSS Measurements from Thailand

by: Mr. V. Rajesh Chowdhary
Supervisor : Prof. Nitin Kumar Tripathi

An Approach to Scenario Based Multi-Scale Modeling of Urban Growth and Future

Implications of Urbanization on Quality of Life

by: Mr. Saad Saleem Bhatti
Supervisor : Prof. Nitin Kumar Tripathi

3.8.5 Masters Students' Theses

Trends Analysis of River Bank Erosion at Amu Darya River Using Remote Sensing and Geographic Information System

by: Mr. Abdul Basir Mahmoodzada
Supervisor : Dr. Sarawut Ninsawat

Assessing Soil Salinity using the Relationship of Satellite Image Observation with Electrical Conductivity

by: Miss Sasirin Srisomkiew
Supervisor : Dr. Sarawut Ninsawat

Agricultural Drought Monitoring in the Dry Zone of Myanmar Using MODIS Data

by: Miss May Sabai Oo
Supervisor : Prof. Nitin Tripathi

Analysis of GPS Single Point Positioning and Software Development

by: Miss Pragyan Paramita Das
Supervisor : Prof. Nitin Tripathi

Analysis of GPS Single Point Positioning and Software Development

by: Miss Pragyan Paramita Das
Supervisor : Dr. Shinichi Nakamura

Tabu Search-Based Route Optimization for Multi-Trip Faecal Sludge Collection

by: Mr. Shulaxan Sharma
Supervisor : Dr. Sarawut Ninsawat

Assessing of Standardized Precipitation Index with

Remote Sensing Derived Drought Indices: A Case Study of South Lam Nam Pong Sub Watershed

by: Miss Natnaphat Subtaweepollert
Supervisor : Dr. Sarawut Ninsawat

Finding Appropriate Location and Service Area for Faecal Sludge Treatment Plant Using GIS and Network Analysis

by: Miss Lalita Thumprasen
Supervisor : Dr. Sarawut Ninsawat

Estimation of Net Primary Productivity (NPP) from CASA Model for Mangrove Plantation using Remote Sensing: A Case of Study of Kung Krabaen Bay Royal Development Study Center in Chanthaburi Province

by: Miss Ticha Lolupiman
Supervisor : Dr. Sarawut Ninsawat

GPS TEC and S4 Variations on Equatorial Latitude Stations in Thailand and their Relationship with GPS Positioning Error

by: Mr. Kasidit Taechasan
Supervisor : Prof. Nitin Tripathi

GPS TEC and S4 Variations on Equatorial Latitude Stations in Thailand and their Relationship with GPS Positioning Error

by: Mr. Kasidit Taechasan
Supervisor : Dr. Shinichi Nakamura

Automatic Longan Tree Detection from High Resolution Remote Sensing Image

by: Mr. Tanawat Chailungka
Supervisor : Dr. Masahiko Nagai

Transportation Modes Detection in Bangkok Using GPS Logger Data and GIS Data

by: Miss Kunnaree Kritiyutanont
Supervisor : Dr. Masahiko Nagai

Chapter 3.9: SET STRUCTURAL ENGINEERING FIELD OF STUDY



3.9.1 Introduction

Structural engineering has always been seen as one of the few fields of study where one can combine real technical skills with artistic flair. Structural engineers are known to be people who enjoy innovation, opportunities, responsibility and excitement, whilst working within a creative profession. Structural engineers plan and design various structures such as buildings, bridges, sport stadiums, towers, and underground structures.

The built environment which is designed and constructed by structural engineers has an enormous impact on our everyday lives. In order to design and construct safe and economic structures, they need to keep abreast with the latest methods of structural

analysis, modeling concepts for computation, advanced design, material technology, and improved knowledge in structural loadings. The field educates professionals who will be at the forefront of advanced research in Structural Engineering. They are trained to respond creatively to the industrial requirements of infrastructure development

3.9.2 Research Facilities and Laboratories

Structural Engineering Laboratory

The Structural Engineering Laboratory (STE Lab) has a long history of excellence in advanced structural and material research. The STE Lab is equipped with instruments

for scientific research, which provide excellent experimental environment for scholars and experts in the Asian region to enhance academic cooperation and development. Completed in 1975 and renovated in 2000, the structural testing area of the laboratory is a versatile area with a two-storey clear height that can be used to carry out a wide range of tests of building materials, components, structural assemblies and models.

One of principal elements of STE Lab is a strong floor system. The strong floor is a 1.5 meter deep heavily reinforced concrete mat, covering an area of 380 square meters, with anchorage slots spaced 1 meter apart and cluster points with a capacity of 1,000 kN per cluster. This arrangement provides versatility in the

mounting of experiments, and full-size members of complete structures can be loaded to destruction. A test control room and the hydraulic power supply area are located adjacent to the test floor.

The laboratory is equipped with a series of hydraulic actuators of various load (100 kN to 500 kN.), stroke (+100 mm to +250 mm.) and servo-value capacities for static, dynamic and fatigue testing. Standard laboratory instrumentation for structural engineering is available e.g., extensometer, universal testing machine, ultrasonic pulse velocity and strain gauge preparation, impulse force test hammer, etc.

Seismic Load Simulation Facility

Set up in 2001, the Seismic Load Simulation Facility is basically composed of (1) a rigid, A-shape, steel reaction wall, (2) a 50-ton force generating capacity, 1000-mm piston stroke, hydraulic actuator that operates under precision closed-loop servo value control, and (3) the existing strong reinforced concrete floor of the STE Lab. The facility has the capability to perform various experimental seismic tests on near-full-scale structural models, such as quasi-static tests, cyclic loading tests, and pseudodynamic tests. The facility has been used intensively by many master and doctoral students in STE Field of Study.

Boundary Layer Wind Tunnel Laboratory

This wind tunnel laboratory is a state-of-the-art research facility for the study of wind

loads and several complex wind-induced effects on buildings and structures. The laboratory was developed by a joint effort between School of Engineering and Technology at AIT and Faculty of Engineering at Thammasat University. The laboratory, located in Thammasat, is the longest and largest wind tunnel in Thailand. It is capable of simulating atmospheric boundary layer wind as well as smooth and uniform wind in its 2.5m x 2.5m tunnel section with wind speeds varying from 0.5 m/s to 20 m/s. The wind tunnel is well equipped with hot-wire anemometers, pressure transducers with rotary scanning system, multi-component dynamic force sensors, dynamic motion sensors, turn tables, rotary side frames, and several other instruments. With this facility, various types of advanced experimental research study, student training, and industrial aerodynamic tests can be realized. The construction of the wind tunnel was completed in 2003, and it has been used intensively since then by graduated students of AIT and Thammasat University.

3.9.3 Faculty and Research Staff

Emeritus Professor

PISIDHI KARASUDHI, Ph.D., Northwestern Univ., USA; M.Eng., AIT, Thailand; B.Eng., Chulalongkorn Univ. Thailand. [*Solid Mechanics*]

Full-time Faculty

WORSAK KANOK-NUKULCHAI, Ph.D., Univ of California (Berkeley), USA.; M.Eng., AIT, Thailand; B.Eng. (Hon), Chulalongkorn Univ, Thailand.

Professor [*Computational Mechanics; Finite Element Methods; Tall Building Static and Seismic Analysis; Bridge Engineering; Microcomputer Software for Structural Engineering; Genetic Algorithms; Nonlinear Analysis of Structures and Continua; Plate/Shell Structures; Engineering Education; Nanomechanics*]

PENNING WARNITTHAI, D.Eng., and M.Eng., University of Tokyo, Japan; B.Eng. (Hon), Chulalongkorn Univ, Thailand.

Professor [*Structural Dynamics; Earthquake Engineering (seismic hazard assessment, earthquake resistant design of structures); Wind Engineering (wind effects on structures, aeroelasticity, wind tunnel model tests); Bridge Engineering; Control of Structural Vibration*]

PUNCHET THAMMARAK, Ph.D., The Univ of Texas, Austin, USA; B.Eng. (Hon), Chulalongkorn Univ, Thailand.

Lecturer [*Computer Methods of Structural Analysis; Finite Element Methods in Engineering (Finite Element Methods; Dynamic Problem & Wave Propagation Analysis; Absorbing Boundary Conditions; Material Nonlinearities; Soil-Structure Interactions; Precast Concrete Structures*]

Visiting/Adjunct/Affiliated Faculty

SOMNUK TANGTERMSIRIKUL, D.Eng., and M.Eng, University of Tokyo, Japan; B.Eng. (Hon), Chulalongkorn Univ, Thailand. **Adjunct Professor** [*Modeling of concrete behavior, Durability evaluation and service life design of concrete structures, High performance cementitious based materials,*

Special concrete such as SCC and RCC, Use of wastes and recycled materials in cement and concrete, Health monitoring, Repair and maintenance of concrete structures]

AMORN PIMANMAS, Ph.D., and M.Eng, University of Tokyo, Japan; B.Eng. (Hon), Chulalongkorn Univ, Thailand.

Adjunct Associate Professor

[Evaluation of seismic performance of reinforced concrete buildings; Nonlinear finite element analysis of reinforced concrete; Inspection, repairing and strengthening of reinforced concrete]

THANAKORN PHEERAPHAN, Ph.D., and M.Sc., Massachusetts Institute of Technology USA. B.Sc., Virginia Military Institute, USA.

Adjunct Associate Professor

[Advanced Concrete Technology; Forensic Engineering Structural Evaluation and Retrofitting of Structures; Dynamic soil-structure interaction; Seismic behavior of underground structure; Seismic behavior of earth structure; Multi-Agent simulation; Development of Virtual Clearinghouse for earthquake disaster reconnaissance]

RAKTIPONG

SAHAMITMONGKOL, D.Eng., M.Eng, University of Tokyo, Japan; B.Eng., Sirindhorn International Institute of Technology, Thailand.

Adjunct Faculty *[Cracking Resistance of Expansive Concrete; Chemically Prestressed Concrete; Inspection on Concrete Structures & Performance Based Design; Non-Destructive*

Testing for Concrete Structures; Tension Stiffening Effect and Bonding Characteristic of Reinforced Concrete]

SONGSAK SUTHASUPRADIT, Ph.D., Konkuk University, Korea; M.Eng., AIT, Thailand; B.Eng., Srinakharinwirot University, Thailand.

Adjunct Faculty *[Development of a Nonlinear Enhanced Assumed Strain Shell Element for Bridge Analysis; An Assumed Strain 4-Node Reinforced Concrete Shell Element Considering Geometric and Material Nonlinearity; Railway Bridge Inspection an Evaluation]*

KITTIPOOM RODSIN, Ph.D., The University of Melbourne, Australia M.Eng., AIT, Thailand; B.Eng., Chulalongkorn Univ, Thailand.

Adjunct Faculty *[Experimental Investigation of Socket-Type Connection for Pre-Cast Column-Footing Connection; Suppression of Pedestrian Bridge Vibration in Bangkok]*

NAVEED ANWAR, D.Eng., M.Eng., AIT, Thailand; B.Sc.Eng., Univ. of Engineering & Tech., Lahore, Pakistan.

Affiliated Faculty *[Advanced Concrete Structures; Tall Buildings; Structural Analysis and Design; Computational Mechanics; Computer Application; Bridge Engineering; Software Development]*

BUI THANH TAM, D.Eng., M.Eng., AIT, Thailand; B.Eng., HoChiMinh City University of Technology, Vietnam.

Senior Research Associate *[Computational Mechanics; Finite Element Analysis; Structural Analysis; Fluid-Structure Interaction; Parallel Computing; Software Development]*

3.9.4 Doctoral Students' Dissertation

Investigation of Nonlinear Seismic Response of High Rise RC Wall Structures Using Modal Decomposition Technique

By Tahir Mehmood
Supervisor: Prof. Pennung Warnitchai

3.9.5 Masters Students' Theses

Wind-induced Dynamic Response of Large Billboard Structures

By S.M. Ziauddin
Supervisor: Prof. Pennung Warnitchai

A Comparison of Seismic Performance of an Isolated Highway Bridge and a Conventional Bridge System in Afghanistan

By Mujtaba Amin
Supervisor: Prof. Pennung Warnitchai

An Experimental Study of Sprayed Mortar for Repairing Application

By Siriporn Thongjaeng
Supervisor: Prof. Pennung Warnitchai

Nonlinear Finite Element Modeling of Masonry Infilled Reinforced Concrete Frame to Understand Infill-Frame

Interaction under Seismic Load
By Chandani Chandra Neupane
Supervisor: Prof. Pennung Warnitchai

Lateral Response of Nominally Reinforced Masonry Wall Made of Interlocking Compressed Earth Block Subjected to Cyclic Load

By Majid Naeem

Supervisor: Prof. Pennung
Warnitchai

*Preliminary Design of Tall
Building Using Artificial Neural
Network*

By Lila Khatiwada

Supervisor: Dr. Panchet
Thammarak

*Cylindrical Wedge-Type
Compression Free Bracing
System for Moment Resisting
Frame Structures*

By Amrita Das

Supervisor: Dr. Panchet
Thammarak

*Seismic Performance of
Masonry School Buildings
Retrofitted with RC Jacket and
Splint-Bandage*

By Sandip Adhikari

Supervisor: Dr. Panchet
Thammarak

Chapter 3.10: SET TELECOMMUNICATIONS FIELD OF STUDY



3.10.1 Introduction

The **Telecommunications Field of Study** offers areas of specialization in transmission systems; switching systems; telematics; network planning, and in collaboration with the School of Management telecommunications management. The courses offered emphasize modern telecommunications skills in systems planning and engineering, telecommunications software development, and administrative and financial aspects of telecommunications management.

Graduates from the master's program form the nucleus for effective high-level technical planning and management operations at their employer organizations. Some of the graduates are engaged in planning, development, and service activities leading to the installation, commissioning, management, design, etc. of value-added systems. Given

the important role of our graduates in the development of the telecommunications sector, the learning is of significant benefit to the users of telecommunications services within the region. Graduates of the doctoral program play key roles in enhancing the level of education and research in the national universities of the region, and promote and strengthen the R&D potential of emerging regional manufacturing industries.

3.10.2 *Research Facilities and Laboratories*

Today's fast-booming world of Telecommunications and Computer networking plays a significant leadership role. To support this achievement the Telecommunications field of study puts the effort to continue the development of telecommunications technologies and systems. It covers a wide variety of research in telecommunications ranging from modeling, analysis wire

line and wireless systems to application and protocol development. Its research subjects are in coherent optical communications; congestion control, ATM, and B-ISDN networks; error correction and detection methods; mobile and

Internet traffic studies; multiple access strategies for cellular mobile, satellite systems, and cabled networks; network performance analysis, planning and design; and speech processing. Its research specializations are in broadband networks; network planning; switching systems; telecommunications management in collaboration with the School of Management; telematics; and transmission systems.

Transmission and Switching Lab (TSL)

The Transmission and Switching lab is equipped with Nokia Digital Switching Exchange DX200 (DX220, DX210) that supports PSTN and ISDN. There are also several

telephone switches, traffic simulators, protocol analyzer, PDH/SDH (STM1 & STM4) transmission systems, fiber optic line equipment, transmission line analyzer, error rate meter which are available for experiment in switching, transmission and internetworking. The switching and transmission systems are integrated as real telecommunications network. Among the applications whose study has been made possible by these systems are Operation and Maintenance, performance measurements of real narrowband and broadband telecommunication networks, as well as new services.

Network Planning Lab (NPL)

High performance computer aided network planning tools are supported by several workstations at the Network Planning lab. This lab provides hands-on experience design and optimization in radio network, fixed network and fiber optical network.

Wireless Lab (WL)

The main purpose of the Wireless laboratory is for measurement and performance analysis. It is equipped with Modulation and Error rate measurement meters, Simulation software like SATSIM, which was developed by the students, is a simulation package to calculate the sub-satellite points of a LEO/ MEO/GEO and its orbital parameters. It also displays graphically on a two-dimensional earth map the instantaneous position and path traced by the satellite (Multi orbit and Multi satellite). Another is NMS/X, is a measurement system for GSM,

DCS and NMT networks tracing, capable of measuring up to four networks simultaneously. The results are used for benchmarking service quality of operational cellular networks. These results can be analyzed and can be used for tuning the network parameters in NPS/X.

Communications Labs (CL)

The Communications lab is used to perform experiments courses under Signal and Systems, Communications Electronics, Digital Transmission Technology and Digital Signal Processing. Test bench equipment includes analog and digital oscilloscopes, function generators, analog and digital Spectrum analyzers, Digital sampling oscilloscopes and DSP cards and workstations which have simulation applications like MATLAB.

Computer Laboratory (PCL)

There are two Computer Laboratories in Telecommunications Program. One is for Senior students and one is for Junior Students. All computers are latest powerful computers.

TC Library

In Telecommunications Program, there is a small library, from where students can borrow telecommunication related journals, manuals and reference books.

3.10.3 Faculty and Research Staff

Full-time Faculty

TEERAPAT
SANGUANKOTCHAKORN, BEng,

Chulalongkorn Univ, Thailand; MEng, DEng, Tokyo Institute of Technology, Japan.

Associate Professor (*Data Communications; Broadband Integrated Services Digital Networks; Multimedia Communications and Systems; Network Quality of Service*)

ATTAPHONGSE

TAPARUGSSANAGORN, B.Eng, Chulalongkorn University, Thailand, M.Sc., Technische Universitat Kaiserslautern, Germany, D.Tech., University of Oulu, Finland.

Assistant Professor [Smart energy grids: optimal energy scheduling, smart grid communications using cognitive radio based, spectrum sensing for cognitive radio systems, MIMO-OFDMA cooperative relay systems, cognitive radio based wide coverage rural broadband on TV white spaces, Resource allocation for MIMO-OFDMA systems, Digital image processing.]

Visiting and Adjunct Faculty

R M A P RAJATHEVA, B.Sc. Hons. (Eng), Moratuwa Univ, Sri Lanka; M.Sc., Ph.D. (Electrical and Computer Eng), Univ of Manitoba, Canada.

[*Digital and Mobile Communications, Cooperative Diversity, Relay Systems, OFDMA Resource Allocation, Cognitive Radio: Detection/Estimation Techniques, Space Time Processing-MIMO Systems, Distributed Video Coding (DVC)*]

POOMPAT SAENGUDOMLERT, BSE, Princeton Univ; MS, PhD, Massachusetts Inst of Tech, USA

[*Communication theory, optical networks, resource allocation problems, and array*

processing; Recent research activities have focused on optical network designs based on existing infrastructure networks and communications for disaster management]

3.10.4 Masters Students' Theses and Research Studies

TCP FACK over Satellite IP Network

by: Ms. Chan Nyein San
Supervisor: Dr. Shinichi Nakamura

IPv6 Mesh Topology with Different Operation Devices in Energy Efficient Smart Meter

by: Miss Khaing Khin Yi
Supervisor: Dr. Teerapat Sanguankotchakorn

Performance Comparison and Link Budget Analysis for Dual-Mode IR-UWB Communication System in Body Area Networks

by: Ms. Mya Thet Maung
Supervisor: Dr. Teerapat Sanguankotchakorn

A Study on Inter-Satellite Link for the Enhancement Communication Area of Thaichote Satellite

by: Mr. Likhit Waranon
Supervisor: Dr. Teerapat Sanguankotchakorn

A Study on Inter-Satellite Link for the Enhancement Communication Area of Thaichote Satellite

by: Mr. Likhit Waranon
Supervisor: Dr. Shinichi Nakamura

WebRTC Communication and the Identity Management with Prospects of Interoperability

by: Miss Niraja Shakya
Supervisor: Dr. Teerapat Sanguankotchakorn

Analysis of Road Traffic Accidents Costs in Sudan

by: Mr. Adam Ibrahim Ali Mofadal
Supervisor: Dr. Kunnawee Kanitpong

A Study of Factors Affecting Pedestrian Accident Severity and Pedestrian Crossing Time in Thailand

by: Miss Akare Zaw
Supervisor: Dr. Kunnawee Kanitpong

Developing and Calibrating a Microscopic Traffic Simulation Model to Account for the Effects of Motorcycle at Signalized Intersections

by: Mr. Sudeep Thapa
Supervisor: Dr. Surachet Pravinvongvuth

Influence of Large Commercial Building on Park and Ride Utilization in Bangkok

by: Mr. Eito Tohata
Supervisor: Dr. Kunnawee Kanitpong

Analysis of a New At-Grade Transportation Network without Signalized Intersection, Roundabout, or Stop Sign

by: Miss Imalka Chiranthi Matarage
Supervisor : Dr. Surachet Pravinvongvuth

Chapter 3.11: SET TRANSPORTATION ENGINEERING FIELD OF STUDY



3.11.1 Introduction

Industrialization and population growth have tremendous impacts in the movement of people and goods. Everyday, movement is hampered by congestion, insufficiency of public transport facilities, traffic accidents, and other conditions. Moreover, as manufacturing expands globally, businesses want to reduce transportation costs by limiting the number of distribution nodes. Concerns over congestion on highways, increasing pollution and hazardous materials all emphasize the need to effectively maximize transportation systems. Thus, the issue of transportation is obviously crucial, not only now but in the future.

The Transportation Engineering field exposes students to the process of alleviating transportation problems. The coursework and research in the area provide advanced knowledge in transportation planning and economics, traffic engineering and safety, and the design of

highways/pavements and other transportation facilities. Transportation Engineering students acquire advanced skills concerning the planning, design, operations, maintenance, rehabilitation, performance, and evaluation of transportation systems, including their economic and public policy aspects. The field imbibes in each student the development of analytic, problem-solving, design, and management skills suitable for public and private sector professional work.

3.11.2 Faculty and Research Staff

Full-time Faculty

KUNNAWEE KANITPONG, Ph.D., University of Wisconsin-Madison; M.Sc., University of Maryland at College Park, USA; B.S., Chulalongkorn University, Thailand.

Associate Professor (*Road Traffic Safety, Accident Data Analysis, Highway Materials and Construction, Pavement Design and Analysis, and*

Pavement Management System)

SURACHET PRAVINVONGVUTH, Ph.D., Utah State University, USA; M.Eng., Asian Institute of Technology, Thailand; B.Eng., Chulalongkorn University, Thailand.

Assistant Professor (*Traffic Simulation, Intelligent Transportation Systems, Travel Demand Forecasting, Discrete Choice Modeling, Transportation Infrastructure Investment*)

Visiting / Adjunct Faculty

HIRONORI KATO, D.Eng., M.Eng., B.Eng., University of Tokyo, Japan

Visiting Professor (*Transportation planning and policy; travel behavioral analysis; transportation project evaluation*)

KAZUSHI SANO, D.Eng. M.Eng., B.Eng., University of Tokyo, Japan

Visiting Professor (*Transportation Planning,*

Traffic Engineering, and Logistics)

TAKASHI NAKATSUJI, D. Eng., M. Eng., B. Eng., Hokkaido University, Japan.

Visiting Professor (*Traffic Engineering, Traffic Flow Simulation, Winter Maintenance, Traffic Accident Reconstruction*)

PIYAPONG

JIWATTANAKULPAISARN, Ph.D., Imperial College London, United Kingdom; M.Eng., Asian Institute of Technology, Thailand; B. Eng., Chulalongkorn University, Thailand.

Adjunct Faculty (*Wider Economic Impacts of Transport Infrastructure, Highway Development and Land Use, Financing Transport Infrastructure, Econometric Modeling for Policy Analysis, Statistical and Quantitative Methods for Transportation Analysis, Fuel Demand Modeling, Accident Risk Behaviours of Road Users, Traffic Safety Engineering and Evaluation of Road Safety Interventions*)

Research Staff

Research Assistant

Kanwalai Nachaisit, M.A. (Major: History of Southeast Asia); B.A. (Major English), Silpakorn University, Thailand

Research Assistant

Nira Adhikari, Bachelor of Science, Nepal Institute of Health Sciences, Purbanchal University, Nepal

Research Assistant

Srivarang jendupakarn, Bachelor of Nursing Science, Burapha University, Chonburi, Thailand

Research Assistant

Pathumporn Dabsomsri, B.Eng. (Transportation Engineering), Suranaree University of Technology, Nakhon Rachasima, Thailand

Research Associate

Auearree Jensupakarn, M.Eng. (Transportation Engineering), Asian Institute of Technology; B.Eng. (Civil Engineering), Suranaree University of Technology, Nakhon-Ratchasima, Thailand

Research Associate

Santosh Baral, M.Eng. (Transportation Engineering), Asian Institute of Technology; B.Eng. (Civil Engineering, Nepal Engineering College, Changanarayan, Bhaktapur, Nepal

3.11.3 Doctoral Students' Dissertation

Analysis of Road Traffic Accidents Costs in Sudan
by: Mr. Adam Ibrahim Ali Mofadal
Supervisor : Dr. Kunnawee Kanitpong

3.11.4 Masters Students' Theses and Research Studies

A Study of Factors Affecting Pedestrian Accident Severity and Pedestrian Crossing Time in Thailand
by: Miss Akare Zaw
Supervisor: Dr. Kunnawee Kanitpong

Developing and Calibrating a Microscopic Traffic Simulation Model to Account for the Effects of Motorcycle at Signalized Intersections
by: Mr. Sudeep Thapa
Supervisor: Dr. Surachet Pravinvongvuth

Influence of Large Commercial Building on Park and Ride Utilization in Bangkok
by: Mr. Eito Tohata
Supervisor: Dr. Kunnawee Kanitpong

Analysis of a New At-Grade Transportation Network without Signalized Intersection, Roundabout, or Stop Sign
by: Miss Imalka Chiranthi Matarage
Supervisor : Dr. Surachet Pravinvongvuth

Chapter 3.12: SET WATER ENGINEERING AND MANAGEMENT FIELD OF STUDY



3.12.1 Introduction

Today's major challenges for water engineers and managers include securing water for people and for food production, protecting vital ecosystems, and dealing with climate variability and change and uncertainty of water in space and time. The Water Engineering and Management (WEM) field of study imparts education and training towards an understanding of the complexity of water cycle, utilization, and management. It offers a balanced curriculum covering both engineering and management aspects of water resources. Students acquire knowledge and hands-on practice in tools and techniques to come up with viable and sustainable water management for water, food, energy, and environmental security. Students conduct research on country-specific water related problems, and

have opportunities to join research and internship programs with industries and partners.

The WEM field of study covers five focal areas: Agricultural Water, Coastal Water, Urban Water, Water Resources, and Extreme Events and Risk Management. The curriculum is designed in such a way that students can specialize according to their interests. Courses on Watershed Hydrology, Hydrodynamics, Water Resources Systems, and Concepts in Water Modeling provide the solid foundation to the advanced courses. The curriculum emphasizes tools and techniques in water resources planning and management.

Agricultural Water courses impart knowledge and skills necessary for the development and management of water resources for agriculture. They address various multi-

disciplinary issues in the planning, design, implementation, operation and maintenance of irrigation and drainage projects and land and water conservation programs. Current researches in the area include irrigation and drainage system management, cropping systems, erosion and water quality problems, soil conservation and land-use, and watershed management. The management and design of sound engineering works for the control and effective use of coastal zones require in-depth knowledge of hydrodynamics and the understanding of coastal zone phenomena. Coursework and research in Coastal Water cover studies of wave characteristics and their action on beaches, coastal sedimentation, estuarine hydraulics and the applied aspects of coastal zone engineering and management.

Urban Water courses relate to water supply and sanitation,

storm water, and domestic wastewater and urban drainage for sustainable management of urban areas. The research in relation to urban water focuses on application of state-of-the-art theory in water demand forecasting and management, design and management of water distribution systems in urban and rural areas, real-time hydrological information systems for urban flooding and drainage. Given the ever-growing importance of water quality, an integrated water quantity-quality approach is essential. Courses in Water Resources focus on techniques to assess the occurrence and availability of surface and groundwater. Students acquire a sound understanding of basic principles in river engineering and modeling, water resources planning, conjunctive use of surface and groundwater; integrated water resources management and social and environmental impact assessment of water resources projects.

Climate change impact and adaptation in water sector is an active area of research and education at WEM. In-depth knowledge and hands-on practice on mathematical modeling of water resources systems is provided. Flooding is a natural phenomenon and various human activities as well as climatic changes have aggravated the problem causing economic losses. Students are exposed to an understanding of the behavior of rivers, and to design appropriate structural and non-structural alternatives for the effective management of rivers and waterways. Research in the area of Extreme Events and Risk Management includes drought

analysis and management, river flow analysis, and flood control and mitigation, flood modeling and forecasting, flood plain development and management. Research in the area of climate change and water resources include downscaling of climatic variables at local scale and impact and adaptation studies of future climate on water resources and on water use sectors.

In addition, WEM offers the following Double Degree Masters programs with renewed institutions under which students are awarded two Master degrees: one from AIT and one from AIT's partner institution.

- Urban Water Engineering and Management (UWEM) in collaboration with UNESCO-IHE, The Netherlands and Environmental Engineering and Management field of study at AIT
- Agricultural Water Management for Enhanced Land and Water Productivity (DD-AWELWP) in collaboration with UNESCO-IHE, The Netherlands
- Hydroinformatics and Water Management (HWM) in collaboration with The University of Nice, Sophia Antipolise, France

WEM also offers e-learning programs on:

- Integrated Water Resources Management (IWRM) in collaboration with UNU-INWEH, Canada
- Service

Oriented Management of Irrigation Systems (SOMIS) in collaboration with UNESCO-IHE, The Netherlands

WEM also encourages students to undertake internship program and receive students from partner institutions under exchange and dual degree program.

3.12.2 Faculty and Research Staff

Emeritus Professor

ASHIM DAS GUPTA, BEng, Gauhati Univ, India; MEng, DEng, AIT, Thailand.

Visiting Professor (*Integrated water resources management; Groundwater development and management; Modeling and monitoring*)

Full-time Faculty

MUKAND S BABEL, BEng, Rajasthan Agr Univ, India; MEng, DEng, AIT, Thailand.

Professor [*Hydrologic and water resources modeling as applied to integrated water resources management; Watershed modeling and management; Water resources allocation and management; Water resources and socio-economic development; Water supply system and management; Climate change impact and adaptation; Groundwater resources management; and Flood and drought analysis, forecasting and management*]

SANGAM SHRESTHA, MSc., Institute of Agriculture and Animal Science, Tribhuvan University, Nepal; MSc., Asian Institute of Technology, Thailand; PhD., University of Yamanashi, Japan.

Associate Professor [*Climate change and adaptation, integrated water resources management, Hydrology and water quality modeling, Groundwater development and management, Sustainable water management policy*]

SANYOGITA ANDRIYAS, BEng, Sam Higginbottom Institute of Agriculture, Technology and Sciences, U.P., India; MSc., University of Guelph, Guelph, Ontario, Canada; PhD, Utah State University, Logan, Utah USA.

Lecturer [*Irrigation Water Management; Application of Intelligent Systems approaches in Water Resources Management problems; Erosion Studies; Climate Change in Agriculture; Applications of GIS and remote sensing to water resource problems*]

Visiting Faculty

AKIYUKI KAWASAKI, BEng, MEng, DEng., Yokohama National University, Japan

Visiting Associate Professor [*Geographic Information System / City and regional planning / Transboundary river / Benefit sharing / Land-use modeling / Disaster management (Landslide and flood)*]

DAMIEN JOURDAIN, BEng, MSc, Ecole Nationale Supérieure Agronomique Montpellier, France; PhD, University of Montpellier I, France

Visiting Assistant Professor [*Agricultural & Natural Resources Economics / Farm Modeling / Water and Watershed Management / Payment for Environmental Services*]

Adjunct Faculty

TAWATCHAI TINGSANCHALI, BEng, Chulalongkorn Univ, Thailand; MEng, DEng, AIT, Thailand.

Professor [*Flood Control Engineering and Management; Flood Forecasting, Warning and Flood Disaster Management; River Engineering and Hydropower; Water Resources Project System Optimization*]

SUTAT WEESAKUL, D.Eng, M.Eng, Asian Institute of Technology; BEng, Chulalongkorn University, Thailand

Assistant Professor [*Numerical computation in sea and coastal area including flood propagation using developed computer programs; Application in solving urban drainage problem using both engineering and management approaches; the on-line urban flood warning system at Sukhumvit, Bangkok, Thailand providing useful information in daily life during rainy season are disseminated in <http://www.wap.ait.ac.th>; Improvement of hydraulic design using physical hydraulic model test in hydropower; hydropower development projects in Lao and Myanmar and improvement in design of intake, diversion tunnel, riparian outlet, energy dissipater, spillway and head pond*]

3.12.3 Doctoral Students' Dissertation

Sustainability of Water Use in Irrigated Agriculture under Future Climate Scenarios: A Case Study of Citarum River Basin in Indonesia

by: Mr. I Putu Santikayasa
Supervisor : Prof. Mukand S. Babel

Assessment of Climate Change and Land Use Change Impacts on the Hydrology and Water Resources of the Bago River Basin in Myanmar

by: Mr. Aung Ye Htut
Supervisor : Dr. Sangam Shrestha

3.12.4 Masters Students' Theses and Research Studies

WEM

Climate Change Impact on Inflow to Khun Dan Prakarnchon Reservoir, Thailand

by: Mr. Panumet Wattananont
Supervisor : Dr. Sangam Shrestha

Design and Development of a GIS Database for Water Resources Management in the Bago River Basin, Myanmar

by: Mr. Aung Myint Oo
Supervisor : Prof. Mukand S. Babel

Design and Development of a GIS Database for Water Resources Management in the Bago River Basin, Myanmar

by: Mr. Aung Myint Oo
Supervisor : Dr. Akiyuki Kawasaki

"Modelling of Point Sources and Non-Point Sources Pollution Loading into the Rivers of 3S (Sekong, Sesan, Srepok) Basin

by: Miss Nguyen Thi Thuy Trang
Supervisor : Dr. Sangam Shrestha

Impact of Climate and Land Use Change on Soil Erosion and Stream Flow in the Bago River Basin, Myanmar
by: Miss Hsu Myat Maw
Supervisor : Dr. Sangam Shrestha

Real Time Urban Drainage System at Sukhumvit Area, Bangkok, Thailand
by: Mr. Detchphol Chitwatkulsiri
Supervisor : Prof. Mukand S. Babel

Real Time Urban Drainage System at Sukhumvit Area, Bangkok, Thailand
by: Mr. Detchphol Chitwatkulsiri
Supervisor : Dr. Sutat Weesakul

Flood Forecasting in Kosi River-Basin Wide Approach
by: Miss Sneha Sandilya
Supervisor : Prof. Mukand S. Babel

Impact and Risk Assessment of Climate Change on Hydropower Production: A Case Study of the Upper Tamakoshi Project in Nepal
by: Mr. Ajay Ratna Bajracharya
Supervisor : Dr. Sangam Shrestha

Probabilistic Real-time Hydrological Forecasting in the Upper Chao Phraya River, Thailand
by: Mr. Suwash Chandra Acharya
Supervisor : Prof. Mukand S. Babel

Willingness of Farmers to Change Their Production Practices : A Choice Experiment Approach
by: Miss Saman Roibha Lynrah
Supervisor : Dr. Damien Jourdain

Evaluation of Water Supply System and Selected Pilot Areas in Chittagong, Bangladesh
by: Mr. Shyamal Acharya
Supervisor : Prof. Mukand S. Babel

Evaluation of Groundwater Vulnerability to and Risk Assessment Methods for Pollution in Kathmandu Valley, Nepal
by: Mrs. Ranjana Kafle
Supervisor : Dr. Sangam Shrestha

Evaluation of Satellite and GCM Rainfall and Climate Change Impacts on Stream Flow in the Kabul River Basin, Afghanistan
by: Mrs. Massouda Sidiqi
Supervisor : Dr. Sangam Shrestha

Potential Impacts of Climate Change on Water Footprints of Major Crops in the Indrawati Basin, Nepal
by: Miss Palpasa Prajapati
Supervisor : Prof. Mukand S. Babel

Impact of Climate Change on Streamflow: A Case of Hunza River, Karakoram Region, Pakistan
by: Mr. Muhammad Sohaib Baig
Supervisor : Prof. Mukand S. Babel

Impact of Climate Change on Salinity and Rice Yield in the Mekong Delta, Vietnam
by: Miss Hue Thi Dao
Supervisor : Prof. Mukand S. Babel

Evaluation of Selected Smallholders Irrigation Schemes in Tanzania Using Farmers' Utility and Performance Indicators
by: Mr. Saidi Hussein Ibrahim
Supervisor : Dr. Franciscus Xaverins Suryadi

Evaluation of Selected Smallholders Irrigation Schemes in Tanzania Using Farmers' Utility and Performance Indicators
by: Mr. Saidi Hussein Ibrahim
Supervisor : Dr. Damien Jourdain

Application of Water Accounting Plus (WA+) Framework for the Upper Chao Phraya Basin in Thailand
by: Mr. Siriwat Boonwichai
Supervisor : Dr. Sangam Shrestha

Impact of Climate Change on Hydrology and Water Resources of the Dudhkoshi River Basin in Nepal
by: Mr. Sajan Jung Pandey
Supervisor : Prof. Mukand S. Babel

Assessment of Water Use and Leakage Reduction Scenarios in the Distribution Network of AIT
by: Mr. Abdul Rahman
Supervisor : Prof. Mukand S. Babel

Development and Application of a Water Security Assessment Framework for Hanoi City, Vietnam
by: Mr. Nguyen Hai Duc
Supervisor : Prof. Mukand S. Babel

Water Allocation Between Irrigation and Environmental Services: A Trade-off Analysis of Walawe River Basin, Sri Lanka
by: Miss Thamali Menaka Gunaratna
Supervisor : Dr. Damien Jourdain

Development of a Water Security Index at City Scale: A Case Study of Bangkok
by: Miss Anyamanee Onsomkrit
Supervisor : Prof. Mukand S. Babel

Flood Alleviation Plan for
Practical Operation in
Bangpakong-Prachinburi Basin
by: Mr. Wutthichai
Tengchaisun

Supervisor : Dr. Sangam
Shrestha

Flood Alleviation Plan for
Practical Operation in
Bangpakong-Prachinburi Basin

by: Mr. Wutthichai
Tengchaisun
Supervisor : Dr. Sutat
Weesakul

Chapter 3.13 SET: INFORMATION AND COMMUNICATION FIELDS OF STUDY



3.13.1 Introduction

Information and Communications Technologies field is a newly established area of study in response to the needs for the offering of a curriculum selectively drawn from the curricula of Telecommunications (TC), Computer Science, and Information Management (CSIM). With strong emphasis on communications aspects rather than on the aggregation of hardware, software, networks, equipment and related industries - ICT recognizes the important role of information services and applications in the creation of a complete ICT infrastructure.

3.13.2 Research Facilities and Laboratories

There is a rapidly growing and constantly evolving interest in ICT throughout the academia and society. To support this, the evolution and the benefits of ICT in our lives, the ICT field of study at AIT continues to research and develop of ICT. The field of study covers a wide variety of research supported by the body of faculty consisting of a multi-professional team of international experts in telecommunication, computer science, educational technology and related fields.

The faculty has a strong academic background ranging from wireless and

optical networks, through hardware and software, to web education and other e-services.

Research subjects include those on ICT applications (e-services such as e-learning, e-

health, e-governance, rural development, knowledge creation and knowledge dissemination); on the information technologies (e.g. operating systems, programming languages, information storage and retrieval); on the communication infrastructure (e.g. networks, transmission technologies, switching and routing). Research specializations are in adaptive technologies; computer-supported collaboration; Home networking; ICT security; online communities; and voice over IP. The ICT area of study shares the research facilities and laboratories of the Telecommunications field of study.

3.13.3 Faculty and Research Staff

The ICT Field of Study draws from the faculty and research

staff of the Computer Science, Information Management, Remote Sensing & Geographic Information Systems, and Telecommunications Fields of Study.

Adjunct Faculty

TEERAWAT ISSARIYAKUL,
B.Eng. Thammasart University,
Thailand, M.Eng. Asian
Institute of Technology,

Thailand, Ph.D. University of
Manitoba, Canada.
Assistant Professor [*Markov-
based modeling and Analysis;
Markov Decision Process,
protocol optimization, Cross-
layer analysis in cognitive radio
networks, scheduling
algorithms centralized wireless
networks, medium access
control protocols in single-hop
and multi-hop distributed
wireless networks, model
analysis using stochastic
domination and
supermodularity properties*]

**From Telecommunications
Field of Study**

TEERAPAT
SANGUANKOTCHAKORN,
Associate Professor

R M A P RAJATHEVA,
Visiting Faculty

POOMPAT
SAENGUDOMLERT, **Adjunct
Faculty**

**From Computer Science
and Information
Management Fields of
Study**

KANCHANA KANCHANASUT,
Professor

PHAN MINH DUNG,
Professor

SUMANTA GUHA, **Professor**

MATTHEW N. DAILEY,
Associate Professor

VATCHARAPORN
ESICHAIKUL, **Associate
Professor**

PAUL JANECEK, **Visiting
Faculty**

**From Remote Sensing and
Geographic Information
Systems Field of Study**

NITIN KUMAR TRIPATHI,
Professor

KIYOSHI HONDA, **Professor**

SARAWUT NINSAWAT,
Assistant Professor

**3.13.4 Masters
Students' Theses and
Research Studies**

Airport Traffic Control System
Using Radar Technology
by: Miss Thaw Thaw Htet
Supervisor: Dr. Shinichi
Nakamura

Performance Analysis of
Propagation Model due to
Trees and Buildings for Satellite
Communication System
by: Mr. Pyae Phyo Zaw
Supervisor: Dr. Shinichi
Nakamura

Chapter 3.14: SET OFFSHORE TECHNOLOGY AND MANAGEMENT PROGRAM



3.14.1 Introduction

Rationale

Oil and Gas resources in the Southeast Asian region have been explored for several decades, especially following the global slump in oil and gas production during the early 1970's. Since then, the region has become one of the most productive oil and gas areas in the world. However, the global demand for skilled human resources of the upstream oil and gas industry greatly exceeds the supply and, therefore, regional companies are required to seek contract overseas worker to fill job vacancies; a situation that continues to exist after more than three decades of E&P activity in the region. The shortage of skilled manpower has recently become critical due to the tremendously high level of oil and gas exploration and production activity around the world that has occurred to meet the increasing global demand for energy, especially since China's becoming the "world's factory", and the

move towards deep water exploration and production.

Mission Statement

AIT's Offshore and Technology & Management Program (OTM) is the first of its kind to provide regional post-graduate study in upstream oil and gas education, and is designed to combine application-oriented course work, field studies and internships into a curriculum from which graduates are equipped with the skills and knowledge-and-practice-readiness to mitigate the shortages of skilled manpower in the upstream sector of oil and gas industry. As an industrial application-oriented program, OTM's unique characteristics offer a flexible study structure which allows students to build their own area of specialization in addition to the areas formally offered in the program, those areas being: Offshore Structural Design and Construction (OSDC), Oil and Gas Management (OGM). With the available teaching expertise; library and

laboratory facilities; multitude of courses from AIT's different schools; skilled and professional faculty members and staff; strong collaborations with overseas partner universities in Europe, Asia, Australia and North America; and strongly supported by oil and gas industries, AIT's OTM post-graduate program has become one of the most suitable post-graduate study for engineers and young managers to pursue higher professional careers in both the oil and gas industry and government bodies.

3.14.2 Faculty and Research Staff

Full-time Faculty

GREGORY L.F. CHIU, M.S. Civil Engineering, Columbia University, New York, USA; Ph.D. Civil Engineering, Stanford University, California, USA
Professor of Practice

Visiting Faculty

L.F. BOSWELL, Doctor of Philosophy, University of

Leeds; Doctor of Science,
Technical University of Isai;
Doctor of Science, Technical
University of Cluj Napoca

BUI B. DAO, Master of Science,
University of California,
Berkeley, U.S.A.; Ph.D.
University of California,
Berkeley, U.S.A.

Adjunct Faculty

PORNPOONG ASAVADORNDEJA,
Master of Engineering, Asian
Institute of Technology,
Bangkok, Thailand; Doctor of
Optimization of FPSO Mooring
Systems
by: Mr. Sai Thet Wai Aye Min
Supervisor : Dr. Gregory L. F.
Chiu

Reliability Analysis of the Final
Design of a Fixed Offshore
Jacket
by: Mr. Aung San Tint
Supervisor : Dr. Gregory L. F.
Chiu

A Flexible Petroleum Fiscal
Regime for Thailand
by: Mr. Tanawin Srisatasuk
Supervisor : Dr. Thitisak
Boonpramote

A Flexible Petroleum Fiscal
Regime for Thailand
by: Mr. Tanawin Srisatasuk
Supervisor : Dr. Gregory L. F.
Chiu

Engineering, Asian Institute of
Technology, Bangkok, Thailand

SARUNPHONG ARTICHARTE;
Master of Science, Texas A&M
University, USA

THITISAK BOONPRAMOTE,
Master of Science, Colorado
School of Mines, USA; Ph.D.,
Colorado School of Mines, USA

WINAI OUYPORNPRASERT,
Master of Engineering,
Chulalongkorn University,
Bangkok, Thailand; Ph.D.,
University of Insbruck, Austria

Risk Quantification for Cost
Estimation of Oil Field Project
by: Mr. Sompong Phajunta
Supervisor : Dr. Gregory L. F.
Chiu

Design Optimization and
Performance Evaluation of
Subsea Soft Landing Cylinder
by: Mr. Sarayut
Thongpathomwong
Supervisor : Dr. Gregory L. F.
Chiu

Design Optimization and
Performance Evaluation of
Subsea Soft Landing Cylinder
by: Mr. Sarayut
Thongpathomwong
Supervisor : Dr. Pornpong
Asavadorndeja

Research Associate

SIDDHARTHA S. BHAGABATI,
Master of Engineering,
Asian Institute of
Technology, Bangkok,
Thailand

3.14.3 Masters Students' Theses and Internships

Design of a New Reusable
System: The Minimum Mobile
Offshore Production Unit
by: Mr. Parinya Namburee
Supervisor : Dr. Gregory L. F.
Chiu

A Business Model for
Decommissioning of Fixed
Jacket Platforms
by: Mr. Siddhartha Sharma
Bhagabati
Supervisor : Dr. Gregory L. F.
Chiu

Analysis and Evaluation of
Fixed Jacket Installation Delays
by: Mr. Thaw Tar Soe Oo
Supervisor : Dr. Gregory L. F.
Chiu

Chapter 4: SCHOOL OF ENVIRONMENT, RESOURCES AND DEVELOPMENT

4.1 Mission, Vision, and Core Values

SERD Mission

The School of Environment, Resources and Development is committed to excellence in graduate education as well as research and outreach activities. Through its academic programs and outreach units, SERD has been working towards capacity building and human resource development in the areas of resource management, development studies, and energy and environmental management.

SERD responds to regional needs by mobilizing and enhancing capacities for socially, economically and environmentally sound development in partnerships with public and private sectors. The School's interdisciplinary approach integrates technological, natural and social sciences.

SERD Vision

SERD will continue its leadership role in offering excellent academic programs relevant to regional needs.

SERD research will be concentrated toward focal areas and are to be conducted by core teams.

SERD outreach will be community service oriented.

SERD Programs will be consolidated and financially viable. The School activities including the students, staff,

faculty and curricula, will be subject to quality assessment.

SERD Core Values

- Interdisciplinary
- Innovativeness
- Excellence
- Responsiveness

4.2 Field of Study and Multidisciplinary Programs

Fields of Study

- Agricultural Systems and Engineering
- Aquaculture and Aquatic Resources Management
- Energy
- Environmental Engineering and Management
- Food Engineering and Bioprocess Technology
- Gender and Development Studies
- Natural Resources Management
- Pulp and Paper Technology
- Regional and Rural Development Planning
- Urban Environmental Management

Interdisciplinary Programs

- Agri Business Management
- Disaster Preparedness, Mitigation and Management
- Integrated Coastal Management

- Urban Water Engineering and Management
- Climate Change and Sustainable Development
- MBA in Energy Business

Professional Masters Programs (1 Year)

- Environmental Engineering and Management (in Vietnam)
- Urban Management (with HCMUARC)
- Energy Business Management (SERD and SOM)

4.3 Research Facilities and Laboratories

SERD provides laboratory, computer and information technology (IT) facilities for education and learning for graduate students, and research activities of graduate students, faculty, and sponsored and contracted projects.

SERD has six research laboratories in Agricultural Systems and Engineering, Aquaculture and Aquatic Resources Management, Food Engineering and Bio-process Technology, Environmental Engineering and Management,

Each laboratory is unique with modern equipments, excellent guidance and assistance, and

provides safe working facilities and environments to carry out experimental studies and research.

IT facilities are provided for everyone to attend their academic and research related activities. There are two computer centers maintained by the SERD at the SERD Main building (one computer laboratory and one printing room). These are open twenty four hours a day for use by students, staff and faculty.

Full internet access is available to these PCs through a high speed network backbone which connects all academic buildings including the residence halls. A large number of PC software packages for applications such as word-processing, spreadsheets, network communications, and multimedia and file transfer utilities are available. High quality laser printers, scanning and CD writing facilities are available for students' uses. Furthermore, laboratories also have computer facilities, which enhance the productivity of the teaching and research activities of the school.

4.4 School Governance

Dean of School

PROF. CHETTIYAPPAN VISVANATHAN
Ph.D in
Chemical/Environmental
Engineering, Institute de Genie
Chimique, Institut National
Polytechnique, Toulouse,
France, 1988 (Government of
France, Ministry of External
Affairs Scholarship)
M. Engg in Environmental
Engineering, Asian Institute of
Technology, Bangkok,
Thailand, 1984 (Government of
Switzerland Scholarship).

Professor

4.2 SERD – AGRICULTURAL SYSTEMS AND ENGINEERING FIELD OF STUDY



4.2.1 Introduction

This field of study emphasizes on sustainable agricultural and related technologies development through holistic approach for efficient food production for small holder agriculture.

4.2.2 Research Facilities and Laboratories

Agricultural Systems and Engineering (ASE) Laboratory caters to researchers, which address sustainability in agricultural production. The facilities are capable for implementing excellent agronomic and engineering researches on soils, water and plant, such as, plant growth and development, soil fertility and management, integrated pest management, plant water requirement, etc. Facilities to conduct researches on terramechanics, ergonomics and tillage are also available. The engineering aspects of

agricultural production are dealt with through innovations and development of machines and equipment to enhance productivity and reduce human drudgery. These innovations are constructed at the ASE workshop.

Major laboratory equipment include a Spectro UV- VIS double PC double beam (scanning) flame photo meter; Digestion block; Trinocular Microscope MBL 2100; Stereo zoom microscope Model MSZ 5400; Porometer type AP4 Light meter WP4 Dewpoint Potential Meter; Mini-disk Infiltrometer Soil hydraulic conductivity; Tensio Meter; Soil bin carriage system; Sony CXC- 390 1/3" 3 CCD Camera; Spider 8 data logger; National Instrument DAQ; NI Vision Module; Dynamic strain amplifier; and an SC-900 Soil compaction meter.

The SERD Computer Lab III in the Agricultural and Food Engineering Building has various kinds of software packages for system analysis

and simulation, including DSSAT (Decision Support System for Agrotechnology Transfer), ArcView etc. A Computer-Aided Design (CAD) workstation is also available for training the design of agricultural equipment. There is a machine workshop with facilities for fabricating various types of laboratory and experimental apparatus and models. Consultation and fabrication of different types of transducers can be provided. About 20 high-end PCs connected to the campus-wide Ethernet and ATM network and a high quality laser printer, scanning and CD writing facilities are available for students' uses.

4.2.3 Faculty and Professional Staff

Full-time Faculty

GANESH P SHIVAKOTI, BS, MS, Udaipur Univ, India; PhD, Michigan State Univ, USA.

Professor (Agricultural Development and Policy

Analysis; Resource
Development; Farming
Systems; Natural Resources
Management)

PEEYUSH SONI; DEng
Associate Professor
(Sustainable Agricultural
Mechanization; Design &
Testing of Agricultural
Machinery; Precision
Agriculture; Analytical
Techniques & Decision Tools for
Agribusiness)

AVISHEK DATTA; B.Sc, M.Sc.
(B.C. State Agri. Univ., India);
PhD, University of New
England, Australia
Assistant Professor
(Agricultural Environments,
Crop Productivity
Management, Crop Eco-
physiology and Modeling,
Advanced Agricultural
Experimentation)

**Visiting, Adjunct
Faculty/Affiliated Faculty**

ALEXANDER KEEN; PhD
Adjunct Faculty (Agricultural
Soil Mechanics; Tillage and
Traction; Machine Design)

CHAIYAPHOL
KAEWPRAKAISAENGKUL; PhD
Adjunct Faculty (Agricultural
Machinery Design & Testing;
Instrumentation &
Measurement; Quality Control
& Assurance)

ANUCHIT CHAMSING; PhD
Adjunct Faculty (Agricultural
Machinery Design & Testing;
Agricultural Power &
Machinery Management;
Agricultural Systems
Engineering)

Juthasinee Thanyapraneedkul;
PhD
Adjunct Faculty (Humanities
and Sciences, Interdisciplinary
Research of Scientific
Phenomena and Information,

Advanced Information and
Computer Sciences Nara
Wormen's University, Japan)

Professional Staff

WATTANAPORN
MESKUNTAVON, DTechSc
Senior Laboratory Supervisor
(Crop Modeling; Farm
Management; Laboratory
Analyses of Soil and Plants)

**4.2.4 Doctoral
Students'
Dissertation**

The Adoption of Integrated
Pest Management Techniques
by Vegetable Growers in
Nakhon Ratchasima Province,
Thailand
By Ms. Sirada Timprasert,
Ph.D., Dissertation No. AS-15-
01
Supervisor: Dr. Avishek Datta

Sugarcane Production on
Contract Farming System in
Thailand"
By Ms. Sukunya Tukaew, Ph.D.,
Dissertation No. AS-15-02
Supervisor Prof. Ganesh P.
Shivakoti

**4.2.5 Masters
Students'
Theses**

Design and Development of a
Tractor Front-mounted, Single-
row Cassava Stem Chopper".
By Mr. Jatupan Promiem
Supervisor: Dr. Peeyush Soni

Modeling Soil-Rotavator Blade
Interaction Using Computation
fluid Dynamics"
By Mr. Worasit Sangjan
Supervisor: Dr. Peeyush Soni

Assessment of Climate Change
Impacts and Adaptation
Measures for Rice Production in
Yezin, Myanmar

By Wuit Yi Lwin
Dr. Avishek Datta

Effect of Oil Palm Fly Ash on Soil
Properties and Yield of Sweet
Corn in the Tropical Zone of
Thailand
By Mr. Joseph Dal Khan Suan
Supervisor: Dr. Avishek Datta

Evaluation of the Efficacy of
Selected Herbicides and Their
Residues in Sweet Corn
By Ms. Amornphan
Khoisungnoen
Supervisor: Dr.
Avishek Datta

Performance of System of Rice
Intensification (SRI) under
Different Weed Control
Methods, Water Management
and Seedling Numbers in
Winter-Spring Season in Thai
Nguyen Province, Vietnam
By Ms. Nguyen Ngoc Quynh
Supervisor: Dr. Avishek Datta

Comparative Study of the Root
Systems of Drought Tolerant
(RD-10) Thai Rice Varieties
under Different Cultivation
Methods and Moisture Levels"
By Mr. Hayat Ullah, M.Sc
Supervisor: Dr. Avishek Datta

4.3: SERD – AQUACULTURE AND AQUATIC RESOURCES MANAGEMENT (AARM)



4.3.1 Introduction

Aquaculture in AIT as a topic was started in 1976 and soon evolved into the present-day Aquaculture and Aquatic Resources Management (AARM) field of study. Since its inception AARM has maintained its prominent position in carrying out research on aquaculture and aquatic resources management globally. While the main emphasis of the research has been to address poverty, food and nutrition security, and creation of employment to the people especially living rural communities, of late AARM has gained research strength in more intensive aquaculture systems that can contribute to sustainable production and profits. AARM's current focus is mainly on generating new knowledge and developing more resource-efficient technologies. It also tests and transfers those innovative technologies through building the capacity of individuals and institutions around the globe.

4.3.2 New Research Focus

The research focus of AARM has been redefined to develop and promote cutting-edge technologies

in aquaculture stock improvement and health management for sustainable production with a view to better place itself in the increasingly competitive higher-education and research environment in Asia and beyond.

4.3.3 Laboratories & Other Research Facilities

Aquaculture Laboratory has been renovated with advanced facilities for research on genetics, disease diagnostics, and nutrition, apart from all general analyses including water quality testing, proximate analysis of feed and feed ingredients, soil classification and their problems identification, etc. Some of its major laboratory equipment includes PCR machine; Electrophoresis units; Gel imaging system; centrifuges; Distillation Units; Extraction Units; Incubators; UV/Vis Spectrophotometer; Soxtec, Fibertec and Kjeltex systems; muffle furnace, microscope with camera, etc.

Other facilities include a well-functioning hatchery, a wetlab, over 100 outdoor tanks and earthen ponds of various sizes, water recirculatory tank systems with biological and sand filters, biofloc

farming systems, aquaponic units run by electric or solar power all of which are used for applied research. AARM also has fish feed producing units where sinking and floating types of pellets are produced for research and also for demonstration purposes using locally available ingredients.

The AARM has its own training and outreach building where Aqua-Centre is housed. There is a library, which has a special collection of latest volumes of aquaculture or fisheries magazines, student theses, videos, CDs, and a classroom.

AARM researchers and students also have access to other laboratories within AIT such as laboratories of biotechnology, environmental, food processing, energy, GIS, and so on. They also have access to facilities of AIT partners such as government research stations, universities, private farms or hatcheries, feed companies, processing factories and fish markets within Thailand and also overseas, thanks to a world-wide network of the highly acclaimed AARM Alumni and also collaborative research partners.

4.3.4 Faculty & Research Staff

Emeritus Professor

PETER EDWARDS, BSc, University of Liverpool, UK; PhD, Univ. of Texas, USA.

(General aquaculture with emphasis on recycling organic wastes (human, animal, agro industrial); small-scale aquaculture; integrated farming; aquaculture for poverty alleviation; and systems approaches to education, research and development; curriculum development; project formulation, management and evaluation.

Full-time Faculty

AMARARATNE YAKUPITIYAGE, BSc, Univ of Kelaniya, Sri Lanka; MSc, AIT, Thailand; PhD, Univ of Stirling, Scotland.

Visiting Associate Professor (*Aquaculture, Bioenergetics, Fish Nutrition, Statistics, Database Systems Development*).

KRISHNA R. SALIN, B.F.Sc. and M.F.Sc. (Aquaculture), Kerala Agricultural University, Kochi, India; PhD (Mariculture), Central Institute of Fisheries Education, Mumbai, India; Postdoc, Queensland University of Technology, Brisbane, Australia.

Assistant Professor (*Applied genetics for improved aquatic stocks, Hatchery management and intensive grow-out techniques for fish and shrimp, Climate change in fisheries and aquaculture; GIS for integrated coastal resources management*).

RAM C. BHUJEL, BSc, Agriculture and Forestry University (AFU), Chitwan, Nepal; MSc and PhD, AIT, Thailand; Post-doc, University of Stirling, Scotland, UK

Research Associate Professor, (*Biostatistics and Research Design, Curriculum Development, Women in Aquaculture, Broodstock Nutrition, Management and Fry Production, Technology Transfer/ Extension*)

4.3.5 Doctoral Students' Dissertation

Fish Seed Health Management in Nepal and Potential Role of Probiotics.

BY. Mr. Dilip Kumar Jha

Supervisor: Dr Anil K. Anal / Dr Ram C. Bhujel

4.3.6 Masters Students' Theses and Research Studies

Fermented Chicken Feather as an Alternative Protein Source for Nile Tilapia (*Oreochromis niloticus*)

BY. Ms. Lumpan Poolsawat

Supervisor: Dr. A. Yakupitiyage

Determination of the Efficacy of Herbal Extracts on Immune Response and Disease Resistance in Striped Catfish (*Pangasius hypophthalmus*) Against *Aeromonas hydrophila* Infection

BY. Mr. Duc Nguyen Thanh

Supervisor: Dr. K. R. Salin

Effect of *Butea superba* extracts on sex reversal in Orange Spotted Grouper

(*Epinephelus coioides*)

BY. Mr. Pau Badia Grimalt

Supervisor: Dr. A. Yakupitiyage

The Effects of Marigold Flower as a Natural Dietary Source of Xanthophyll on the Flesh Color of Hybrid Catfish, *Clarias macrocephalus* x *Clarias gariepinus*

BY. Mr. Pornthep Odthom

Supervisor: Dr. A. Yakupitiyage

Seasonal Abundance of *Assiminea brevicula* (Red Berry Snail) in the Bang Pu and Samut Prakarn Estuarine Mangrove Forests in Relation to Sediment Characteristics

BY. Mr. Rattawat Panyachaipat

Supervisor: Dr. K. R. Salin

Effect of Anthropogenic Debris and

Pollutants on Selected Sessile Invertebrates on the Coasts of Thailand

BY. Ms. Gajahin G. N. Thushari

Supervisor: Dr. A. Yakupitiyage

4.4: SERD – ENERGY FIELD OF STUDY



4.4.1 Introduction

Energy related academic program at AIT was established in 1979. So far, over 1,200 students have graduated in the Energy studies. As of December 2014, about seventy students are enrolled in Energy Field of Study. About thirty percent of the current students are at doctoral level. Apart from teaching and student research, faculty at Energy FoS is involved in a number of research projects. Some of the current research focuses of Energy FoS are Energy, environment and climate change, Energy for sustainable development, Renewable Energy and Energy efficiency, Electric power system management, and Energy economics and planning.

Student admitted to Energy Field of Study can specialize in one of the four areas.

- Electric Power System Management (EPSM)
- Energy Technology (ET)
- Energy Policy Planning and Economics (EPPE)
- MBA in Energy Business (MBA-EB)*

- PhD in Energy Business*
**These two programs are offered jointly by Energy SERD and SOM*

Details regarding Energy field of study activities are available at www.serd.ait.ac.th/energy

4.4.2 Research Facilities and Laboratories

Energy Laboratory serves as a facility for conducting experimental studies for courses, carrying out students and sponsored research, and testing of energy equipments as well as providing hands-on training. Laboratory functions are focused mainly on solar thermal energy, photovoltaics, biomass energy, energy management, thermodynamics and heat transfer, and electrical measurement and analysis. The laboratory facilities include two indoor laboratories, an energy park and a meteorological station. The indoor laboratories are equipped with experiment setups, testing apparatus and

measuring equipment for thermal and electrical management studies, thermodynamics, fluid mechanics and heat transfer, and electrical power supply management. Energy Park covers 3980-m² outdoor research and demonstration facility equipped with photovoltaic systems, solar thermal (air and water) systems, biomass research and daylighting setups. The meteorological station records solar radiation and other meteorological data. Energy laboratory continues to carry out testing services such as fuel quality tests, gas composition tests, tests for heating value of fuels, solar thermal collector performance tests, solar water heater system performance tests and stove efficiency tests.

Among its major equipment include a Gas Analyzer; Campbell data logger; Ultrasonic flow-meter; Bomb calorimeter; and a Gas chromatography.

The SERD Computer Lab IV in the Energy Building has computer modeling software for energy planning and policy

analysis. Such as Electricity System Planning (WASP-III Plus, ENPEP, DECPAC), high-level modeling system for mathematical programming and optimization (GAMS / BARON, GAMS / PATH) ; computer software for electrical power system, such as, optimization and power system design & operation (PowerGen, PowerWorld); computer software for energy technology, such as, general equation-solving program (EES), transient system simulation program for solar, HVAC and renewable energy systems (TRNSYS), building energy simulation program (BESim).

4.4.3 Faculty and Research Staff

Full-time Faculty

SIVANAPPAN KUMAR, BE, Univ of Madras, India; MEng, AIT, Thailand; PhD, Inst Natl Polytechnique, Toulouse, France.

Professor [Renewable energy resources and technologies: Climate change and green house gas mitigation: energy and sustainable development]

WEERAKORN ONGSAKUL, BEng, Chulalongkorn Univ, Thailand; MS, PhD, Texas A&M Univ, USA.

Associate Professor (Artificial Intelligence Applications to Power Systems; Parallel Processing Applications; Power System Operation & Control; Power System Deregulation & Restructuring)

P. ABDUL SALAM, BSc.Eng (Hons.) University of Peradeniya, Sri Lanka; M.Eng. D.Eng. AIT
Assistant Professor (Bioenergy, Renewable energy; Energy

conservation and efficiency) ; Energy, environment and climate change issues; Heat recovery systems)

JAI GOVIND SINGH, Ph.D. in Electrical Engineering, Indian Institute of Technology, Kanpur, India

Assistant Professor (Power system planning; Operation and control; FACTS controllers; Re-structuring of Electric Industry, Demand side management; Grid integration of renewable energy resources; Power distribution systems; Smart Grid, Micro grid)

SHOBHAKAR DHAKAL, B.E., NIT, Surat; M.E., AIT, P.H.D., Tokyo.

Associate Professor Area of interest/specialization:

Modeling of Energy and carbon Emissions, Scenarios Policy Analyses

Visiting Faculty

AUMNAD PHDUNSILP, B.Ind Tech, Sirpatum University, M.Sc., Tekn.Lic in Energy Technology, PhD. in Industrial Engineering

Visiting Faculty [Energy Statistics and Energy Demand Forecasting]

BRAHMANAND MOHANTY, BSc, SAICE, India; MSc, AIT, Thailand; PhD, Institut National Polytechnique of Toulouse, France

Visiting Faculty [Cogeneration, Demand-side management, Energy auditing and conservation, Energy Efficiency policies; and Rational use of technology]

RAM M. SHRESTHA, B.E., MSU, Baroda; B.L., Tribhuvan; M.Eng., D.Eng, AIT

Visiting Faculty [Energy and Environmental Policy, Energy

and Electricity Economics, Energy-economic Modeling]

Research Staff

Ms. Neriza Cabahug, Research Assistant GNESD

Ms. Watcharathorn Chantinmathorn, Secretary (GMSARN Project)

Ms. Maria Kathrina Gratuito, Research Associate (RERIC)

Ms. Narisara Nadech, Project assistant (ISGT Asia 2015 Project)

Mr. Prajwal Upadhya, Research Associate (WEC-NEXUS/APN Project)

Ms. Ashish Shrestha, Research Associate, APN Project

Ms. Shamima Akhter, Program Officer, PMEEM, UNIDO

Mr. Aurosree Biswas, Research Associate, UNIDO Project

Mr. Arnab Chaudhuri, Research Assistant Energy FoS

Mr. Sheikh Aminur Rahman, Research Associate, RS Co-benefits and Renewable Energy UNIDO Phase II

Mr. Melinda Yasaranji Matara Achchige, Resear Associate, Development of a Decision Making Paper on Mitigation Options in Thailand's Waste Sector

4.4.5 Doctoral Students' Dissertation

Title: Cylindrical Heat Pipes for the Cooling Digital Light Processing Projector
By: Narong Pooyoo
Supervisor Prof. Sivanapaan Kumar

Title: An Assessment Tool for Low Carbon and Disaster Resilient Self-help Housing
By: Sasima Charoenkit
Supervisor: Prof. Sivanappan Kumar

Title: Effects of Quantity Based Renewable Energy Promotion Policies in Pakistan: Bottom-up and Top-down Modeling Analyses
By: Muhammad Khalid Farooq
Supervisor : Prof. Sivanappan Kumar
Co-chair: Prof. Ram M. Shrestha

Title: Optimal Power Flow Program using Particle Swarm Optimization
By Jirawadee Polpraseert
Chairperson: Dr. Weerakorn Ongsakul
Co-chair: Prof. Ram M. Shrestha

4.4.6 Masters Students' Theses and Research Studies

Energy and Environmental Implications of passenger Transport in Yangon, Myanmar
By: Mr. Ye Thu Win
Supervisor Dr. Shobhakar Dhakal

Title: Optional Day-ahead scheduling of Smart distribution network considering the effect of

demand response, electric vehicles and network reconfiguration

By: Mr. Anand M P
Supervisor-Dr. Weerakorn Ongsakul

Title: Development and evaluation of Densification System for Rice Straw
By: Mr. Sheikh Aminur Rahaman
Supervisor: Dr. P. Abdul Salam

Title: Experimental study on drying characteristics and Solar Drying of anchovy Fish
By: Miss Umama Zobayer
Supervisor Prof. Sivanappan Kumar

Title: Micro-hydro Electrification: A Case Study "in Myanmar"
By: Miss Sandar Myo
Supervisor: Dr. P. Abdul Salam

Title: Online voltage stability assessment using local phasor measurements
By: Mr. Mohammad Nazrul Islam
Supervisor Dr. Weerakorn Ongsakul

Title: A study on generation and usages of compressed biogas from Napier grass
By: Mr. Sittichoke Meekae
Supervisor Dr. P. Abdul Salam

Title: Energy use and CO₂ emission from household appliances: A case of Yangon City, Myanmar
By: Mr. Nyi Linn Htet
Supervisor: Dr. Shobhakar Dhakal

Title: Cost Effective Low Energy Housing in the Tropics: Lessons for Sri Lanka
By: Mr. Matara Achchige

Melinda Yasaranji
Supervisor Dr. P. Abdul Salam

Title: Impact of subsidy on household Biogas development in Nepal
By Mr. Bikash Adhikari
Supervisor: Dr. Shobhakar Dhakal

Title: Energy Nexus of Household water use in Melbourne: Characterization, Quantification and options for improvements
By: Mr. Ineej Manandhar
Supervisor Dr. Shobhakar Dhakal

Title: A study on indoor air Temperature with green roof and cool roofs
By: Mr. Ojash Man Singh
Supervisor Prof. Sivanappan Kumar

Title: A study of horizontal light pipe system for interior office buildings
By: Mr. Hang Za Dal
Supervisor Prof. Sivanappan Kumar

Title: Assessment of selected Biomass Energy Potential and Technologies in Afghanistan
By: Mr. Abdul Ghani Noori
Supervisor Dr. P. Abdul Salam

Title: Energy consumption and CO₂ emission of hotel building in Thailand
By: Mr. Natthawut Weerarak
Supervisor: Dr. Shobhakar Dhakal

Title: Synthesis and characterization of chitosan-capped Zinc Sulfide Quantum dots
By: Mr. Jayaram Nirmal

Supervisor Prof. Sivanappan
Kumar

Title: Scheffler Community
Type Solar cooker: Design and
Analysis By: Mrs. Nang
San San Aye Supervisor
:Prof. Sivanappan Kumar

Title: Power quality
improvement of different load
models in Micro-grid system
By: Mr. Amam Hossain
Bagdadee

Supervisor Dr. Weerakorn
Ongsakul

Title: Energy Consumption
from Transport sector in
Kandahar City By: Mr.
Wais Supervisor
Dr. Shobhakar Dhakal

MBA in Energy Business

Title: Stakeholders'
perception on plug-in electric
vehicle development in
Thailand: a SWOT-ANP
analysis
By: Mr. Chayaphol Vichitpant
Supervisor Dr. Shobhakar
Dhakal

Title: SWOT – AHP Analysis of
a Planned Liberalized Oil
Market in Nepal
By: Mr. Sunit Rizal
Supervisor Dr. Shobhakar
Dhakal

Title: Stakeholders'
perspective on the first car
subsidy policy in Thailand
By: Mr. Chalermchai
Aungaphinant
Supervisor Dr. Shobhakar
Dhakal

4.5: SERD – ENVIRONMENTAL ENGINEERING AND MANAGEMENT FIELD OF STUDY



4.5.1 Introduction

Environmental Engineering at AIT began in 1964 with the need for sanitary engineering to address the problems of providing adequate water supplies and sanitation facilities. This pioneering environmental engineering program has grown into a range of fields needed to tackle the environmental issues facing Asia today.

Environmental Engineering and Management Field of Study is part of the School of Environment, Resources and Development. The overall program looks for solutions to environmental problems, water supply and sanitation, wastewater treatment and disposal systems, air pollution, solid and hazardous wastes, waste minimization, and life cycle assessment, environmental impact assessment and management. The two major focal areas are Environmental Technology and Management, and Water and Wastewater Engineering.

4.5.2 Research Facilities and Laboratories

The Environmental Engineering and Management (EEM) Laboratory is housed with facilities to handle a wide range of knowledge and skills in problem solving for industrial needs and analytical works for physical, chemical, microbiological, and environmental parameters such as water and wastewater quality, air pollutants and noise level, and solid waste. For teaching, training and research purposes, the EEM laboratory is categorized into three sub-laboratories namely, research, ambient, and environmental research station. For lab and pilot scale testing purposes, the ambient laboratory has furnished with facility to conduct experiments for treating sludge, sewage, air toxics and industrial wastes. It is also housed with advanced water and wastewater treatment units such different membrane bioreactors, and high rate anaerobic treatment processes with methane gas recovery. The Environmental Research Station consists of

pilot scale aerobic and anaerobic biological wastewater treatment units, constructed wetlands, waste stabilization ponds, a lysimeters for solid waste treatment, a hazardous wastewater treatment plant and ambient air monitoring station.

Among its major equipment include Gas Chromatograph; High Performance Liquid Chromatograph; Atomic Absorption Spectrometer; Total Organic Carbon Analyzer; Ion Chromatograph, Induced Couple Plasma, UV Spectrophotometer; Supercritical Fluid Extractor; Microwave Digestion System; Primus Thermal Cyclers; Universal Mutation Detection System; Microscope; Microbalance; Microcentrifuge.

4.5.3 Faculty and Research Staff

Full-time Faculty

AJIT P ANNACHHATRE, BTech, IIT Kanpur, India; PhD, IIT Bombay, India.

Professor (*Anaerobic Wastewater Treatment; Biofilm Processes; Environmental Biotechnology; Environmental Impact Assessment; Mathematical Modeling*)

CHETTIYAPPAN VISVANATHAN, BTech, IIT, Madras, India; MEng, AIT, Thailand; PhD, Institut National Polytechnique, Toulouse, France.

Professor and Dean, School of Environment, Resources and Development (*Cleaner Production; Industrial Environment Management; Membrane Technology for Water and Wastewater Treatment; Solid Waste Management*)

NGUYEN THI KIM OANH, Dipl Eng, Odessa Hydrometeorology Institute, Ukraine; MEng, DEng, AIT, Thailand.

Professor (*Air Pollution Engineering and Management; Transboundary Pollution; Air Pollution and Climate Interaction; Environmental Monitoring and Modelling; Exposure Assessment; Integrated Industrial Environment Management; Meteorology and Climate Science*)

OLEG V SHIPIN, PhD, Inst of Biochemistry and Physiology of Microorganisms, Moscow, Russia.

Associate Professor (*Ecological Engineering for Climate Change Adaptation; Environmental Impact Assessment; Microbial Biotechnology and Nanotechnology; Natural Systems (ponds and wetlands) as Wastewater Treatment Systems; Microbial Aspects of Environmental Engineering;*

Health and Ecological Risk assessment)

THAMMARAT KOOTATEP, BEng, Chiangmai Univ, Thailand; MEng, DEng, AIT, Thailand.

Associate Professor (*Decentralized Waste and Wastewater Treatment Systems; Eco-engineering Technology for Waste and Wastewater Treatment and Management; Environmental Health and Sanitation*)

Visiting, Adjunct and Affiliated Faculty

ANJU SINGH, BSc, MSc, Nagpur Univ; PhD, IIT Bombay.

Visiting Associate Professor, Indian Secondment (*Waste Management, Environmental Management, Cleaner Production, Sustainable Business Development*)

ATITAYA PANUVATVANICH, BEng, Rangsit Univ, Thailand; MEng, D.Eng, AIT, Thailand.

Affiliated Faculty (*Environmental Toxicology, Technology and Management*)

CHONGRAK POLPRASERT, BEng, Chulalongkorn Univ, Thailand; MEng, AIT, Thailand; PhD, Univ of Washington, USA.

Adjunct Faculty (*Hazardous Waste Engineering; Resources Recovery; Sanitation*)

ELDON R. RENE, BEng, Annamalai Univ, India; MTech, NIT Karnataka, India; PhD, IIT-Madras, India.

Adjunct Faculty (*Resource Recovery; Chemical Engineering; Pollution Prevention and Control*

Technologies; Environmental Biotechnology)

DIDIN AGUSTIAN PERMADI, BEng, ITB, Indonesia; MEng, DEng, AIT, Thailand.

Affiliated Faculty (*Emission Inventory of Primary Aerosols and Ozone Precursors; Photochemical Smog 3D Modelling for Urban and Regional Scale; Environmental Impact Assessment (EIA) Study: Document Arrangement and Environmental Monitoring Plan*)

KARE HELGE KARSTENSEN, BS, MS, Univ of Oslo; MBA, Heriott Watt Univ, UK; MLaw, Univ of Oslo; DrSc, Norwegian Univ of Science and Technology, Trondheim, Norway.

Visiting Faculty (*Sustainable Management of Industrial and Hazardous Wastes; Management of Hazardous Chemicals, POPs and Obsolete Pesticides; Sustainable Production of Cement and Co-Processing of Alternative Fuel and Raw Materials and Hazardous Wastes; Control and Minimization of Unintentionally Produced POPs (dioxins, furans, PCBs and HCB) and Application of Best Available Technologies & Best Environmental Practices (BAT/BEP)*)

KIMBERLY NEIL IRVINE, BSc, Toronto Univ, Canada; MSc, PhD, McMaster Univ, Canada.

Visiting Faculty (*Hydrology and Water Resource Management, with specific emphasis on evaluating water quality in urban-impacted water bodies*)
NGUYEN CONG THANH, BSc, Laval, Canada; DSc, Laval Canada.

Adjunct Faculty
(*Environmental Technology and Management*)

PIET LENS, BEng, MEng and PhD, Univ Gent, Belgium.

Visiting Professor
(*Environmental Biotechnology; Biofilms; Sulfur Biotechnology; Metal Speciation; Bioavailability and Removal; Natural Treatment Systems; Anaerobic Wastewater and Waste Gas Treatment for Resource Recovery and Reuse*)

SHANG GYOO SHIM, B S, Seoul National; M S, KAIST; Ph D, Iowa.

Visiting Professor (*Air Pollution Engineering and Management, Air Pollution and Global Change*)

TRAN THI VIET NGA, BEng, Hanoi Univ. of Civil Eng, Vietnam; MEng, AIT, Thailand; PhD, Tokyo Univ, Japan.

Visiting Faculty (*Water and Wastewater Engineering; Water Chemistry and Microbiology; Integrated Water Resources Management*)

Research Staff

ARAYA WICHEANSAN, BSc
Research Assistant
(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

ASHREYA K. SHRESTHA, MSc
Research Associate
(Manages research projects, prepares technical reports and presentations)

ATITAYA PANUVATVANICH, DEng

Senior Research Specialist

(Manages research projects; assists in project coordination, prepares project reports, prepares project budgets and manages project finances; assist team leader in training activities)

AURAIWAN KOKAMLUNG, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

CHAIYAPORN

IMSAPSANGWORN, MSc

Laboratory Supervisor

(Supervises instrumentation and data acquisition, calibration and maintenance of analytical instruments, assistant to senior laboratory supervisor for such as teaching, lab management)

DANG ANH NGUYET, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

DIDIN AGUSTIAN PERMADI, DEng

Research Specialist

(Manages research projects; assists in project coordination, prepares project reports, prepares project budgets and manages project finances; assist team leader in training activities)

DO THI THANH CANH, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

HUAYNA P.V. MORALES, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

HUSSNAIN MUKHTAR, MEng

Research Associate

(Manages research projects, prepares technical reports and presentations)

HUYNH HAI VAN, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

ISHA BASYAL, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

ISHA MANANDHAR, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

JARUWAT

WATANATANACHART, MEng

Research Associate

(Manages research projects, prepares technical reports and presentations)

JINTANAN WATCHARASING, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

KAMONTIP KONGSANIT, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

KANOKWAN SASWATTECHA, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

KANOKWAN WANGCHINA, MEng

Research Associate

(Manages research projects, prepares technical reports and presentations)

KRAILAK FAKKAEW, MEng

Research Associate

(Manages research projects, prepares technical reports and presentations)

KRISHNA RAM YENDYO, MEng

Research Associate

(Manages research projects, prepares technical reports and presentations)

LAI NGUYEN HUY, MEng

Research Associate

(Manages research projects, prepares technical reports and presentations)

MOHAMMAD DALOWER HOSSAIN, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

MY LE DINH, MEng

Research Associate

(Manages research projects, prepares technical reports and presentations)

NARISSARA RUPSAYAM, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

NATTAWUT JITTRA, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

NGUYEN PHAM THI THAI HA, BEng

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

NIMITR BUNRUANG, BTech (Mech.)

Senior Technician

(Responsible for the repair and maintenance of related machines, assists students in laboratory experimental work and experimental set-up, carry out routine maintenance and repair of laboratory equipment and facilities)

NIPAPORN NAKNUAL, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

NITASHA ARORA, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

NUTNICHIA TAJAI, MEng

Research Associate

(Manages research projects, prepares technical reports and presentations)

ORATHAI KLUBBARNKOH, MSc

Senior Technician

(Chemistry and environmental analysis for environmental samples as well as prepare for chemical and glassware for laboratory courses and research projects)

PANNADA

KHONGSRICHAROEN, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

PANNITA SUTTISAWAD, MEng

Research Associate

(Manages research projects, prepares technical reports and presentations)

PANTAPORN SITPLANGKON, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

PANUPONG BOONYANUN, BTech (Mech.)

Senior Technician

(Responsible for the repair and maintenance of related machines, assists students in laboratory experimental work and experimental set-up, carry out routine maintenance and repair of laboratory equipment and facilities)

PAUL JACOB, MEng

Research Associate

(Manages research projects, prepares technical reports and presentations)

PHAM MINH DUYEN, MEng

Research Associate

(Manages research projects, prepares technical reports and presentations)

PHARAMATE RONGKASUTIROJ, BEng

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

PIMCHANOK PRAPASRIKET, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

PRATTANA SUKSIRI, BEng

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

RATTANASRI KHAJEEDA, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

SAHARAT KACHAWUT, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

SAKKARIN MEEPHON, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

SALAYA PHUNSIRI, MSc

Senior Laboratory Supervisor

(Administrative for Environmental Engineering Laboratory as well as supervise for experimental and research projects on water, wastewater, air pollution, and solid wastes analysis)

SANIRAT SANGMUANG, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

SAROJ KUMAR CHAPAGAIN, PhD

Senior Research Engineer

(Manages research projects, assists in project coordination, prepares project reports, assist team leader in training activities)

SHRISTI MASKAY, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

SITICHOK TEPIN, BEng

Research Assistant

(Laboratory operating and sample analysis, prepares

technical reports and presentations, collaborating with research partners)

SITIPONG POPINIT, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

SITTIKORN KAMNGAM, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

SOMPOKE KINGKAEW, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

SRIJANA THAPA, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

SU SU MYAT, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

SUPUSANEE DULYAKASEM, MEng

Senior Research Associate

(Manages research projects, prepares technical reports and presentations)

SURANGKANA BOOTJOM, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

SUTHIRAT KITTIPONGVISES, PhD

Senior Research Engineer

(Manages research projects, assists in project coordination, prepares project reports, assist team leader in training activities)

SUTINEE JAIRUANG, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

SUWIDA SRIKONGPAN, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

T.D.W. RATHNAYAKE, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

TATCHAI PUSSAYANAVIN, Deng

Senior Research Engineer

(Manages research projects, assists in project coordination, prepares project reports, assist team leader in training activities)

TAWANCHAI SETJANTUEK, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

TEERACHAI KANGKAMANO, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

THANARAT THEPPHARAK, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

TIPPAWAN SINGHOPON, BEng

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

TREESUKON DUMKHUM, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

TRUONG THANH HUY, BEng

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

VO HOANG NHAT PHONG, MEng

Research Associate

(Manages research projects, prepares technical reports and presentations)

WATTANAPONG SANGCHUN, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares technical reports and presentations, collaborating with research partners)

WIPADA WANREAK, MSc

Research Associate

(Manages research projects, prepares technical reports and presentations)

WITCHUDA TASSANASUWAN, BSc

Research Assistant

(Laboratory operating and sample analysis, prepares

technical reports and presentations, collaborating with research partners)

4.5.4 Doctoral Students' Dissertation

An Integrated Kinetic Model for Design and Operation of Solar-Septic Tanks

By: Mr. Tatchai Pussayanavin (Thailand)

Supervisor: Dr. Thammarat Koottatep

Biodrying and Densification of Cassava Starch Industrial Waste

By: Mr. Ranjit Sen (Bangladesh)

Supervisor: Prof. Ajit P. Annachhatre

Effect of PVA-gel on Performance Improvement of a Two Stage Thermophilic Anaerobic Membrane Bioreactor

By: Mr. Supawat Chaikasem (Thailand)

Supervisor: Prof. Chettiyappan Visvanathan

Immunotoxicity of Pesticides in Orchid Farmers and in Experimental Animals

By: Miss Soraya Aroonvilairat (Thailand)

Supervisor: Prof. Kavi Ratanabanangkoon

Reactive Media in Permeable Reactive Barrier for Removal of Metal Ions from Acid Mine Drainage

By: Miss Varinporn Asokbunyarat (Thailand)

Supervisor: Prof. Ajit P. Annachhatre

4.5.5 Master Students' Theses and Research Studies

Anaerobic Co-Digestion of Cassava Pulp with Pig Manure as Co-Substrate

By Mr. Basnayake

Mudiyanselage Nishantha

Basnayake (Sri Lanka)

Supervisor - Prof. Ajit P.

Annachhatre

Anaerobic Digestion of Cassava Pulp with Activated Sludge as Co-Substrate

By: Saira Batool (Pakistan)

Supervisor: Prof. Ajit P.

Annachhatre

Application of Nano Zero Valent Iron (NZVI) for Pathogenic Inactivation and Odor Control of Septic Tank Effluent

By: Ms. Witchuda

Tassanasuwan (Thailand)

Supervisor: Dr. Thammarat

Koottatep

Assessment of Impacts by Floating Gardens Biotechnology and Their Sustainable Remediation in Inle Lake, Prominent Wetland of Central Myanmar

By: Ms. Khin Seint Seint Aye (Myanmar)

Supervisor: Dr. Oleg Shipin

Assessment of the Exposure of Commuters in Bangkok to Traffic Related Toxic Air Pollutants

By: Mr. Arthit Phosri (Thailand)

Supervisor: Prof. Nguyen Thi

Kim Oanh

Assessment of the Impact of Using Rice Straw Derived Cooking Fuel on the Emission of Air Pollution and Climate Forcers

By: Ms. Nguyen Nhat Huynh Mai (Vietnam)

Supervisor: Prof. Nguyen Thi

Kim Oanh

Assessment of the Relationship between Satellite

Aerosol Optical Depth and Ground Monitored Particulate Pollution in Beijing, China

By: Ms. Wenbo Li (PR. China)

Supervisor: Prof. Nguyen Thi Kim Oanh

Assessment of Water Quality in the AIT Campus Peripheral Canal System

By: Ms. Masoda Khairzada (Afghanistan)

Supervisor: Dr. Oleg Shipin

Carbon Footprint of Eucalyptus-Rice Agroforestry in Thailand by Life Cycle Assessment

By: Ms. Jayshree Rajbhandary (Nepal)

Supervisor: Dr. Oleg Shipin

Characterization of Roadside Air Pollution Levels in Kathmandu Valley

By: Mr. Bishal Bhari (Nepal)

Supervisor: Prof. Nguyen Thi Kim Oanh

Comparative Performance Analysis of Photochemical Smog Modeling Systems for Ozone Simulation in Bangkok Metropolitan Region

By: Mr. Pongsakorn Chaichai (Thailand)

Supervisor: Prof. Nguyen Thi Kim Oanh

Determination of Hydrogen Peroxide and Peroxidase Enzyme in Scirpus validus Plants in Constructed Wetland Feeding with Wastewater Containing Acetaminophen

By: Mr. Vo Hoang Nhat Phong (Vietnam)

Supervisor: Dr. Thammarat Koottatep

Determination of the Hydraulic Characteristic in Cess-to-Fit System Treating Blackwater

By: Mr. Suradanai Augsortnung (Thailand)

Supervisor: Dr. Thammarat Koottatep

Development of Emission Inventory for Vehicle Fleet in Yangon Metropolitan Region for the Assessment of Air Quality and Climate Co-benefit of Faster Technology Intrusion

By: Ms. Thiri Tin Htut (Myanmar)

Supervisor: Prof. Nguyen Thi Kim Oanh

Development of Woven Fiber Microfiltration Membrane System for Water and Wastewater Treatment

By: Ms. Thidalath Vongsayalath (Lao PDR.)

Supervisor: Prof. Chettiyappan Visvanathan

Ecological Engineering for Sustainable AIT Eco-Campus: Diversification of Wetlands Eco-Services via Water Quality-Biodiversity Nexus

By: Mr. Hussnain Mukhtar (Pakistan)

Supervisor: Dr. Oleg Shipin

Effect of Biomass Addition and Fermentation on the Energy Content of Hydrochar Produced by Hydrothermal Carbonization (HTC) with Faecal Sludge

By: Mrs. Sangeetha Vani Pradeep (India)

Supervisor: Dr. Thammarat Koottatep

Effects of Catalysts on Energy Content in Produced Hydrochar by Hydrothermal Carbonization of Faecal Sludge

By: Ms. Nutnicha Tajai (Thailand)

Supervisor: Dr. Thammarat Koottatep

Emission Inventory of Air Pollution from Vehicle Fleet in Phnom Penh, Cambodia

By: Mr. Visal Yoeung (Cambodia)

Supervisor: Prof. Nguyen Thi Kim Oanh

Evaluation of Cess-to-Fit Model for Enhancing the Treatment Capacity of Traditional Cesspit Systems

By: Mr. Krishna Ram Yendyo (Nepal)

Supervisor: Dr. Thammarat Koottatep

Evaluation of Performance of Photochemical Smog Modeling System for Air Quality Management in Vietnam

By: Mr. Lai Nguyen Huy (Vietnam)

Supervisor: Prof. Nguyen Thi Kim Oanh

Impact of Hardwood Generation on Rice Production with Regard to Water Footprint by LCA in Eucalyptus-Rice Agroforestry Project in Thailand

By: Ms. Hla Hla Htwe (Myanmar)

Supervisor: Dr. Oleg Shipin

Life Cycle Assessment of Municipal Solid Waste Management Systems in Kandahar City, Afghanistan

By: Mr. Ali Mohammad Rahmani (Afghanistan)

Supervisor: Prof. Ajit P. Annachhatre

Membrane Distillation Application in Purification and Process Intensification

By: Ms. Dinh Le My (Vietnam)

Supervisor: Prof. C. Visvanathan

Optimization of Bedding Material and Drainage Layers of Tiger (Vermi-Composting) Toilets

By: Ms. Renu Adhikari (Nepal)

Supervisor: Dr. Thammarat Koottatep

Optimization of Electrochemical Disinfection Technology for Treatment of Liquid Effluent from Onsite Sanitation Systems

By: Ms. Araya Wicheansan (Thailand)
Supervisor: Dr. Thammarat Koottatep

Optimizing Membrane Distillation Process for Triethylene Glycol Separation from Gas Separation Plant Waste Stream

By: Mr. Pham Minh Duyen (Vietnam)
Supervisor: Prof. C. Visvanathan

Potential of Wetland Ecological Engineering for Surface Water and Landscape Improvement through AIT Eco-Campus Development

By: Mr. Joel Hindowa Kamanda (Sierra Leone)
Supervisor: Dr. Oleg Shipin

Removal of Heavy Metals from Acid Mine Drainage Using Mixed Organic and Inorganic Media in Permeable Reactive Barriers

By: Ms. Suchanya Wongrod (Thailand)
Supervisor: Prof. Ajit P. Annachhatre

Socio-economic and Environmental Impacts of Eucalyptus-Rice Agroforestry Projects in Thailand

By: Ms. Kanlayani Khongniam (Thailand)
Supervisor: Dr. Oleg Shipin

Solid Waste Management Strategies to Achieve Sustainable Greening AIT Campus

By: Ms. Phyo Thet Khaing (Myanmar)
Supervisor: Prof. C. Visvanathan

Strategies for Decentralized Wastewater Management for Gas Stations Using Membrane Bioreactor

By: Ms. Preeyamat Ma-on (Thailand)
Supervisor: Prof. C. Visvanathan

Sustainable and Efficient Water Use Strategies for Greening AIT Campus

By: Mr. Aashik Muhammed Ahamedlebbe Mohamed Nizar (Sri Lanka)
Supervisor: Prof. C. Visvanathan

Treatment of Gypsiferous Soil by Biological Sulphate Reduction Process

By: Mr. Naqibullah Karger (Afghanistan)
Supervisor: Prof. Ajit P. Annachhatre

UV Disinfection of E.coli and Ascaris lumbricoides Ova in Liquid Effluent from On-site Sanitation Systems

By: Ms. Kanokwan Wangchina (Thailand)
Supervisor: Dr. Thammarat Koottatep

Alternative Method for Drilling Mud Waste at Petroleum Block 15-1, CLIOC

By: Mr. Pham Ngoc Hien (Vietnam)
Supervisor: Prof. Ajit P. Annachhatre

Assessment and Recommendations for Municipal Solid Waste Management in Peri-urban Area of Hanoi City

By: Mr. Bui Duc Hieu (Vietnam)
Supervisor: Prof. Ajit P. Annachhatre

Environmental Pollution in Inle Lake Catchment, Myanmar: Implications for Human Well-Being and Biodiversity

By: Ms. Yu Wai Yan Thein Tan (Myanmar)
Supervisor: Dr. Oleg Shipin

Preliminary Application of "Industrial Symbiosis" Approach to Management of Phosphorous Slag in Tang Loong Industrial Zone, Lao Cai, Vietnam

By: Mr. Nghiem Viet Hai (Vietnam)
Supervisor: Prof. Nguyen Thi Kim Oanh

Pros and Cons of the Green Roof and Wall Approach in Vietnam

By: Ms. Do Ngoc Diep (Vietnam)
Supervisor: Dr. Oleg Shipin

4.6: SERD – FOOD ENGINEERING AND BIOPROCESS TECHNOLOGY FIELD OF STUDY



4.6.1 Introduction

Food Engineering and Bioprocess Technology (FEBT) focuses on the principles, applications and cross-cutting issues of food and biological materials processing; design of post-harvest and food processing equipments; developments in biotechnology and its applications in agriculture, livestock and food; functional foods; exploitation of microorganisms and herbs for industrial applications; handling and utilization of wastes for value-addition; and food supply chain (Farm-to-Fork) safety".

4.6.2 Faculty and Research Staff

Full-time Faculty

ATHAPOL NOOMHORM, BSc, Kasetsart Univ, Thailand; MEng, Lamar Univ, Texas; PhD, Louisiana State Univ, USA.

Visiting Professor (*Agro-Industrial Development, Food Process Technology, Post Harvest Technology, Supply Chain*)

ANIL KUMAR ANAL, DVM., University of Agriculture, Faisalabad, Pakistan; MSc. and PhD., AIT, Thailand

Associate Professor (Food Engineering & Bioprocess Technology Field of Study) (*Food and Pharmaceutical Biotechnology, Dairy and Meat Process Technology, Food Colloids and Biopolymers, Functional Foods, Risk Analysis and Safety in Food Supply Chain and Processing; Bionanoencapsulation; Nanotechnology Applications in Food Industries; Bionanotechnology*)

FABS Cluster Coordinator (Food, Agriculture & Biosystems Cluster)

LOC THAI NGUYEN, B.Sc., Food Technology, Can Tho University, Vietnam, M.Sc., Food Engineering and Bioprocess Technology, Asian Institute of Technology, Thailand, Ph.D., Food Science and Technology, The Ohio State University, USA.

Assistant Professor (*Non-thermal food processing technologies, Mathematical simulation in food engineering, Transport phenomena of food processes, Integrated electrochemistry-based biosensors,*

Novel sensing platforms based on nanomaterials)

Research & Lab. Supervisor

IMRAN AHMAD, B.Tech. (Hons.)-Agric. (Food Science and Technology) NWFP Agric. University Peshawar, Pakistan; M.Sc (Hons.)- Agric. (Food Science and Technology) NWFP Agric. University Peshawar, Pakistan; M.Sc. Postharvest and Food Process Engineering, AIT Thailand; Ph.D. Logistics and Supply Chain Management (Agri-Food), SIIT, Thammasat University, Thailand (Ongoing)

MELADA SUPAKIJNORASET, B.Sc. (First class honours) in Biotechnology, King Mongkut's Institute of Technolog Ladkrabang, Thailand; M.Eng. in Food Engineering and Bioprocess Technology, AIT, Thailand.

Research Staff

VISHNU PRASAD PANDEY; B.Eng; Tribhuvan University, Nepal; M.Eng. AIT, Thailand; PhD, University of Yamanashi, Japan

Research Fellow; FEBT, AIT

KISHOREE KRISHNA KUMAREE, B.Tech, Amity University, India; M.Eng, AIT, Thailand

Research Associate, FEBT,
SERD, AIT, Thailand

DAMODAR DHAKAL, B.Tech
Food and Dairy, Kathmandu,
Nepal; M.Sc. Food
Engineering and Bioprocess
Technology, AIT, Thailand

Research Associate FEBT,
SERD, AIT, Thailand

4.6.3 Doctoral Students' Dissertation

Development of Rapid Detection
System for Monitoring Thai Jasmine
Rice (KDML 105 Variety) Supply Chain
By Miss Atcharaporn Khoomtong
Supervisor Prof. Athapol Noomhorm

4.6.4 Masters Students' Theses and Research Studies

Enzymatic Hydrolysis of Defatted
Peanut Cake and Its Effects on
Functional Properties and
Antioxidant Capacity of Peptides
By Miss May Kyar Nyo
Supervisor Dr. Loc T. Nguyen

Developing of Instant Functional
Drinking Yoghurt Power from Mixed
Germinated Cereal Grains
By Mr. Sim Chheko
Supervisor Prof. Athapol
Noomhorm

Bioprocessing of Rice Bran to Isolate
Peptide for its Value Addition
By Miss Kittima Triratanasirichai
Supervisor Dr. Anil K. Anal

Isolation and Identification and
Genetic Profiling of Starter Culture of
"Juju Dhau" (Traditional Nepali
Yogurt) By Mr. Sajal
Man Shrestha Supervisor Dr.
Anil K. Anal

Characterization of Bioactive from
Germinated Pigmented Rice by
Ultrasound Assisted Extraction By
Mr. Yogi Purna Rahardjo
Supervisor Dr. Anil K. Anal

Characterization and Encapsulation
of Spirulina in Alginate – Soy Protein
Isolate and Alginate – Hylon VII Based
Nails in Application of Functional
Bakery Products
By Miss May Pwint Phyu
Supervisor Dr. Anil K. Anal

Extraction and In Vitro Evaluation of
Antidiabetic Efficacy of Bioactive
Extracts from Okra (*Abelmoschus
esculentus*) and their Encapsulation
for Controlled Gastrointestinal
Passage By Miss
Manisha Anand Supervisor
Dr. Anil K. Anal

The effects of Carriers and Metal
Complexes on Thermal and Storage
Stability of Encapsulated Red
Cabbage Extract
By Mr. Jakaphan Ratanapoompinyo
Supervisor Dr. Loc T. Nguyen

Extraction and characterization of
collagen to develop bio-polymeric
nanofibre from Chicken feet
By Mr. Damadar Dhakal
Supervisor Dr. Anil K. Anal

Isolation and Identification of
Caffeine Degrading from Chiangmai's
Coffee Plantation Area in Thailand
By Miss Yi Yi Win
Supervisor Dr. Anil K. Anal

Effect of Moderate Electric Field
(MEF) Treatments on Antioxidant
Capacity and Total Phenolic
Compounds of Peppermint (*Mentha
piperita*) Extract
By Mr Thura Kyaw
Supervisor Dr. Loc T. Nguyen

Antibiogram Analysis of Isolated
E.coli and *Salmonella* from Beef Meat
By Mr. Muhammad Saleem Kalhoro
Supervisor Dr. Loc T. Nguyen

4.7: SERD – GENDER AND DEVELOPMENT STUDIES



4.7.1 Introduction

Gender and Development Studies Field of Study (GDS) is known for its strong field-based program to train practitioners and researchers for the region. GDS courses have a clear focus on application and field

We aim to develop gender specialists, building on a pool of hundreds of alumni since 1997 who are active in Asia and beyond. GDS is one of the few programs that offer application-oriented graduate studies courses on gender and development.

GDS implements a number of research and outreach projects supported by international and regional organizations, which also offer students opportunities for involvement.

4.7.2 Faculty and Research Staff

Full-time Faculty

KYOKO KUSAKABE, BA, Sophia University, Tokyo, Japan; MSc, PhD, AIT, Thailand.

Associate Professor (Gender, cross-border labor migration and mobility, women in informal economy, gender issues in borderlands, gender issues in aquaculture and fisheries.)

PHILIPPE DONEYS, Honours B.A., University of Toronto, Canada; MA, University of London, UK; PhD, Institut d'Etudes Politiques de Paris, France.

Assistant Professor (Empowerment, Gender and Politics, Gender and Migration, Gender and technologies, Masculinity, Gender-based Violence).

JOYEE S. CHATTERJEE, BA, Delhi University; M.A (Tata Institute of Social Sciences, India); M.A (University of Southern California, USA) and Ph.D. (Annenberg School for Communication and Journalism, University of Southern California, Los Angeles, USA).

Assistant Professor (Gender and Development Communication; Global Health Communication, Gender, Culture and Social Issues in South Asia.

Visiting/Adjunct/Affiliated Faculty

JULAIKHA BENTE HOSSAIN, Bsc. (Honours), University of Dhaka, Bangladesh; MSc in University of Dhaka, Bangladesh; MSc. and PhD in Asian Institute of Technology, Thailand

Senior Research Specialist and Affiliated Faculty (Policies and programs for gender equality and women's empowerment; gender, employment and organization; gender and ICT for development; gender and human rights; gender-based violence, community and gender responsive development planning; gender mainstreaming; gender and natural resource management)

REINA ICHII, B.A Economics, Tokyo Women's Christian University, Tokyo, Japan; M.A International Studies, Sophia University Tokyo Japan; Ph.D Economics, University of South Australia, Adelaide, Australia, Ph.D preliminary Studies, Economics Hitotsubashi, University, Tokyo, Japan,

Visiting Faculty (Selected Topic: Gender and Development Economics)

Research Staff

BERNADETTE RESURRECCION,

Visiting Senior Research Fellow, Adapting to Climate Change in Peri-urban Southeast Asia

DR DONNA L. DOANE

Senior Researcher, AusAid funded project on women's economic empowerment and social protection in the Greater Mekong Sub-region

MANRAJ GREWAL

Managing Editor, of Gender, Technology and Development

JHOZINE DAMASO

Program Officer, Adapting to Climate change in Peri-Urban Southeast Asia

CHRISTINE WIDJAYA

Program Officer, AusAid Project

PARICHART KHAMMEERAK

Research Assistant, NTNU Road/Toyota/NTNU China/Wotro Project

Administrative Staff

Ms Agnes Pardilla, Program Officer

4.7.3 Doctoral Students' Dissertation

Internally Displaced Karen Women Coping with Displacement in Myanmar
By Ms Zin Mar Oo
Supervisor Dr Kyoko Kusakabe

Road Development and Changes in Mobility and Gender Relations: A Case Study of Lao Communities along the Lao-Tha Border of Savannakhet Province
By Miss Tanaradee Khumya

Supervisor Dr Kyoko Kusakabe

4.7.4 Masters Students' Theses and Research Studies

Gender Dimension of Access to Maternal Health Services among Burmese Migrant Workers in Talad Thai, Thailand
By Mr Uddhav Prasad Guragain
Supervisor Dr Philippe Doney

Gender Dimensions of Sex Education in Phuluang Wittaya School, Loei Province, Thailand
By Miss Luckhana Sanbungko
Supervisor Dr Philippe Doney

Impacts of Women's Engagement and Benefit Sharing in Community Forest Management (CFM): A Case Study in Bangladesh
By Mr Sk. Shahin Hossain
Supervisor Dr. Philippe Doney

Incorporating Gender into Disaster Prevention and Mitigation: A study of Women's Participation in Miyagi and Iwate
By Miss Karin Seino
Supervisor Dr. Philippe Doney

The Vulnerability and Adoption of Women Aquaculturalist to Climate Change: A Case Study of Women in Small Scale Aquaculture Practices in Tien Hai Coastal District of Vietnam
By Miss Nguyen Thi Thu Ha
Supervisor Dr Kyoko Kusakabe

Women's Participation and Decision Making Power after the Local Government Act of 2009: A Study of Local Government (Union Parishad) in Bangladesh
By Mr Mahbub Alam Prodip
Supervisor Dr. Philippe Doney

Fish Processing Enterprise Development: A Study of Women Entrepreneurs in Pursat and Battambang Provinces, Cambodia
By Mrs San Sophany
Supervisor Dr. Kyoko Kusakabe

Gender and SRH Behavior in Adolescence: A Case Study of Students Studying at Technological Universities in Yangon, Myanmar
By Miss Seinn Le Le Htet
Supervisor Dr. Philippe Doney

Gender Policy and Practices in BRAC, Bangladesh: A Case Study of Jessore District
By Mrs Fatema Ferdausi
Supervisor Dr Kyoko Kusakabe

Employment-related Stigma and Discrimination against LGBTs in Cambodia
By Miss Hep Sreyleak
Supervisor Dr Philippe Doney

Impact of Resettlement on Poor Households under a Railway Project in Battambang, Cambodia: A Gender-based Analysis
By Mr Hak Seam
Supervisor Dr Philippe Doney

Where do they cast the line?: Effect of Conditionalities of Conditional Cash Transfer on Gender Roles and Relations in the Context of a Fishing Community in the Philippines
By Mrs Desiree Michelle B.Soreda
Supervisor Dr. Kyoko Kusakabe

Gendered Impacts of Economic Land Concession: A Case Study of Rubber Plantation in Rattanakiri, Cambodia
By Miss Kaing Nay Or
Supervisor Dr. Kyoko Kusakabe

Domestic Violence against Women Garment Workers of Dhaka City, Bangladesh
By Mrs Lovely Yesmin
Supervisor Dr Philippe Doney

4.8: SERD – NATURAL RESOURCES MANAGEMENT FIELD OF STUDY



4.8.1 Introduction

This field of study emphasizes natural resources, including land, forest and wild animal and environmental conservation concerns. It addresses the problems of deforestation, land and coastal ecosystems degradation, biodiversity depletion, diminishing water supply, and other environmental pressures and threats on local, national, regional and global ecosystems.

4.8.2 Faculty and Research Staff

Full-time Faculty

CLEMENS GRUNBUHEL, MA, PhD, University of Vienna, Austria/

Adjunct Faculty, (Ecological Anthropology, Resource Use Indicators, Smallholder Agriculture, Integrated Land Use Management)

RAJENDRA PRASAD SHRESTHA, BSc, Haryana Agri. Univ, India; MSc, DTechSc, AIT, Thailand.

Professor (Sustainable Land Management; Natural Resources Degradation and Environmental indicators; Landuse-climate, Geoinformatics)

Visiting Faculty

DAMIEN JOURDAIN, BEng, MSc, Ecole Nationale Supérieure Agronomique de Montpellier, France; PhD, University of Montpellier I, France.

Visiting Assistant Professor (Water Management and Economics, Natural Resources Economics and Valuation, Farm Household Economics)

NICOLAS FAYSE, MSc in Agricultural & Environmental Engineering, Ecole National de Genie Rural, des Eaux et Forets, French Institute of Forestry, PhD, in Economics, University of Paris X Nanterre, France.

Visiting Assistant Professor (Water Resource Management, Rural Development Policies and Development Projects, and Groundwater Management)

Adjunct Faculty

GANESH P SHIVAKOTI, BS, MS, Udaipur Univ, India; PhD, Michigan State Univ, USA.

Adjunct Professor (Natural Resources Economics; Common Property Resources; NRM Policy Analysis; and Watershed Management)

DIETRICH SCHMIDT-VOGT, BSc, Freiburg University, Germany; MSc, University of Saskatoon, Canada; PhD, Heidelberg University, Germany.

Distinguish Adjunct Professor (Landscape Ecology; Integrated Land Use Systems; Sustainable Forest Management; and Human Impact on Vegetation)

SYLVAIN ROGER PERRET, MS and PhD, University of Montpellier III, France; DSc,

Ecole Polytechnique de Lorraine, Nancy, France.

Adjunct Faculty, (Water management/institutions, governance, economics/sustainability in rural development/dynamic modeling)

Research Staff

Aye Sandar Phyo, B.Ag.Sc, Yezin Agricultural University, Myanmar, M.Sc., Regional & Rural Development Planning, Asian Institute of Technology.

Research Associate, Strengthening institutional capacity, extension services and rural livelihood in the Central Dry Zone and Ayeyarwaddy Delta regions of Myanmar.

Eaindra Theint Theint Thu, B.Ag.Sc., Yezin Agricultural University, Myanmar, M.Sc., Natural Resources Management, Asian Institute of Technology.

Research Associate, Strengthening institutional capacity, extension services and rural livelihood in the Central Dry Zone and Ayeyarwaddy Delta regions of Myanmar.

Soe Soe Htway, B.Ag.Sc., Soil & Water Management, Yezin Agricultural University; M.Sc., Natural Resources Management, Asian Institute of Technology.

Research Associate, Strengthening institutional capacity, extension services and rural livelihood in the Central Dry Zone and Ayeyarwaddy Delta regions of Myanmar.

4.8.3 Doctoral Students' Dissertation

Aquatic Faunal Abundance and Diversity in Relation to Regimes of Synthetic and Natural Pesticides in Rice Fields of Central Thailand
By Miss Suthamma Maneepitak
C: Dr. Damien Jourdain / Dr. Roland Cochard

Institutional Factors Affecting Land Use-Decision Making and Livelihoods: A Case Study of Doi Mae Salong, Chiang Rai Province, Northern Thailand
By Ms. Wirongrong Duangjai
Supervisor C: Prof. Rajendra P. Shrestha

Effect of Land Use Change on Runoff and Sediment Yield in the Northwest of Vietnam
By Mr. Ngo Thanh Son
Supervisor C: Prof. Rajendra P. Shrestha

Assessment of Oil Palm Intensification in Northeast Thailand: Impacts on Livelihoods and Insights for Policy
By Miss Siriluk Somnuek
Supervisor C: Dr. Clemens Grunbuhel

4.8.4 Masters Students' Theses and Research Studies

Impact of Community Based Ecotourism on The Livelihoods of Local People: A Case Study of Tak Province, Thailand
By Mr. Rishav Pokharel
Supervisor C: Dr. Clemens Grunbuhel

Farmer's Perception of Drought Impact on Agricultural Productivity and Rural

Livelihood in Bamyan Province, Afghanistan
By Mr. Abdullah Nawrozi
Supervisor C: Dr. Rajendra P. Shrestha

Assessment of the ALRO-Farmer Field School Program in Northern Thailand: Impact on Farm Management, Rice Productivity and Farm Income
By Miss Chiranan Senanuch
Supervisor C: Dr. Clemens Grunbuhel

A Comparative Study of Socioeconomic Conditions and Livelihood Strategies of Community Forest User Group and Non-Community Forest User Group in the Mangrove Forests of Ayeyarwaddy Delta, Myanmar
By Mr. Ye Khaung
Supervisor C: Dr. Rajendra P. Shrestha

Household Member's Migration and Child Labor in Rural Areas of the Dry Zone of Myanmar: A Case Study in Kyauk Pa Daung Township
By Miss Su San Win Pe
Supervisor C: Dr. Clemens Grunbuhel

Land Use Change and Its Impact on Local Livelihood: A Case Study in Mt. Popa Area, Central Myanmar
By Miss Thiri Hmwe Maung Maung
Supervisor C: Dr. Rajendra P. Shrestha

Institutional Analysis of Extension Services and Capacity Development in the Agricultural Sector of Myanmar
By Mr. Nay Lynn Soe
Supervisor C: Dr. Clemens Grunbuhel

Household Food Security in Protected Areas: A Case Study of Tay Yen Tu Nature Reserve in

Son Dong District, Bac Giang
Province, Vietnam
By Mr. Luu Van Duy
Supervisor C: Dr. Damien
Jourdain

Challenges and Responses of
Farming Households to Labor
Migration: A Case Study in the
Dry Zone of Myanmar
By Miss Eaindra Theint Theint
Thu
Supervisor C: Dr. Clemens
Grunbuhel

Willingness to Pay for the
Conservation of Recreational
Services in a National Park: A
Case Study at Kirirom National
Park, Cambodia
By Mr. Phat Chandara
Supervisor C: Dr. Damien
Jourdain

Value Chain Analysis of Live and
Beef Cattle in Meikhtila
Township, Myanmar
By Mr. Min Thein
Supervisor C: Dr. Clemens
Grunbuhel

Effect of Land Use Change on
Water Balance in the Sekong,
Sesan and Srepok (3S) Basin
By Miss Srijana Thapa
Supervisor C: Dr. Rajendra P.
Shrestha

An Economic Evaluation of
Changes in Selected Ecosystem
Services As a Result of Changes
in Land-use/cover: A Case
Study in the Sundarbans
Mangrove Forest, Bangladesh
By Mr. Md. Anishur Rahman
Supervisor C: Dr. Damien
Jourdain

4.10: SERD – REGIONAL AND RURAL DEVELOPMENT PLANNING FIELD OF STUDY



4.10.1 Introduction

This field of study focuses on rural poverty, improvement of the quality of life, and social and economic development of rural areas. Practice oriented rural regional planning is carried out regularly at district and sub-district levels following a participatory and integrated approach, and attention is paid to management of development Institutions, infrastructure and physical resources. Sectoral and spatial planning is equally emphasized along with the management of rural development programs and local development projects to strengthen rural communities for their sustainable development.

4.10.2 Faculty and Research Staff

Full-time Faculty

MOKBUL MORSHED AHMAD, BSc, MSc, Dhaka University, Bangladesh; MSc, AIT, Thailand; PhD, University of Durham, UK.

Associate Professor (*Regional and rural development planning; community development; Non-Governmental Organizations (NGOs); civil society; and adaptation to climate change; etc*)

SOPARTH PONGQUAN, BSc, Chiang Mai University; MSc, AIT, Thailand; DSc, University of Wageningen, The Netherlands.

Associate Professor (*Capacity Building; Community Development and Monitoring and Evaluation of Development Projects; Decentralized Local Government; People's and Community Participation; Rural Development*)

JAYANT K ROUSTRAY, BSc (Hons), MSc, PhD, Utkal University; MRP, Indian Institute of Technology, Kharagpur, India.

Professor (*Regional and Rural Development Planning; Rural-Urban Relations; Regional Planning Methods and Techniques; Disaster Risk Reduction and Management;*

Climate Change Induced Adaptation; and GIS Applications)

GOPAL BAHADUR THAPA, BSc, Tribhuvan University, Nepal; MSc, DTechSc, AIT, Thailand.

Professor (*Natural Resources Management; Sustainable Agricultural Development and Planning; and Watershed Management*)

Professional Staff

VITON NIL-UBOL, MSc, AIT, Thailand

Field Lab Supervisor, Regional and Rural Development Planning

4.10.3 Doctoral Students' Dissertation

Production and Marketing Efficiencies of Apple Farms in Balochistan, Pakistan
By Mr. Ghulam Murtaza
C: Prof. Gopal B. Thapa

4.10.4 Masters Students' Theses and Research Studies

Adoption of Improved Rice Farming Techniques in Bogale Township of the Delta Region of Myanmar
By Mr. Zaw Htun
Supervisor: C: Dr. Soparth Pongquan

Farmers' Adaptation to Climate Change in the Dry Zone, Myanmar
By Miss Yi Yi Thant
Supervisor: C: Prof. Gopal B. Thapa

Economic Impacts of Forced Land Acquisition on Farming Households in Upper Myanmar
By Mr. Thein Tun Aung
C: Prof. Jayant K. Routray

Crop Diversification and Food Security under Irrigated and Rainfed Farming Systems in the Dry Zone, Myanmar
By: Miss Ei Ei Mon
Supervisor C: Prof. Gopal B. Thapa

Project Monitoring by Youth NGOs in Nepal
By Mr. Yogesh Gyawali
C: Dr. Mokbul Morshed Ahmad

Impacts of Dowry on Married Women from Rural Households of Terai Region in Nepal
By Miss Kripa Shrestha
Supervisor: C: Dr. Soparth Pongquan

Impact of Rural Labor Migration on Agricultural Crop Production in Lower Myanmar
By Miss Wint War Kyaw
Supervisor C: Prof. Jayant K. Routray

Spatio-Temporal Variation of Infrastructure and Industrial Development in Pakistan
Mr. Hafiz Syed Hamid Arshad
C: Prof. Jayant K. Routray

Crime Analysis in Chittagong City: An Inquiry into the Socio-Economic and Spatial Factors
By Mr. Mohammad Ali Haider
Supervisor C: Dr. Mokbul Morshed Ahmad

Socio-economic Impacts of a Motorcycle Youth Racing Gang in a Rural Area in Thailand
By Mr. Panjadach Singtho
Supervisor C: Dr. Soparth Pongquan

Access, Adequacy and Utilization of Agricultural Credit to Farmers in Pakistan: The Case of Mardan District, Khyber Pakhtunkhwa
By Mr. Shahab-E-Saqib
C: Dr. Mokbul Morshed Ahmad

Impacts of Sepon Gold and Copper Mining Factory on Rural Households in Lao PDR
By Miss Sirisouk Inthavong
Supervisor C: Dr. Soparth Pongquan

4.11: SERD – URBAN ENVIRONMENTAL MANAGEMENT FIELD OF STUDY



4.11.1 Introduction

Urban Environmental Management (UEM) is an area of academic discourse and professional practice in which urban planning and urban management issues are studied and practiced from an environmental management perspective.

UEM provides opportunities for graduate studies at master (M.Sc.) and doctoral (PhD) levels. It also offers certificate and diploma programs and post-doctoral research opportunities. All the programs have been designed in a manner that draws on and integrates theories and perspectives in established disciplines of urban planning, urban and regional development, urban economics, sustainable development, and urban policy and management studies into a distinctive framework of problems and issues concerning the urban environment.

UEM is a platform for students to identify problems; apply appropriate analytic

methodologies; design, plan and implement programs and projects; and monitor impacts and challenges within the context of sustainable development in developing societies.

Continuous career guidance is provided by the Field of Study to prepare students to find their professional career paths in the public and private sectors as well as international development agencies and civil society organizations engaged in urban development and environmental management.

4.11.2 Research Facilities and Laboratories

The dedicated computer lab designed in the state of art of technology plays a key role in supporting students to carry out their research with assured high quality. The library has a wide range of collection in addition to online access to top ranked journals and large data bases. Library facilities are updated on regular basis to cater for students needs.

The workshop room equipped with modern Multi-media facilities and equipment can accommodate 24 students at a time.

4.11.3 Faculty and Research Staff

Full-time Faculty

VILAS NITIVATTANANON, BEng, Chulalongkorn University; MA, Thammasat University; MEng, AIT, Thailand; PhD, University of Pittsburgh, USA.

Associate Professor (*Urban Infrastructure and Services Management*)

SOHEE MINSUN KIM, BArch, Tama Art University, Japan; MSc, PhD, University of Tokyo, Japan.

Assistant Professor (*Urban-Rural Sustainable Land-use Planning*)

Adjunct Faculty

L. A .S. RANJITH PERERA, BSc, MSc, University of Moratuwa, Sri Lanka; MSc, PhD, AIT, Thailand. (*Urban Environmental Planning and Management Systems*)

EDSEL SAJOR, BSc, University of the Philippines; MA, PhD, ISS, The Hague, The Netherlands. (*Governance and Urban Management*)

SAEED ZAKIAHMED, PhD, Asian Institute of Technology, Thailand.
(Urban Environmental and Planning and Design)

LE THI THU HUONG, PhD, Asian Institute of Technology, Thailand
(Urban Housing and Living Environment)

Visiting Faculty

AMITAVA BANDYOPADHYAY, PhD, Yeshiva University, USA
(Environmental Science and Technology)

MIHOKO MATSUYUKI, PhD, University of Tokyo, Japan.,
(Urban Planning and Built Environment)

Dr. GAURAV MANIK, PhD, Indian Institute of Technology, Roorkee, India (Environmental Auditing)

Research Associate

YIN MONN
NATASHA HAZARIKA

Administrative Staff

PRAKAYDAO KRISDAEE

4.11.7 Doctoral Students' Dissertation

An Integrated Sustainability Assessment of Municipal Solid Waste Management Enhancement Strategy: A case of Zhangqiu City, P.R. China
By Mr. Li Hua
Supervisor **Dr. Vilas Nitivattananon**

Setting up a City-level Community Fund for the Urban Poor: the Case of City Development Fund in Thailand
By Ms. Bussara Sripanich
Supervisor **Dr. Vilas Nitivattananon**

4.11.8 Masters Students' Theses

Examining Land Use Change and Its Implications for Urban Protected Area Management: A Case Study of Las Pinas-Paranaque Critical Habitat and Ecotourism Area (LPPCHEA), Philippines
By Mr. Raphael Carlos De Leon
Supervisor **Dr. Sohee Minsun Kim**

A Socio-Economic Assessment of Urban Water Use and River Pollution Impacts in Hue City, Vietnam
By Miss Nguyen Hoang Khan
Supervisor **Dr. Vilas Nitivattananon**

Potential of Green Roofs and Walls Retrofitting in AIT Campus
By Miss Yin Mon Naing
Supervisor **Dr. Vilas Nitivattananon**

Strategic Assessment of Urbanization in Post Conflict Kabul City, Afghanistan
By Mr. Matiullah Bahier
Supervisor **Dr. Vilas Nitivattananon**

A Multinomial Logistic Model for a Transportation Development Impact Analysis on Land Use Change: A Case Study of Bangkok Mass Transit System
By Miss Chotika Chuensombut
Supervisor **Dr. Sohee Minsun Kim**

Peri-Urbanization and Its Impact on Water Source Availability and People's Livelihood in Kathmandu Valley
By Miss Binny Pradhan
Supervisor **Dr. Sohee Minsun Kim**

An Economic Assessment of Agricultural Land Change in Sanphisua Sub-district Municipality, Chiang Mai, Thailand
By Miss Kornwika Nonkaew
Supervisor **Dr. Sohee Minsun Kim**

Comparative Assessment of Public and Private Social Housing Projects in Kien Giang Province, Vietnam
By Mr. Tran Phu Hai
Supervisor **Dr. Do Phu Hung**
Co-supervisor: **Dr. Vilas Nitivattananon**

Improving Water Pollution and Landscape relating to settlement along the Canals in Long Xuyen City, As Giang Province, Vietnam
By Mr. Nguyen Ngoc Ve
Supervisor **Dr. Vilas Nitivattananon**

Local government and Community Partnership in Developing Drainage System in Nhon Trach City, Dong Nai Province, Vietnam

By Ms. Nguyen Huynh Thuc Anh
Supervisor **Dr. Le Thi Thu Huong**
Co-supervisor: **Dr. Vilas Nitivattananon**

Assessing the Impacts of Pottery Production Relocation and its Potential for Tourism Development in Chanh Nghia Village, Thu Dau Mot City, Binh Duong Province, Vietnam
By Mr. Nguyen Huu Phi
Supervisor **Dr. Le Thi Thu Huong**
Co-supervisor: **Dr. Vilas Nitivattananon**

Relocation of the Train Station of Ho Chi Minh City towards a More Effective Transportation
By Mr. Nguyen Thanh Phong
Supervisor **Dr. Vu Thi Hong Hanh**
Co-supervisor: **Dr. Vilas Nitivattananon**

Enhancing Urban Image by Improving Public Spaces: A Case Study of Ca Mau City in Ca Mau Province, Vietnam
By Mr. Le Trung Tien
Supervisor **Dr. Vu Thi Hong Hanh**
Co-supervisor: **Dr. Vilas Nitivattananon**

4.12: SERD – AGRIBUSINESS MANAGEMENT PROGRAM



4.12.1 Introduction

Agriculture plays a vital role in the economic growth of many countries, especially developing countries like of Asia including Thailand, China, India, Vietnam, Malaysia, etc. Due the growing industrialization the importance of agri-products has increased several-folds. The food and food-products import-export policies play important role in the overall development of any country and the world as a whole.

In developing countries, since last 25 years, majority of the young people educated, came from agriculture community or from the similar background. But, due to many reasons they have not been able to compete for available jobs, which demand specialized skills and knowledge. Even in their attempts to set up small entrepreneurial activities in non-farm sector they face many problems generally not encountered by such youths in urban areas. All these rural youths can now be supported for new opportunities of entrepreneurship in business activities related to Agriculture. They

have the basic understanding of agriculture, which can be utilized for promotion of business enterprises revolve around agricultural activities.

Rationale

As the nature of rural economy of many developing countries of Asia-Pacific region shifts from subsistence farming to commercial food enterprises, a new breed of agribusiness professionals is needed to manage this transformation. The proposed program will cater the unique needs of agribusiness professionals, which comprise of knowledge and skills in elements of agriculture sector policy issues, technology, marketing and finance. Agribusiness professionals are needed in several sectors, including multinational companies involved in corporate farming, food processing, packaging and marketing, agricultural finance institutions, agricultural cooperatives, animal feed industry, biotechnology industry, fertilizer and pesticide industry, irrigation and mechanical equipment

manufacturing, medicinal plants/herbs, and government-initiated rural/agricultural development schemes.

The agri-business management program builds on long standing strengths and experience in research, and internal and external postgraduate teaching in the fields of agricultural production, preservation, processing, agro- and food-industry management and market-ing, and in agricultural development.

The program focuses on the potential for and contribution of the agribusiness industry in developing economies. It is aimed at enhancing small business entrepreneurship among primary producers of agri-food products, and traders and other market intermediaries in the value chain. The course is appropriate for entrepreneurs themselves and also for people working in the public sector and non-governmental organizations. Entrepreneurs and others will be enabled to take advantage of opportunities within the agri-food and related sectors,

and increase the contribution of these sectors within public and national objectives.

Objectives

Specific objectives of the Masters Program in Agribusiness Management are:

- To train students, academics, researchers and professionals, to develop skills and practices in the area of good agricultural production, appropriate value addition, systematic marketing, food-chain supply and global trade.
- To enhance the sustainability and capability of agricultural enterprises by providing trained students with knowledge of inter-national standards on food safety and traceability in agricultural production, local and global trade policies etc.

4.12.2 Faculty and Professional Staff

Faculty

GANESH. P. SHIVAKOTI
Visiting Professor, Agricultural Systems & Engineering and Natural Resources Management Fields of Study.

(Agricultural Development and Policy Analysis; Resource Development; Farming Systems; Natural Resources Management)

PEEYUSH SONI
Associate Professor, Agricultural Systems & Engineering Field of Study.

(Sustainable Agricultural Mechanization; Management of Mechanized Agriculture; Design & Testing of Agricultural Machinery; Precision Agriculture; Analytical Techniques & Decision Tools for Agribusiness)

AVISHEK DATTA
Assistant Professor, Agricultural Systems & Engineering Field of Study

(Agricultural Environments, Crop Productivity Management, Crop Eco-physiology and Modeling, Advanced Agricultural Experimentation)

ANIL KUMAR ANAL
Associate Professor, Food Engineering & Bioprocess Technology Field of Study.

(Agriculture and Food Biotechnology; Bionanotechnology; Functional Properties of Proteins and Polysaccharides; Food Colloids and Biopolymers; Encapsulation and Targeted Delivery of Biomolecules)

(Agricultural Environments, Crop Productivity Management, Crop Eco-physiology and Modeling, Advanced Agricultural Experimentation)

Visiting, Adjunct Faculty/Affiliated Faculty
CHAIYAPHOL
 KAEWPRAKAISAENGKUL; PhD

Adjunct Faculty *(Agricultural Machinery Design & Testing; Instrumentation & Measurement; Quality Control & Assurance)*

Professional Staff

Effect of Changes in Functional Strategies to the Horticultural Seed Value Chain in Nepal. Dissertation No. AB-15-01.

By. Mr. Krishna Prasad Timsina
 Supervisor: Prof. Ganesh P. Shivakoti

Masters Students' Theses and Research Studies

Value Chain Analysis of Mangos: A case study of Yatsauk Township, Southern Shan State, Myanmar, Thesis No. AB-15-01


By. Ms. Mai Mary, M. Am.
 Supervisor Dr. Peeyush Soni

Spinach (*Spinacia oleracea*) Losses and Wastes in Supply Chain and its Implication on Natural Resources: a case study in Allahabad District, Uttar Pradesh, India" Thesis No. AB-15-02

By. Ms. Minakshi Pant, M. Am.
 Supervisor Dr. Peeyush Soni

4.12.5 Doctor Students Dissertations

4.13: DISASTER PREPAREDNESS, MITIGATION AND MANAGEMENT AREA OF STUDY



DPMM
Disaster Preparedness,
Mitigation and Management

seminar on
LESSONS LEARNED FROM NEPAL EARTHQUAKE
to mark two months of Nepal earthquake

PRESENTERS

Nepal: 2015 Earthquakes
Number of people killed: **8,673**
Number of people injured: **21,952**

Ms. Serena Amalya
Masters Student
Research: Nepal Earthquake

Ms. Jitapa Khooninout
Masters Student
Research: Social Vulnerability Assessment to Earthquake Disaster

Mr. Md. Shabbab Uddin
PhD Student
Research: Critical Infrastructure Management

DPMM Students Presentation & Drawing Exhibition


Date: Thursday, 25 June 2015
Time: 9:00 - 11:00 hrs
Venue: Milton Bender Auditorium

9:00 hrs
Opening Remarks by Prof. Pennung Warnitchai, DPMM Coordinator for SET

9:15 hrs
Inaugural Remarks by Prof. Kazuo Yamamoto, Vice President for Resource Development

9:30 hrs
Students' Presentation

11:00 hrs
Closing Remarks by Prof. Jayant K Routray, DPMM Coordinator for SERD



4.13.1 Introduction

The world in the recent past has witnessed over 35 major conflicts and some 2,500 disasters. Approximately, it impacted two billion people, and millions have lost their lives. That is not all; the most destructive disasters that could occur are still to happen yet. Rapid escalation and intensity in the incidence of severe disaster events have become a huge threat to the global community.

Asia-Pacific, on the other hand, with 85% of all the people affected by disaster in the world, is in the center stage of all disasters. Due to rapid rate of population growth, urbanization, poverty, climate change and geographical location, most of the Asian countries have become highly susceptible to natural disasters; some of them, per se: flood, cyclone, drought, earthquake, landslide, extreme temperature, heavy rain, epidemics, etc.

It has been felt that there is limited capacity at global, regional and national levels in terms of knowledge base, skills training, long-term planning, emergency preparedness and policy development to respond to such severe disaster events. Consequently, to address these issues in innovative ways, it gave way to a program on Disaster Preparedness, Mitigation and Management (DPMM) at Asian Institute of Technology (AIT) in August 2008. AIT being located at the center of this region provides a strategic insight into the happenings in the world of disasters and development.

DPMM program uses interdisciplinary capacities (engineering, medicine, natural and social science, as well as management) to manage and minimize the effects of disasters in people on the front lines of disaster response and preparedness. It provides professional education and short term training for the capacity building of the Asia-Pacific as well as neighboring regions.

The courses at DPMM are designed and developed by AIT Faculties and experts from partner institutions having more than a decade of experience in this particular field. The program is being successfully run with students from Bangladesh, Canada, China, France, India, Indonesia, Iran, Maldives, Myanmar, Nepal, Pakistan, Philippines, Singapore, South Africa, Sudan, Thailand, Tibet and Vietnam. DPMM has admitted 66 students till date.

DPMM works closely with its partners for sharing knowledge and expertise. DPMM Faculties, Staff and Students get special invitation to attend workshops, seminars, symposiums, conferences, etc. They also get involved with the partners as volunteers, interns and consultants. Currently, DPMM is working closely with the following partners.

- Asian Disaster Preparedness Center (ADPC)
- Department of Disaster Prevention and Mitigation (DDPM), Thailand
- HelpAge International

- Integrated Research on Disaster Risk (IRDR)
- International Federation of Red Cross and Red Crescent Societies (IFRC)
 - Télécoms Sans Frontières (TSF)
 - The Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES)
 - UN Regional Agencies based in Thailand such as, UN International Strategy for Disaster Reduction for Asia & the Pacific (UNISDR-AP); UN World Food Programme (WFP), United Nations Economic and Social Commission for Asia and the Pacific (ESCAP); United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA)
 - World Animal Protection

Networks

Asia Pacific Initiative on Disaster Management and Humanitarian Assistance (API: DMHA)

It is a hybrid online disaster training course via video conferencing and content on an e-course management system. This course is offered through a multiple site video teleconference system that connects all participating educational institutions with students on their respective campuses. More than ten institutions around the globe continue to collaborate and share resources in the planning, organizing and delivering of the course. It has been offered at AIT since the inception of DPMM in August 2008.

The partners and participating institutions are:

1. Asian Institute of Technology (AIT), Thailand
2. Bangladesh University of Engineering and Technology (BUET)
3. Gadjah Mada University, Indonesia
4. Kio University, Japan
5. **National Institute of Social Work and Social Sciences (NISWASS), India**
6. Okayama University, Japan

7. School of the Internet (SOI – ITB), Japan
8. The Energy and Resources Institute (TERI), India
9. The National University of Samoa, IA IO Samoa
10. United Nations University, Japan
11. University of Hawaii, Manoa
12. University of Ryukyus, Japan

Asian University Network of Environment and Disaster Management (AUEDM)

To enhance the objectives of the HFA, and to contribute to higher education and research process, Kyoto University in partnership with 19 other universities and organizations from 13 Asian countries has agreed to form the Asian University Network for Environment and Disaster Management (AUEDM) in a meeting in July 2008 in Kyoto, Japan.

The objectives of the network are:

- To share and work together (bilaterally or multilaterally) in promoting environment and disaster management in higher education (focusing on, but not restricted to, post-graduate education)
- To seek possibilities of mutual collaboration on field-based action research
- To broaden the scope of education and learning in the environment and disaster management field through collaboration with other stakeholders like NGOs and local governments.

Disaster Risk Certificate (DRC) Program

The Consortium of International Human Resource Development for Construction of Disaster Resilient Countries – an initiative of Kyoto University and ASEAN Alliance Universities. This program is for 5 Years starting from 2012 to 2017.

1. Asian Institute of Technology (AIT), Thailand
2. Chulalongkorn University, Thailand
3. Kasetsart University, Thailand
4. Institut Teknologi Bandung,

Indonesia

5. University of Malaya, Malaysia
6. Vietnam National University, Vietnam

INATE (International Network for Advancing Transdisciplinary Education)

The INATE concept evolved through the discussions at the 8th International conference and strategic planning meeting of the University Network for Climate and Ecosystems Change Adaptation Research (UNCECAR) held in Malacca, Malaysia from 30 May to 1 June, 2014 and the workshop on Transdisciplinary Education for Disaster Risk Reduction (TeDrr) organized at the United Nations University in October, 2014. The concept note prepared by UNU-IAS based on these discussions was reviewed, commented and approved by the UNCECAR members and associate universities. In addition individual UNCECAR advisors are gratefully acknowledged for their insightful comments.

UNCECAR members and associates are:

1. Australian National University, Australia
2. Queensland University of Technology, Australia
3. Chinese Academy of Forestry, China
4. Tsinghua University, China
5. Indian Institute of Technology, Delhi, India
6. Indian Institute of Technology, Kharagpur, India
7. Indian Institute of Technology, Roorkee, India
8. Gadjah Mada University, Indonesia
9. Ibaraki University, Japan
10. Kyoto University, Japan
11. Ritsumeikan Asia Pacific University, Japan
12. The University of Tokyo, Japan
13. Universiti Kebangsaan Malaysia (UKM), Malaysia
14. Tribhuvan University, Nepal
15. University of Engineering and Technology Lahore (UET), Pakistan
16. University of the Philippines, Philippines

17. Nanyang Technological University, Singapore
18. University of Peradeniya, Sri Lanka
19. Pukyong National University (PKNU), South Korea
20. Yeungnam University, South Korea
21. Asian Institute of Technology, Thailand
22. Chulalongkorn University, Thailand
23. Viet Nam National University, Viet Nam
24. United Nations University, Institute for the Advanced Study of Sustainability (Coordinating Institute)

Asia Pacific Initiative on Disaster Management and Humanitarian Assistance (API: DMHA)

It is a hybrid online disaster training course via video conferencing and content on an e-course management system. This course is offered through a multiple site video teleconference system that connects all participating educational institutions with students on their respective campuses. More than ten institutions around the globe continue to collaborate and share resources in the planning, organizing and delivering of the course. It has been offered at AIT since the inception of DPMM in August 2008. The partners and participating institutions are:

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2. Bangladesh University of Engineering and Technology (BUET)
3. Gadjah Mada University, Indonesia
4. Kio University, Japan
5. National Institute of Social Work and Social Sciences (NISWASS), India
6. Okayama University, Japan
7. School of the Internet (SOI – ITB), Japan
8. The Energy and Resources Institute (TERI), India
9. The National University of Samoa, IA IO Samoa
10. United Nations University, Japan
11. University of Hawaii, Manoa

12. University of Ryukyus, Japan

Asian University Network of Environment and Disaster Management (AUEDM)

To enhance the objectives of the HFA, and to contribute to higher education and research process, Kyoto University in partnership with 19 other universities and organizations from 13 Asian countries has agreed to form the Asian University Network for Environment and Disaster Management (AUEDM) in a meeting in July 2008 in Kyoto, Japan.

The objectives of the network are:

- To share and work together (bilaterally or multilaterally) in promoting environment and disaster management in higher education (focusing on, but not restricted to, post-graduate education)
- To seek possibilities of mutual collaboration on field-based action research
- To broaden the scope of education and learning in the environment and disaster management field through collaboration with other stakeholders like NGOs and local governments.

Disaster Risk Certificate (DRC) Program

The Consortium of International Human Resource Development for Construction of Disaster Resilient Countries – an initiative of Kyoto University and ASEAN Alliance Universities. This program is for 5 Years starting from 2012 to 2017.

- Asian Institute of Technology (AIT), Thailand
- Chulalongkorn University, Thailand
- Kasetsart University, Thailand
- Institut Teknologi Bandung, Indonesia
- University of Malaya, Malaysia
- Vietnam National University, Vietnam

Details regarding DPMM program are available at <http://dpmm.ait.ac.th>

Disaster Resilience Education Capacity Building in South-East Asia

1. DPMM is now a part of Disaster Resilience Education Capacity Building in South-East Asia project under Australia-ASEAN Council (AAC) Grant. The partner universities are:
2. University of Newcastle (Australia)
3. Universiti Sains Malaysia (USM)
4. Asian Institute of Technology (AIT, Thailand)
5. University of the Philippines (UP)
6. National University of Civil Engineering (NUCE, Vietnam)

The Australia-ASEAN Council (AAC) launched on September 2015, will generate opportunities for Australian business, education, science and innovation and the arts to work with partners in South-East Asia. The Council's mission is to increase knowledge and promote Australia's interests in South-East Asia by initiating and supporting activities designed to enhance awareness, understanding and links between people and institutions in Australia and ten South-East Asian countries: Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Burma, Philippines, Singapore, Thailand and Vietnam.

The partner universities will form a robust regional network with the collective capacity to lead initiatives that protect society from shocks to physical, socio-cultural, politico-economic and natural systems. The project will undertake the activities in order to build capacity in the ASEAN region, understanding regional challenges that result from complex problems generated by natural hazards and human induced threats. The project will create regional synergies between leading higher education institutions while building capacity in ASEAN countries to proactively address disaster risk and build resilience through education.

Details are available in the following link:

<http://dfat.gov.au/people-to-people/foundations-councils-institutes/australia-asean-council/grants/grantees/Pages/disaster-resilience-education-capacity-building-in-south-east-asia.aspx>

4.13.2 Faculty and Research Staff

Coordinating faculty members

School of Environment, Resources & Development (SERD)

Field of Study

Regional and Rural Development Planning (RRDP)

JAYANT K ROUTRAY, B.Sc. (Hons), M.Sc., PhD, Utkal University; MRP, Indian Institute of Technology, India.

Professor [*Regional and Rural Development Planning, Rural-Urban Relations, Regional Planning Methods and Techniques, Disaster Risk Reduction and Management, Climate Change Induced Adaptation, and GIS Applications*]

School of Engineering & Technology (SET)

Field of Study

Structural Engineering (STE)

PENNING WARNITCHAI, B.Eng. (Hon), Chulalongkorn University, Thailand; D.Eng., M.Eng., University of Tokyo, Japan.

Professor [*Earthquake Engineering*]

Contributing faculty members

School of Engineering & Technology (SET)

Field of Study

Remote Sensing and Geographic Information Systems (RS&GIS)

KIYOSHI HONDA, B.Agr., D.Eng., University of Tokyo, Japan.

Professor [*Real-time Mapping and Simulation of Geological Processes*]

NITIN KUMAR TRIPATHI, B.Tech., National Institute of Technology, Warangal, India; M.Tech., IIT; PhD, IIT, Kanpur, India.

Professor [*Remote Sensing and GIS for Disaster Mitigation*]

MASAHIKO NAGAI, B. Sc., St. Cloud State University, USA; M.Sc., Asian Institute of Technology (AIT), Thailand; D.Eng., The University of Tokyo, Japan.

Associate Professor [*Remote Sensing and GIS for Disaster Mitigation*]

Water Engineering and Management (WEM)

MUKAND S BABEL, B.Eng., Rajasthan Agricultural University, India; M.Eng., D.Eng., AIT, Thailand.

Professor [*Drought Forecasting and Management*]

Geotechnical and Geoenvironmental Engineering (GTE)

NOPPADOL PHIEN-WEJ, B.Eng., Chulalongkorn University, Thailand; M.S., PhD, Illinois at Urbana-Champaign, USA.

Associate Professor [*Geological Hazards*]

School of Environment, Resources & Development (SERD)

Field of Study

Environmental Engineering and Management (EEM)

AJIT P ANNACHHATRE, B.Tech., PhD, Indian Institute of Technology, Kanpur, India.

Professor [*Health and Ecological Risk Management*]

CHETTIYAPPAN VISVANATHAN, B.Tech., IIT, Madras, India; M.Eng., AIT, Thailand; PhD, InstNatIPolytech, Toulouse, France.

Professor [*Environmental Hazards Mitigation*]

OLEG V SHIPIN, PhD, Institute of Biochemistry and Physiology of Microorganisms, Moscow, Russia.

Associate Professor [*EIA & Disaster Management*]

Gender and Development Studies (GDS)

KYOKO KUSAKABE, B.A., Sophia University, Tokyo, Japan; M.Sc., PhD, AIT, Thailand.

Associate Professor [*CBDRM & Gender Issues*]

Regional and Rural Development Planning (RRDP)

MOKBUL MORSHED AHMAD, B.Sc., M.Sc., Dhaka University, Bangladesh; M.Sc., AIT, Thailand; PhD, University of Durham, UK.

Associate Professor [*NGO Management, Community and Rural Development*]

Energy

SIVANAPPAN KUMAR, B.E., University of Madras, India; M.Eng., AIT, Thailand; PhD, InstNatIPolytechnique, Toulouse, France.

Professor [*Climate Change Mitigation*]

Urban Environmental Management (UEM)

VILAS NITIVATTANANON, B.Eng., Chulalongkorn University; M.A., Thammasat University; M.Eng., AIT, Thailand; PhD, University of Pittsburgh, USA.

Assistant Professor [*Disaster Management in Urban Infrastructure Planning*]

Visiting Associate Professor

TAKASHI ODA, Masters, Graduate School of Science, Tohoku University, Japan; PhD, Graduate School of Environmental Studies, Japan.

Associate Professor, Center for Disaster Education & Recovery Assistance, Miyagi University of Education, Japan [*School and Disaster Risk Reduction*]

TAWATCHAI TINGSANCHALI B.Eng. (Hon) Chulalongkorn University, Thailand; M.Eng., Asian Institute of Technology, Thailand; D.Eng., Asian Institute of Technology, Thailand.

Chair Professor of Water Resources Engineering, Nakhon Pathom Rajabhat University [*Floods*]

Adjunct Faculty

JAYARAMAN K V POTTY, M.Sc., Cochin University of Science and Technology, India; PhD, Indian Institute of Technology, New Delhi, India.

Chief Scientist, Regional Integrated Multi Hazard Early Warning Systems (RIMES), [*Climate Prediction and Early Warning System*]

Affiliated Faculty

AKIYUKI KAWASAKI PhD, Yokohama National University, Japan; M.S., Yokohama National University, Japan; B.S., Yokohama National University, Japan.

Visiting Faculty [*Geospatial Technologies for Multidisciplinary Disaster & Water research*]

A R SUBBIAH

Director, Regional Integrated Multi Hazard Early Warning Systems (RIMES), [*Climate Risk Management*]

LAL SAMARAKOON, B.Sc., University of Kelaniya, Sri Lanka; M.Sc., Saga University, Japan, PhD, Ehime University, Japan.

Director, Geoinformatics Center [*Geospatial Technology for Disaster Management*]

MANZUL KUMAR HAZARIKA, PhD, University of Tokyo, Japan; M.Eng., Asian Institute of Technology, Bangkok, Thailand; M.Tech., Indian Institute of Technology, Kharagpur; B.Tech., J N Krishi Vishwa Vidyalaya (J. N. Agriculture University), India.

Associate Director, Geoinformatics Center [*Disaster Risk Assessment, Managing Disasters and CBDRM*]

SUTAT WEESAKUL, D.Eng., M.Eng., Asian Institute of Technology; B.Eng., Chulalongkorn University, Thailand.

Affiliated Faculty [*Tsunami and Coastal Engineering*]

4.13.3 Masters Students' Theses and Research Study

Health Risks Assessment of Internally-Displaced People and Refugees Living in the Camps of Khyber-Pukhtunkwah in Pakistan
By: Mr. Junaid Ahmad
Supervisor: Dr. Mokbul Morshed Ahmad (Chairperson)

An Assessment of the Post-2014 Flood Response in Bardiya, Nepal
By: Ashreya Krishna Shrestha
Supervisor: Dr. Mokbul Morshed Ahmad (Chairperson)

Chapter 4.14: SERD – CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT FIELD OF STUDY



4.14.1 Introduction

Climate change and sustainable development (CCSD) is a key element of maintaining sustainable livelihoods and economies in Asia. Given the enormous cultural, social, political, and biophysical diversity across Asia, the climate change and sustainable development professionals need a strong working knowledge of several interrelated sciences. Through teaching, research and outreach activities, the CCSD program at AIT seeks to develop professionals who can contribute to address issues of the climate change impacts and sustainable management of resources, through a curriculum and research program that exposes the students to a wide range of contemporary topics.

Due to the interdisciplinary character of CCSD, students with a wide variety of backgrounds including agriculture, biosciences, environmental sciences, energy, forestry, including social sciences such as e.g.

anthropology, geography, economics and sociology are encouraged to seek admission to the certificate, Diploma, Master and Doctoral Degree programs offered by the CCSD program. There are two areas of specialization with focus on Mitigation, and Adaptation.

Details regarding CCSD program are available at <http://www.serd.ait.ac.th/wps/erd/climate-change-and-sustainable-development/>

4.14.2 Faculty and Research Staff

Full-time Faculty

SIVANAPPAN KUMAR, BE, Univ of Madras, India; MEng, AIT, Thailand; PhD, InstNatIPolytechnique, Toulouse, France **Professor** (*Renewable energy resources and technologies: Climate change and greenhouse gas mitigation: energy and sustainable development*)

ABDUL SALAM PAKKEERTHAMBY, BSc.Eng (Hons.) University of Peradeniya, Sri Lanka; M.Eng. D.Eng. AIT

Associate Professor (*Bioenergy, Renewable energy; Energy conservation and efficiency; climate change mitigation*)

SHOBHAKAR DHAKAL, B.e., nit, Surat; M.E., AIT, P.HD. Tokyo **Assistant Professor** (*Modeling of Energy and carbon Emission, Scenarios Policy Analyses*)

AJIT P. ANNACHHATRE, BTech, PhD, Indian Inst of Tech, Kanpur, India.

Professor (*Anaerobic Wastewater Treatment; Biofilm Processes; Environmental Biotechnology; Environmental Impact Assessment; Mathematical Modeling*)

NGUYEN OANH THI KIM, Dip Eng, Odessa Hydrometeorology Inst, Ukraine; MEng, Deng, AIT, Thailand. **Professor** (*Air Pollution Engineering and Management: Modeling, Monitoring, Exposure Assessment; Climate and Air Quality Interaction:*)

Environment Co-Benefit of SLCP Emission Reduction; Industrial Environment management: General Environment Management, Advanced Emission control Techniques)

CLEMENS GRUNBUHEL, Ma, PhD, University of Vienna, Austria. **Assistant Professor** (*Ecological Antropology, Resource Use Indicators, Smallholder Agriculture, Integrated Land Use Management*)

RAJENDRA PRASAD SHRESTHA, BSc, Haryana Agri, Univ, India; MSc, DTechSc, AIT, Thailand. **Professor** (*Sustainable Land management; Natural Resources Degradation and Environmental indicators; Landuse-climate, Geoinformatics*)

MOKBUL MORSHED AHMAD, BSc, Msc, Dhaka University, Bangladesh: MSc, AIT, Thailand; PhD, University of Durham, UK. **Assistant Professor** (*Economic geography; regional and rural development planning; community development; Non-Governmental Organizations (NGOs); civil society; and globalization; etc*)

JAYANT K ROUTRAY, MSc, PhD, Utkal University; MRP, Indian Institute of Technology, Kharagpur, India. **Professor** (*Regional and Rural Development Planning; Rural-Urban Relations; Regional Planning Methods and Techniques; Disaster Risk Reduction and Management; Climate Change Induced Adaptation; and GIS Applications*)

SANGAM SHRESTHA, MSc., Institute of Agriculture and Animal Science, Tribhuvan University, Nepal; MSc., Asian

institute of Technology, Thailand; PhD., University of Yamanashi, Japan.

Assistant Professor (*Climate change and adaptation, Integrated water resources management, Hydrology and water quality modeling, Groundwater development and management, Sustainable water management policy*)

VILAS NITIVATTANANON, BEng, Chulalongkorn Univ; MA, Thammasat University; Meng, AIT, Thailand PhD, University of Pittsburgh, USA.

Associate Professor (*Management of Infrastructure and Services, Waste Recycling and Systems Management, Urban Environmental Management, Water Engineering and Management Economic and Environmental Assessment, Climate Change Risk Assessment and Adaptation*)

PRABHAT KUMAR, B.Sc. (Ag and Hons.), Rajendra Agriculture University, Pusa, India; MSc. (Ag. Systems), Asian institute of Technology, Thailand; Dr.rer.hort. Leibniz University of Hanover, Germany.

Director (ACISAI Center), Sustainable Agriculture and Horticulture Intensification, Integrated Pest Management, Climate Proofing of Agriculture and Horticulture Production Systems, Action Research, Collaborative international Agriculture Research, Tri-Trophic Interactions and Signaling

KRISHNA R. SALIN, B.F.Sc. and M.F.Sc. (Aquaculture), Kerala Agricultural University, Kochi, India; PhD (Mariculture), Central Institute of Fisheries Education (Deemed University), Mumbai, India; Postdoctoral research,

Queensland University of Technology, Brisbane, Australia.

Assistant Professor (*Applied genetics, selective breeding, Hatchery management and grow-out techniques, Biofloc technology*)

AVISHEK DATTA; B.Sc, M.Sc. (B.C. State Agri. Univ., India); PhD, University of New England, Australia

Assistant Professor (*Agricultural Environments, Crop Productivity Management, Crop Eco-physiology and Modeling, Advanced Agricultural Experimentation*)

INDRAJIT PAL, B.Sc, M.Sc. (Applied Geology), Jadavpur University, INDIA; Ph.D (Earthquake Hazard Assessment), Vidyasagar University, INDIA; M.A (Sociology), INDIA, **Assistant Professor** (*Disaster Preparedness, Mitigation and Management, Disaster Risk Governance, Disaster Risk Reduction, Hazard, Risk and Vulnerability Assessment, GIS & Remote Sensing applications in disaster risk management, Climate Change Adaptation*)

NICOLAS FAYSSE, MSc National College of Water and Forest of Paris, PhD Paris 10 University. Visiting assistant professor (participatory foresight analysis, water governance, territorial planning, agricultural policies)

4.14.3 Masters Students' Theses

An Analysis of Low Carbon
Scenarios and Strategies
of Bangkok by 2050

By Mrs. Samdina Jamil
Rasha
Supervisor C: Dr.
Shobhakar Dhakal

Estimating carbon stock
using RothC model from
agricultural land-uses in
the context of climate
change in Dhaleshwari
watershed, Dhaka,
Bangladesh

By Miss Kazi Sazia Prianka
Supervisor C: Dr. Rajendra
Shrestha

Water Energy Carbon
Nexus in Urban Water
Supply System of
Kathmandu Valley
Miss Mimansha Joshi
C: Dr. Shobhakar Dhakal

Chapter 5: SCHOOL OF MANAGEMENT



5.1 Introduction

AIT School of Management (SOM) was established in October 1987 to meet the growing needs in Asia for graduate management education. In line with AIT's mission, SOM's objective is to make a difference in the quality of management education and practices in the Asia-Pacific region leading to sustainable development, technological leadership, entrepreneurial spirit, wealth creation and pride. SOM believes in the development of corporate leaders not just for the present but also for the future to face the challenges posed by the dramatic social, economic, political and technological changes in Asia. The programs at SOM offer a unique competitive advantage to managers and future leaders in the region.

Currently SOM has students from over 40 countries and various academic backgrounds enrolled in its programs.

The bonds formed by the students during their stay in SOM have proved as important as the knowledge and skills they gain. At SOM we stress on ethics and moral values as much as the need to produce managers who can drive their organizations to profitability and prosperity.

Mission

To develop socially responsible global leaders who will enhance organizational performance for the growth and sustainable development of economies "and societies in Asia in particular and the world in general.

Vision

"To become the leading creator and disseminator of

Asian management knowledge, practices and values"

School Governance

Dean of School

NAZRUL ISLAM, BScEng, BUET, Bangladesh; MEng, DEng, AIT, Thailand.

Professor (Management of Technology; Technology and Development; Technology Policy; Technology Transfer)

SOM Research Focus

SOM primary area of research focuses, but not limited to,

"THE BUSINESS AND INNOVATION MODELS FOR A GREEN ECONOMY".

“THE BUSINESS AND INNOVATION MODELS FOR A GREEN ECONOMY”.

Under this thematic area, there are five sub-thematic areas, including:

1. Sustainability and Corporate Social Responsibility in Business
2. Climate Change Policy and Corporate Compliance
3. Social responsibility, Behavioral Change and Social Impact
4. Innovation in Green Products and Services
5. Technology needs assessment and transfer

Research Facilities and Laboratories

The School of Management has 5 state-of-the-art multimedia classrooms including a large amphitheater for academic use. Each classroom is equipped with a multimedia podium that consists of LCD projectors, audio cassette recorder, VHS player/ recorder, slide projectors, built-in desktop PC, laptop and wireless internet connection.

The School of Management provides the students with an extensive range of online journals and database. The students can access the journal and database to read articles from reputed international journals.

Computer Lab consultants are available during office hours to assist with computer related problems. The consultants will provide help by answering general questions relating to

the lab e.g., how to obtain a computer account, questions related to the PC Proficiency about software applications, email, printing etc.

5.2 Faculty and Research Staff

Full-time Faculty

- BARBARA IGEL, BA, MA, Technical Univ, Berlin; PhD, Freie Univ, Berlin, Germany.

Associate Professor (High-tech Entrepreneurship; Industrial Economics; Knowledge Management; Management of Innovation)

- DONYAPRUETH KRAIRIT, BS, ThammasatUniv, Thailand; MS, Univ of Colorado at Boulder; PhD, Massachusetts Inst of Tech, Cambridge, USA.

Associate Professor (Technology, Policy and Management)

- YUOSRE BADIR, M.S., The Swiss Federal Institute of Technology Lausanne (EPFL), M.ScUniversity of Putra Malaysia, Ph.D (MOT) EPFL

Associate Professor (Innovation and Technology Management)

- JUTHATHIP JONGWANICH, BA, MA, ThammasatUniv, Thailand; PhD, The Australian National University, Australia

Assistant Professor (International Economics, Multinational Enterprises, Managerial Economics and Business environment)

- VATCHARAPOL SUKHOTU, BEng, KasetsartUniv, Thailand; MEng, Univ of Houston, Texas, USA; PhD, Texas A&M Univ, College Station, Texas, USA

Assistant Professor (Operation Management and Supply Chain Management)

- Dr. Vimolwan Yukongdi, BBA, Assumption University, Thailand; MBA, Univ of Pittsburg, USA; PhD Univ of Melbourne, Australia

Assistant Professor (Human Resource Management and Organizational Behavior)

Visiting and Adjunct Faculty

NAZRUL ISLAM, BScEng, BUET, Bangladesh; MEng, DEng, AIT, Thailand.

Visiting Professor (Management of Technology;

Technology and Development; Technology Policy; Technology Transfer)

SUNUNTA SIENGTHAI, BA, ChulalongkornUniv, Thailand; MA, PhD, Univ of Illinois, USA.

Professor (Labor & Industrial Relations, HRM, Wages & Productivity)

SUPASITH CHONGLERTTHAM, B. Engineering, ChulalongkornUniv, Thailand; MBA Finance, Tulane Univ, USA; PhD, Univ of Hawaii, Manoa, USA

Senior Instructor (Corporate Finance, Derivatives, Corporate Governance, Financial Accounting)

URS BUMBACHER, M.A, Ph.D (Economics & Business Admin.), Univ. of Basel, Switzerland.

Adjunct Professor (International Business)

Prof.GEETIKA GOEL, Ph.D University of Allahabad- India

Visiting Professor (Technology & Development, High Tech Entrepreneurship)

RUDOLF GRUENIG, Ph.D (BA), University of Bern, Switzerland.

Adjunct Faculty (Strategic Management)

LALIT M JOHRI, BSc (Hons), MSc, MBA, PhD, Univ of Delhi, India.

Adjunct Faculty (International Business; International Joint Ventures; Marketing; Negotiations; Strategic Management)

ILKKA KAURANEN, MS Engg, Lic Tech, DTech, Helsinki University of Technology, Finland.

Adjunct Professor (Development and Management in Industry)

TRITOS LAOSIRIHONGTHONG, Ph.D., (Management of Technology) School of Management, AIT, Thailand

Adjunct Faculty (Manufacturing Strategy and Supply Chain Management)

LOGAN MULLER, Ph.D (Sustainability), Kennedy Western University, USA.

Adjunct Faculty (International Business)

RAGNAR THOR GRUNDTVIG SEGAARD, Ph.D London School of Foreign Trade, England, Master of Business Administration, University of Gothenburg, Sweden

Adjunct Faculty (Finance)

FREDRIC W SWIERCZEK, BA, Temple Univ, USA; MA, PhD, Univ of Pittsburgh, Pennsylvania, USA.

Visiting Associate Professor (Behavioral Science; Organizational Development)

GERARD TOCQUER, Ph.D., University of Nice-SophiaAntipolis, France, M.A (Marketing), University of Sherbrooke, Canada, C.P.D., CornellUniversity, IthacaUSA

Adjunct Faculty (Service Innovation, Service Culture and Branding)

WILLI ZIMMERMANN, Ph.D. (Political Science) University of Munich, Germany, Post-Doc. Diploma, Swiss Federal Institute of Technology Switzerland

Adjunct Faculty (Public Sector Management, Environmental Management)

5.3 Doctoral Students' Dissertation

Critical Survival Factors for Entrepreneurial Firms in Hostile Emerging Markets
By Mr. Nayana D.P. Dehigama
Supervisor Dr. Barbara Igel

Driving Innovation Characteristics for Adopters Satisfaction: The Case Study of Pig Farmers in Thailand
By Mr. Warawit Panmethis
Supervisor Prof. Nazrul Islam
The Motivations of Firms Seeking for Optimum Corporate Governance Score: Evidence from Listed Companies in Thailand

By Mr. Sutee Tantivanichanon
Supervisor Dr. Winai Wongsurawat

The Motivations of Firms Seeking for Optimum Corporate Governance Score: Evidence from Listed Companies in Thailand

By Mr. Sutee Tantivanichanon
Supervisor Dr. Donyaprueth Krairit

A Strategic Evaluation Framework for Regional Tea Plantation Companies in Sri Lanka

By Mr. Rohantha Neville
Anthony Athukorala
Supervisor Dr. Winai
Wongsurawat
Information Technology
Outsourcing Utilizing Business
Process
Outsourcing/Information
Technology Enabled Services
(BPO/ITES) at Firms in India: The
Role of Costs, Benefits, Strategy
and Risk
By Mr. Shrinivas Patil
Supervisor Dr. Winai
Wongsurawat

Information Technology
Outsourcing Utilizing Business
Process
Outsourcing/Information
Technology Enabled Services
(BPO/ITES) at Firms in India: The
Role of Costs, Benefits, Strategy
and Risk
By Mr. Shrinivas Patil
Supervisor Dr. Yuosre Badir

Demand Model for Domestic
Schedule Air Transport Services
in Thailand
By Miss Phimphorn
Sowawattanakul
Supervisor Dr. Winai
Wongsurawat

Does Community Economic
Development Really Work? A
Causal Impact of Small and
Micro Community Enterprises
By Miss Vipavee Valeepitakdej
Supervisor Dr. Winai
Wongsurawat

The Impact of Green Marketing
Strategies on Consumers: Green
Product Versus Green Cause-
Related Marketing
By Miss Alisa Sony
Supervisor Dr. David Ferguson

Critical Success Factors for
Agricultural Price Intervention
Projects in Thailand
By Mr. Kamon Ruengdet
Supervisor Dr. Yuosre Badir

Critical Success Factors for
Agricultural Price Intervention
Projects in Thailand
By Mr. Kamon Ruengdet
Supervisor Dr. Winai
Wongsurawat

A Customer Behavior Study
within the Banking Industry of
Pakistan: Evaluating the Roles
and Inter-Relationships of
Perceived Service Quality,
Corporate Social Responsibility,
Trust and Continuance
Commitment on Customer
Loyalty Intentions
By Mr. Zia Ullah Khan
Supervisor Dr. David Ferguson

Transformational Leadership
and Innovative Work Behaviour:
The Mediating Role of
Psychological Empowerment
and the Moderating Role of
Self-Construal
By Mr. Bilal Afsar
Supervisor Dr. Yuosre Badir

A Strategic Evaluation
Framework for Regional Tea
Plantation Companies in Sri
Lanka
By Mr. Rohantha Neville
Anthony Athukorala
Supervisor Prof. Nazrul Islam

5.4 Masters Students' Theses and Research Studies

Social Marketing in the Context
of Water and Sanitation Assets
and Infrastructure Provided
through Humanitarian and
Development Assistance in
South Sudan
By Mr. Henri Markus Stalder
Supervisor Dr. Willi
Zimmermann

Developing a Business Plan for
TGT Group: The Example of Sun
River Apartment
By Ms. Nguyen Thi Bich Thuy
Supervisor Dr. Barbara Igel

Delay Analysis of Income
Restoration Program for Ho Chi
Minh City - Long Thanh
Expressway Project in Vietnam
By Mr. Pham Tho Quang
Supervisor Dr. Huynh Trung
Luong

Solutions for Implementing the
Strategy of Cost Optimization at
EVN's Power Distribution
Corporation
By Mr. Do Tung Lam
Supervisor Dr. Fredric W.
Swierczek

Marketing Strategy for Rented
Workshops in Long Thanh
Industrial Zone
By Mr. Nguyen Ngoc Trien
Supervisor Dr. Vimolwan
Yukongdi

Improving Power Performance
in EVN by the Meter Data
Management System (MDMS)
By Mr. Nguyen Duc Hung
Supervisor Dr. Fredric W.
Swierczek

Improvement of the Electronic
Billing System for Power
Companies in Vietnam
By Mr. Nguyen Hong Nguyen
Supervisor Dr. Huynh Trung
Luong

Billing and Payment Practices to Suit Modern Lifestyles: The Case of Tan Binh Power Company in Vietnam

By Miss Vo Thi Thanh Hoan
Supervisor Dr. Willi Zimmermann

Strengthening the Network of the Australian Chamber of Commerce in Vietnam

By Ms. Ton Nu Le Nhien
Supervisor Dr. Vimolwan Yukongdi

Improving Individual Performance Appraisal: A Case Study of VIDC Group

By Ms. Le Thi Luong
Supervisor Dr. Fredric W. Swierczek

Impacts of Merger and Acquisition on Saigon Hanoi Bank

By Mr. Ngo Duc Hung
Supervisor Dr. Huynh Trung Luong

Improving the Effectiveness of Financial Resources Management for the Oil and Gas Exploration and Production Projects in Vietnam's and Continental Shelf: The Vietsovpetro Joint Venture

By Mr. Tran Van Hung
Supervisor Dr. Yuosre Badir

Boosting Employee Motivation among Young Employees Working Offshore in Mechanical and Energy Division of Vietsovpetro

By Mr. Bui Son Hai
Supervisor Dr. Vimolwan Yukongdi

Marketing Plan for the Wooden House Cafe

By Ms. Vu Dieu Ha
Supervisor Dr. Clemens Bechter

Chemical Management Service Strategy for Petroenertech Company

By Mr. Chu Hai Son
Supervisor Dr. Clemens Bechter

Improving the Efficiency of the Shore-Base and Logistic Service for the Oil and Gas Industry: A Case Study of PTSC Supply Base (PSB) in Vung Tau, Vietnam

By Ms. Nguyen Thi Thu Ha
Supervisor Dr. Winai Wongsurawat

Problems of Real Estate Market and Real Estate Trading Floor in Vietnam

By Mr. Huynh Xuan Dao
Supervisor Dr. Yuosre Badir

Post-Merger People Integration in Grant Thornton Vietnam

By Mr. Nguyen Tuan Nam
Supervisor Dr. Fredric W. Swierczek

Improving the Reporting System of the Vietnam Cement Industry Corporation

By Mr. Nguyen Minh Duc
Supervisor Dr. Huynh Trung Luong

Evaluating the Business Operations of VINACOMMIN for Sustainable Development

By Mr. Le Van Phuc
Supervisor Dr. Fredric W. Swierczek

Marketing Strategy for a Newly Integrated Automation Control System: The Case of Vietsovpetro

By Mr. Dao Duc Quang
Supervisor Dr. Clemens Bechter

Effective Project Management Strategy in a ""Turn Key"" Contract of the Oil and Gas Sector in Vietnam: The Vietsovpetro Joint Venture Case

By Mr. Pham Hoang Viet
Supervisor Dr. Yuosre Badir

Service Strategy for Ho Chi Minh City Telecom Company

By Mr. Vo Van Tien
Supervisor Dr. Huynh Trung Luong

Solutions for Capital Investment: A Case Study of Nam Mau

By Mr. Nguyen Anh Chung
Supervisor Dr. Huynh Trung Luong

Integrating the Gas Value Chain in Vietnam

By Mr. Le Hong Hai
Supervisor Dr. Huynh Trung Luong

Innovation for Development of Cua Ong Coal Preparation Company

By Mr. Pham Anh Tuan
Supervisor Dr. Huynh Trung Luong

Effective Maintenance of Oil and Gas Production Platform at the End of Their Life Cycle: A Case Study of Japan Vietnam Petroleum Company

By Mr. Nguyen Ngoc Manh
Supervisor Dr. Barbara Igel

Enhancing Competitive Capabilities to Expand into a New Market of EPC/EPCI Project Service in Oil and Gas Industry: A Case Study of PTSC Mechanical and Construction Ltd. Company in Vung Tau, Vietnam

By Mr. Nguyen Duc Thien
Supervisor Dr. Vatcharapol Sukhotu

Measures to Improve the Efficiency of Human Resources: A Case Study of Vietsovpetro

By Mr. Ngo Ba Dat

Supervisor Prof. Marie-Therese
Claes

Human Resource Evaluation in
Crude Oil Production Downturn
Phase: The Case of "Oil and
Gas Production Enterprise" -
OGPE in Vung Tau, Vietnam
By Mr. Pham Linh Tung
Supervisor Dr. Patchara
Popaitoon

Solutions to Prevent Dropout
Students at Vung Tau Tourism
Vocational College
By Ms. Nguyen Thi Ly
Supervisor Dr. Barbara Igel

Solving the Problem of "Right
Time" in Providing the Services
and Materials for Operations of
Gas Transporting and
Processing System: A Case
Study of Namconson Pipeline
Co.
By Ms. Nguyen Dac Dieu
Phuong
Supervisor Dr. Huynh Trung
Luong

Improving Leadership
Effectiveness in an Oil and Gas
Company: A Case Study of the
Gas Operation Division,
Vietsovpetro J.V., Vung Tau,
Vietnam
By Mr. Nguyen Minh Duc
Supervisor Dr. Willi
Zimmermann

Improving Organizational
Structure at Vietsovpetro Joint
Venture (VSP)
By Mr. Nguyen Quyet Thang
Supervisor Dr. Barbara Igel

Strategic Management and
Implementation Plan for
Sustainable Development and
Increasing Revenues from
External Services: A Case Study
of Oil and Gas Production

Enterprise (OGPE) - VSP JV in
Vung Tau, Vietnam
By Mr. Tran Thanh Tai
Supervisor Dr. Yuosre Badir

Evaluate the Organizational
Effectiveness of Nam Con Son
Pipeline (NCAP) Co.
By Mr. Tran Phuong Danh
Supervisor Dr. Barbara Igel

Achieving Cost Optimization via
Effective Procurement Process
Governance: A Case Study of
Japan Vietnam Petroleum
Company (JVPC)
By Mr. Tran Xuan Thuy
Supervisor Dr. Huynh Trung
Luong
Human Resource Management
with Brain Drain Solutions in
Vietsovpetro Joint Venture,
Vung Tau, Vietnam
By Mr. Trinh Van Dao
Supervisor Dr. Barbara Igel

Solutions to Save Operation
Cost of PTSC Marine Fleet: A
Case Study of Branch of
Petrovietnam Technical Services
Corporation (PTSC)
By Mr. Doan Dinh Tu
Supervisor Dr. Barbara Igel

Digital Marketing for VK
Hospital
By Ms. Truong Thi Huyen Chi
Supervisor Dr. Vatcharapol
Sukhotu

The Real Estate Market in Ho
Chi Minh City: The Remarkable
Recovery and the Domination of
Local Developers after the
Frozen Period (2010-2013)
By Mr. Duong Hong Cam
Supervisor Dr. Winai
Wongsurawat

Responses to Counterfeit
Pesticides: A Case Study in
Bayer CropScience, Vietnam
By Mr. Nguyen Thanh Tan

Supervisor Dr. Yuosre Badir

Optimizing Inventory for Capital
Reduction in DKSH Vietnam
Healthcare
By Mrs. Thai Cam Hang
Supervisor Dr. Vatcharapol
Sukhotu

Improving the Application of
Information Technology in State
Management in Dak Nong
Province
By Mr. Nguyen The Vinh
Supervisor Dr. Barbara Igel

How to Improve Agifish Brand
Awareness in the Domestic
Market
By Ms. Le Minh Nhut Mai
Supervisor Dr. Barbara Igel

How to Integrate a New Cultural
Environment in M&A in
Vietnam
By Ms. Dang Thi Xuan Huong
Supervisor Dr. Barbara Igel

Company Re-Structuring for
Efficiency: A Change
Management Approach for
Nhon Trach Shipyard, State
J.S.C.
By Mr. Nguyen Van Bang
Supervisor Dr. Barbara Igel

Should SCG Chemicals Produce
Polyethylene (Pe) Pipe Plastic
Resin Material in Vietnam?
By Ms. Vo Thi Kim Loan
Supervisor Dr. Barbara Igel

How to Improve the Loyalty of
Tier 1 Distributors of Vinh
Tuong Industrial Corporation in
Vietnam
By Mr. Pham Chi Trung
Supervisor Dr. Barbara Igel

Entry and Competitive Strategy
for Engineering and Consulting
Services in Vietnam: The Case of
Witteveen+Bos

By Ms. Nguyen Thi Anh Nguyet
Supervisor Dr. Winai
Wongsurawat"

Innovation in Substation and
Remote Control Centers for
Vietnam Electricity
By Mr. Ta Tuan Anh
Supervisor Dr. Huynh Trung
Luong

Strengthening the Effectiveness
and Efficiency of Internal
Control in Vietnam Electricity
By Mr. Le Hai Long
Supervisor Dr. Fredric W.
Swierczek

Enhancing the Services of
PetroVietnam Securities
Company
By Mrs. Kieu Kim Thuy
Supervisor Dr. Huynh Trung
Luong

Upstream Investment of
PetroVietnam: A Case Study of
the SK305 Project
By Mrs. Nguyen Thi Thuy Tien
Supervisor Dr. Huynh Trung
Luong

Improving Energy Management
in Production in VICEM Butson
By Mr. Dang Minh Duc
Supervisor Dr. Fredric W.
Swierczek

The Refrigerated LPG Storage
Project of PetroVietnam Gas
By Mr. Tran Anh Duc
Supervisor Dr. Fredric W.
Swierczek

How to Increase the
Employability of Students in
RMIT University Hanoi
(Vietnam)
By Ms. Nguyen Hong Ngoc
Supervisor Dr. Barbara Igel

Improving Employee
Satisfaction in PECC4
By Ms. Phung Lien Khanh

Supervisor Dr. Fredric W.
Swierczek

Corporate Strategy
Development in VICEM Butson
By Mr. Pham Quang Thai
Supervisor Dr. Fredric W.
Swierczek

Adaption of Plan Vietnam in the
Context of Reduced Funding
By Ms. Nguyen Lan Huong
Supervisor Dr. Fredric W.
Swierczek

Causes of Delays in the Hanoi -
Hai Phong Express Way Project
By Mr. Bui Ngoc Cuong
Supervisor Dr. Huynh Trung
Luong

Developing the Information
Technology Services of Viettel
Mobile in 2015-2018
By Ms. Nguyen Quynh Trang
Supervisor Dr. Huynh Trung
Luong

Marketing Strategies of Ford,
Vietnam
By Mr. Ngo Van Chien
Supervisor Dr. Fredric W.
Swierczek

The Effect of Questioning on
Achieving Better Results in the
Workplace
By Mr. Pham Van Diem
Supervisor Dr. Winai
Wongsurawat

Solutions for PetroVietnam
Exploration Production
Corporation (PVEP) in the Oil
Price Crisis
By Mr. Dinh Trong Huy
Supervisor Dr. Huynh Trung
Luong

Implementation of
Restructuring in PetroVietnam
Exploration Production
Corporation (PVEP)

By Ms. Nguyen Thu Hanh
Supervisor Dr. Fredric W.
Swierczek

A Case Study of a Virtual
Community among Myanmar
Facebook Users
By Miss Saw Minn Wai
Supervisor Dr. Barbara Igel

Cultural and Heritage Tourism
Development: Tourists'
Satisfaction with Tourism
Products of Mrauk Oo,
Myanmar
By Mr. Shwe Thein
Supervisor Prof. Sununta
Siengthai

Customers' Perceptions on
Online Banking System in
Myanmar
By: Mr. Ye Wana Hlaing
Supervisor Dr. Donyaprueth
Krairit

Factors Motivating Employees
in the Hotel Industry in
Myanmar
By: Miss Hnin Nwe Oo
Supervisor Prof. Sununta
Siengthai"

Customer Relationship
Management: A Case Study of
Siam Cement Group in
Myanmar
By: Mr. Lin Win Thein
Supervisor Dr. Barbara Igel

Key Attributes of Successful
Apps Developed by Companies:
Learning from Five Successful
Enterprise Apps and Their
Marketing Campaigns
By: Miss Xu Bin
Supervisor Dr. Yuosre Badir

Factors Affecting Consumers'
Garment Purchasing Behaviour
in the Context of Nepal
By: Mr. Aashish Joshi Regmi

Supervisor Dr. Donyaprueth
Krairit

Selectivity and Market Timing
Abilities: An Analysis of Equity
Mutual Funds in Thailand

By: Miss Tarinee
Jearanaiwongkul
Supervisor Dr. Supasith
Chonglerttham

Intellectual Capital
Management in Thai
Organizations: An Exploratory
Study

By: Miss Wanlapha Phraibueng
Supervisor Prof. Sununta
Siengthai

Innovation Capability Building
Through Knowledge Sharing in
Multiple Acquisition: A Case
Study of Label Business in
Southeast Asia

By: Miss Siffat Shabnam
Supervisor Dr. Yuosre Badir
Human Resources Management
Strategies of the Center for
Professional Assessment
(Thailand): Retention and Job
Satisfaction

By: Miss Kwankaew
Chavengvorakul
Supervisor Dr. Winai
Wongsurawat

Human Resources Management
Strategies of the Center for
Professional Assessment
(Thailand): Retention and Job
Satisfaction

By: Miss Kwankaew
Chavengvorakul
Supervisor Prof. Sununta
Siengthai

Motivational Factors for Asia-
Pacific Citizens: A Case Study of
an Engineering Consulting
Industry

By: Miss Natwadee
Pantarawadee

Supervisor Prof. Sununta
Siengthai

Consumer Purchasing Behaviour
Towards Self-medication
through OTC Medicines in Nepal

By: Miss Shiksha Amatya
Supervisor Dr. Donyaprueth
Krairit

Second Trip during the Shelf
Replenishment Process and
Impact of Pack Size in Retail
Stores

By: Miss Roshani Bharati
Supervisor Dr. Vatcharapol
Sukhotu

O2O Business Model in China: A
Case Study of Didi Taxi
Application

By: Miss Guo Jing
Supervisor Dr. Barbara Igel

IT Service Failures and Recovery
Strategies: A Case Study of First
Cambodia Co., Ltd.

By: Mr. Plang Phalla
Supervisor Dr. Yuosre Badir

Risk Management in Project
Finance: Case Studies from India

By: Miss Nirupa Bhusal
Supervisor Dr. Yuosre Badir

Risk Management in Project
Finance: Case Studies from India

By: Miss Nirupa Bhusal
Supervisor Dr. Sundar
Venkatesh

Transformational Leadership
and Employee Innovative Work
Behavior in Large Commercial
Banks of Pakistan: The
Mediating Role of Creative Self-
Efficacy

By: Mr. Ghulam Jan
Supervisor Dr. Yuosre Badir

Determinants of Dividend
Payout: Evidence from the Oil
and Gas Industry of Pakistan

By: Mr. Muhammad Tahir
Supervisor Dr. Supasith
Chonglerttham

Mobile Marketing Strategies: An
Exploratory Study of the
Willingness for Asian Customers
to Accept Mobile Advertising

By: Mr. Romain Bochet
Supervisor Dr. Yuosre Badir

How Can Fragrance Remain a
Luxury Product? - Strategy and
Challenges of Alternative
Perfumery

By: Miss Jessica Marie Ann Lee
Luret
Supervisor Dr. Barbara Igel

Sharing Economy: Is Thailand
Ready for a New Form of
Consumption?

By: Miss Johanne Khan Malek
Supervisor Dr. Barbara Igel

An Empirical Analysis of the
Financial Consumer's Interest
Protection Activities by Central
Bank: Bangladesh Perspective

By: Mr. Md. Rezwanur Rahman
Supervisor Dr. Donyaprueth
Krairit

Banking and Financial Stability
through Effective Supervision:
An Analysis on Bangladesh
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(BCPS) Supervision
Methodology

By: Mr. Md. Nazrul Islam
Supervisor Mr. Weerakoon A.
Wijewardena

The Effectiveness of Central
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Enterprise (SME) Credit Policies
for Promoting Women
Entrepreneurship in Bangladesh

By: Mr. Md. Mokaddasul Alam
Supervisor Dr. Donyaprueth
Krairit

Green Banking Performance Analysis of the Banking Sector of Bangladesh: A Case Study on Selected Banks

By: Mr. Mohammad Alim Al-Razi

Supervisor Dr. Yuosre Badir

Economic Determinants of Foreign Exchange Reserve of Bangladesh: A Study on Causes and Effects

By: Mr. Golam Rabby Masud

Supervisor Dr. Donyaprueth Krairit

An Evaluation of Commodity Wise Export Trend and Its Relationship to GDP Growth in Bangladesh

By: Mr. Obaidullah Al Masud

Supervisor Dr. Donyaprueth Krairit

Green Financing: A Case on Bangladesh Bank Perspective

By: Ms. Tasmiah Binte Zilani

Supervisor Dr. Donyaprueth Krairit

A Model for Measuring Central Bank Independence

By: Mr. Birendra Chandra Das

Supervisor Dr. Donyaprueth Krairit

Problems and Prospects in Implementing Basel II & III in Sri Lankan Commercial Banks

By: Mr. Rasanayagam Kumanan

Supervisor Dr. Yuosre Badir

The Determinants of Profitability of Domestic Commercial Banks in Sri Lanka

By: Mr. Asanka Lellwala

Supervisor Dr. Yuosre Badir

Transitioning to the Post-2015 Development Agenda: The Journey of a Children's CSR Initiative

By: Mr. Andrew Spain

Supervisor Dr. Kyoko Kusakabe

Creating Shared Value Through Food Traceability: What Contribution Can HAVI Supply Chain Solutions Make to Improve the Food Safety Strategies of Its Customers in China?

By: Ms. Lisa Kirkpatrick

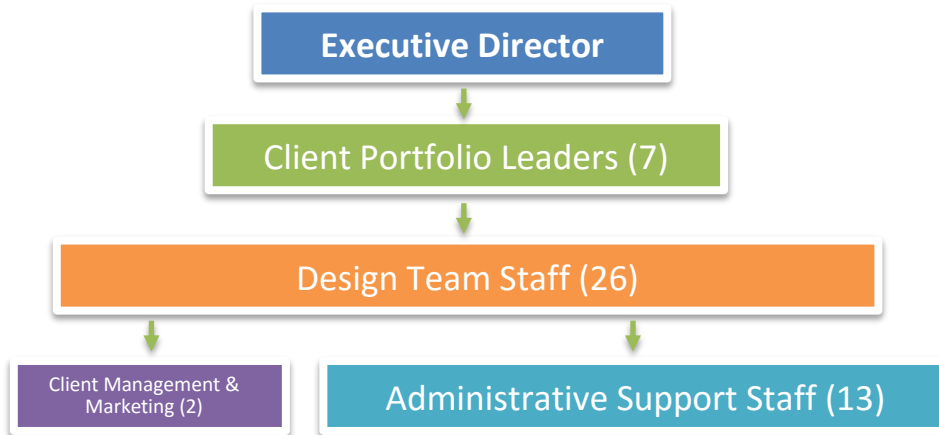
Supervisor Dr. Clemens Grunbuhel

Namaste Malaysia: Managing Cultural Diversity Among Foreign Workers in Malaysia with Focus on New Hires from Nepal

By: Ms. Sarah Miriam Albert

Supervisor Prof. Sununta Siengthai

Chapter 6: AIT EXTENSION



6.1 Introduction

AIT Extension’s programs and services complement those of AIT’s graduate degree programs, and contribute to AIT’s mission by enabling a flexible, innovative, and client oriented response to emerging and changing needs in the region.

AIT Extension is the Institute-wide center principally responsible for continuing professional and executive development, with a mission that complements that of the Schools. It specializes in customized capacity building and professional development services for practicing professionals, and has expertise in designing and implementing programs for

diverse clients in many sectors. Expert resources include internal staff, AIT faculty members, and experts in relevant fields based in Thailand and the region. AIT Extension also provides support services and staff development programs to other units at AIT.

6.2 Mission

To design and deliver continuing, professional and executive education, and other capacity development services required by our clients by drawing on the expertise of AIT faculty and experts in AIT’s network.

6.3 Unit Governance

AIT Extension is led by an Executive Director. In collaboration with the AIT President, to whom he reports, the Executive Director is responsible for defining the strategic direction of AIT Extension, and executing its programs.

Senior colleagues each lead a client portfolio, and are responsible for client relationship management and leading program design teams that respond to clients’ requirements. Program work is supported by an administrative and technical team, led by a Coordinator, and by a Client Management and Marketing team.

6.4 Services

AIT Extension provides a comprehensive range of professional development and capacity development services across a wide disciplinary range.

Continuing professional education	Executive and leadership education Professional and skills training Professional degree programs Professional certification preparation International exposure visits
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Assessments, and Monitoring & Evaluation	Professional needs assessments Action research and case studies Evaluations and third party validations Impact assessments and tracer studies
Expert services	Consulting & advisory Turnkey projects Partnerships and joint ventures
Learning facilitation	Learning event management Internships and on the job placements E learning and distributed learning Curriculum design & learning materials Instructional design.

AIT Extension works across a broad range of sectors and disciplines. Broadly speaking, these are:

1. Engineering
2. Technology
3. Management
4. Environment
5. Agriculture
6. Planning
7. Development
8. Governance
9. Health
10. Banking & Finance
11. Education.

6.5 Learning Approach

Our teaching and learning approach is to apply best practices in training, based on established principles of adult learning.

AIT Extension training strategies are consistent with the principles of adult learning: peer learning, reflective thinking, problem based learning, participatory learning and experiential learning. We aim to maximize learning by mixing these approaches appropriate to each learning context.

Methods used include short presentations, group discussions, case studies, workshops, individual exercises, simulation, role plays, project work, peer

learning and exposure visits. Training sessions are designed to allow participants the scope to interact with resource persons and actively engage in the learning process.

Participants benefit from close personal attention by AIT Extension staff. Our courses provide five to six hours of workshop sessions every weekday, with extensive social and cultural trips organized at the weekends in courses of two weeks or longer. IT relevant and appropriate to every group of participants are incorporated into the course design.

Feedback from participants in one course is a critical input to subsequent courses. All our training courses are undertaken with the aim of continuous quality improvement.

All AIT Extension activities take advantage of AIT's academic and social environment, and the Institute's multicultural English-speaking academic community.

6.6 Training Resources

AIT Extension's professional staff members are specialists in continuing professional education, assessments, and monitoring & evaluation, learning facilitation, and related disciplines.

AIT Extension academic and professional Resource Persons are drawn principally from AIT's schools, and from leading international and local organizations based in Thailand.

For specific technical expertise, AIT Extension enters into

complementary partnerships with organizations and individuals with relevant technical expertise. For courses in third countries, AIT Extension works with country partners with relevant local knowledge.

Most courses are delivered in the AIT Hotel and Conference Center, which has hotel accommodation for almost 200 participants, an auditorium seating 300, and 10 training rooms for groups ranging in size from 10 to 50 participants. AIT's campus also has student dormitory accommodation, a medical clinic, an international cafeteria, several restaurants and sports facilities, including tennis and squash courts, football and cricket fields, a golf course and a swimming pool.

6.7 Grants and Sponsored Trainings Completed in 2015

Construction Management Using IT

Duration: 23 September 2013 to 11 October 2013
Project leader: Dr. Sundar Venkatesh
Sponsor: Bhutan Bank, Pakistan, Afghanistan
Total contracted amount: THB 902,502

Activities of Regional Resource Center for Asia and the Pacific

Duration: 1 January 2014 to 29 June 2015
Project leader: Dr. Jonathan Shaw
Sponsor: United Nations Environment Programme
Total contracted amount: THB 24,616,140

Professional Masters in Banking and Finance (2014 Intake)

Duration: 1 March 2014 to 31 December 2014
Project leader: Dr. Sundar Venkatesh
Sponsor: Bangladesh Bank and other banks
Total contracted amount: THB 2,903,402

Promotion of Service Opportunities to Disabled Persons Project (Senior Staff)

Duration: 20 April 2014 to 13 July 2014
Project leader: Mr. Voravate Chonlasin
Sponsor: Ministry of Social Welfare, Bangladesh
Total contracted amount: THB 2,132,623

Economic Viability of Large Economic FCDI Project

Duration: 01 July 2014 to 11 July 2014
Project leader: Mr. Fazle Karim
Sponsor: Bangladesh Water Development Board
Total contracted amount: THB 1,835,095

Promotion of Services and Opportunities to Disabled Persons Project (Practitioners)

Duration: 9 March 2015 to 25 March 2015
Project leader: Mr. Voravate Chonlasin
Sponsor: Ministry of Social Welfare, Bangladesh
Total contracted amount: THB 2,148,743

Small Holder Agriculture Transformation and Good Practices in Thailand

Duration: 29 June 2014 to 9 July 2014
Project leader: Dr. Md. Zakir Hossain
Sponsor: Capacity to Improve Agriculture and Food Security Project (USAID CIAFS), Ethiopia

Total contracted amount: THB 708,385

Urban Environmental Management

Duration: 30 June 2014 to 8 August 2014
Project leader: Dr. Md. Zakir Hossain
Sponsor: Department of Personnel & Training, India
Total contracted amount: THB 600,202

International Gas Business Management

Duration: 25 August 2014 to 5 September 2014
Project leader: Dr. Faiz Shah
Sponsor: Gas Transmission Company Limited, Bangladesh
Total contracted amount: THB 320,000

Major Water Resources Interventions (including Mississippi River, USA)

Duration: 4 August 2014 to 16 August 2014
Project leader: Mr. Fazle Karim
Sponsor: Bangladesh Water Development Board
Total contracted amount: THB 2,699,822

Pump Technology in Flood Control

Duration: 28 August 2014 to 3 September 2014
Project leader: Mr. Voravate Chonlasin
Sponsor: EBARA, Japan
Total contracted amount: THB 547,839

IWRM and Sustainable Sanitation

Duration: 31 August 2014 to 6 September 2014
Project leader: Dr. Md. Zakir Hossain
Sponsor: Dry Zone Urban Water and Sanitation Project, Sri Lanka
Total contracted amount: THB 608,947

E-Based Learning

Duration: 8 September 2014 to 12 September 2014

Project leader: Dr. Faiz Shah

Sponsor: Ministry of Education, Government of Sri Lanka

Total contracted amount: THB 238,957

Digital Library Management

Duration: 8 October 2014 to 21 October 2014

Project leader: Mr. Fazle Karim

Sponsor: Indonesian Agency for Agricultural Research and Development, Indonesia

Total contracted amount: THB 1,498,512

Organizational Development Project: Master Plan for Strategic Execution of ASEAN Fisheries Management Program

Duration: 1 October 2014 to 15 November 2014

Project leader: Ms. Narumon Wangnai

Sponsor: Southeast Asian Fisheries Development Center, Thailand

Total contracted amount: THB 315,000

Project Management Using IT

Duration: 20 October 2014 to 31 October 2014

Project leader: Mr. Fazle Karim

Sponsor: Sylhet Gas Fields s Limited, Bangladesh

Total contracted amount: THB 1,461,113

Human Resource Management for Oil, Gas, and Mineral Exploration Industries Using IT

Duration: 20 October 2014 to 31 October 2014

Project leader: Mr. Fazle Karim

Sponsor: Sylhet Gas Fields s Limited, Bangladesh

Total contracted amount: THB 1,457,814

Plant Economics and Design Optimization in Hydropower Plants

Duration: 13 October 2014 to 24 October 2014

Project leader: Mr. Voravate Chonlasin

Sponsor: Government of Bhutan

Total contracted amount: THB 329,659

Small Scale Water Resources Rehabilitation and Management

Duration: 20 October 2014 to 31 October 2014

Project leader: Dr. Md. Zakir Hossain

Sponsor: Food & Agriculture Organization, Afghanistan

Total contracted amount: THB 1,346,603

Integrated Mekong River Basin Management in Laos and Vietnam

Duration: 10 November 2014 to 21 November 2014

Project leader: Dr. Md. Zakir Hossain

Sponsor: Water Resources Planning Organization, Bangladesh

Total contracted amount: THB 1,180,651

Higher Education Management

Duration: 25 October 2014 to 30 October 2015

Project leader: Dr. Faiz Shah

Sponsor: Sri Lanka Foundation

Total contracted amount: THB 283,560

Environmental and Social Safeguards II

Duration: 27 October 2014 to 31 October 2014

Project leader: Dr. Md. Zakir Hossain

Sponsor: PMG Power Limited

Total contracted amount: THB 403,818

Leadership in Public Utilities for Managers in Asia

Duration: 20 October 2014 to 31 October 2014

Project leader: Mr. Voravate Chonlasin

Sponsor: Department of Personnel & Training, Government of India

Total contracted amount: THB 671,802

Operation and Maintenance, Monitoring and Evaluation of Provincial Road

Duration: 7 February 2015 to 14 February 2015

Project leader: Dr. Faiz Shah

Sponsor: Ministry of Local Government and Provincial Councils, Sri Lanka

Total contracted amount: THB 729,975

Pipeline Risk Assessment and Management

Duration: 3 November 2014 to 14 November 2014

Project leader: Mr. Fazle Karim

Sponsor: Gas Transmission Company Limited, Bangladesh

Total contracted amount: THB 1,141,924

Development Planning

Duration: 1 November 2014 to 7 November 2014

Project leader: Dr. Faiz Shah

Sponsor: Western Provincial Council, Sri Lanka

Total contracted amount: THB 820,466

Office Management Skills

Duration: 17 November 2014 to 28 November 2014

Project leader: Mr. Fazle Karim

Sponsor: Titas Gas Transmission and Distribution Co. Ltd., Bangladesh

Total contracted amount: THB 1,433,000

E Governance and Local Government Service Delivery

Innovation

Duration: 21 November 2014 to 25 November 2014
 Project leader: Dr. Faiz Shah
 Sponsor: Ministry of Local Government and Provincial Councils, Sri Lanka
 Total contracted amount: THB 440,576

Productivity Development in Thailand

Duration: 20 November 2014 to 20 December 2014
 Project leader: Dr. Faiz Shah
 Sponsor: Government of Sri Lanka
 Total contracted amount: THB 904,410

Integrated Water Resource Management

Duration: 24 November 2014 to 5 December 2014
 Project leader: Dr. Faiz Shah
 Sponsor: Multiple
 Total contracted amount: THB 698,853

Advanced Leadership & Management Skills for Gas Industries

Duration: 17 November 2014 to 28 November 2014
 Project leader: Dr. Faiz Shah
 Sponsor: Titas Gas Transmission and Distribution Co. Ltd., Bangladesh
 Total contracted amount: THB 979,573

Sustainable Development Planning and Management

Duration: 1 December 2014 to 13 December 2014
 Project leader: Dr. Pradeep Kumar Dash
 Sponsor: Government of India
 Total contracted amount: THB 2,676,390

Management of Inland Fisheries, Livestock, Dairy Production and Modern Post Harvest Innovation in Agriculture

Duration: 1 December 2014 to 5 December 2014
 Project leader: Dr. Faiz Shah
 Sponsor: UVA Province, Sri Lanka
 Total contracted amount: THB 508,016

Governance and Anti-Corruption Eradication Strategy Program

Duration: 8 December 2014 to 19 December 2014
 Project leader: Mr. Voravate Chonlasin
 Sponsor: Department of Personnel & Training, Government of India
 Total contracted amount: THB 662,058

Project Management Using IT

Duration: 8 December 2014 to 19 December 2014
 Project leader: Mr. Fazle Karim
 Sponsor: Titas Gas Transmission and Distribution Co Ltd, Bangladesh
 Total contracted amount: THB 1,167,016

Accounting and Auditing for Gas, Oil and Mining Companies

Duration: 8 December 2014 to 19 December 2014
 Project leader: Mr. Fazle Karim
 Sponsor: Bangladesh Water Development Board
 Total contracted amount: THB 979,873

The UN Winter School on Sustainable Consumption and Production in Asia and the Pacific

Duration: 8 December 2014 to 20 December 2014
 Project leader: Mr. Fazle Karim
 Sponsor: United Nations Environment Program
 Total contracted amount: THB 1,816,768

Public Private Partnership Exposure Visit Program: Cambodia and Vietnam

Duration: 10 February 2014 to 26 June 2014
 Project leader: Dr. Sundar Venkatesh
 Sponsor: Bangladesh Bank
 Total contracted amount: THB 2,903,402

Hydropower Financing

Duration: 5 January 2015 to 23 January 2015
 Project leader: Dr. Faiz Shah
 Sponsor: Water and Power Development Authority, Pakistan (World Bank)
 Total contracted amount: THB 6,577,456

Project Management

Duration: 5 January 2015 to 10 January 2015
 Project leader: Dr. Pradeep Kumar Dash
 Sponsor: Flood and Erosion Management Agency, Assam, India
 Total contracted amount: THB 832,211

Finance Management, Accounting and Auditing For Gas Oil and Mining Companies

Duration: 12 January 2015 to 23 January 2015
 Project leader: Mr. Fazle Karim
 Sponsor: Titas Gas Transmission and Distribution Co Ltd, Bangladesh
 Total contracted amount: THB 1,094,026

Effective Negotiation and Strategic Management for Gas Oil and coal Industries

Duration: 12 January 2015 to 21 January 2015
 Project leader: Dr. Faiz Shah
 Sponsor: Gas Transmission Company Limited, Bangladesh
 Total contracted amount: THB 873,092

Sustainable Development Planning and Management and Governance

Duration: 22 July 2015 to 31 July 2015

Project leader: Dr. Pradeep Kumar Dash

Sponsor: Government of India
Total contracted amount: THB 2,583,347

Human Resource Management

Duration: 18 May 2015 to 29 May 2015

Project leader: Mr. Fazle Karim
Sponsor: DESCO, Bangladesh
Total contracted amount: THB 839,995

The UN Winter School on Sustainable Consumption and Production in Asia and the Pacific

Duration: 17 January 2016 to 30 January 2016

Project leader: Mr. Fazle Karim
Sponsor: United Nations Environment Program
Total contracted amount: THB 3,957,770

Windows Server 2012 and MySQL Configuration and Administration

Duration: 13 July 2015 to 12 August 2015

Project leader: Mr. Fazle Karim
Sponsor: Ministry of Education, youth and sports, Cambodia
Total contracted amount: THB 558,240

Disaster Risk Reduction and Community Response

Duration: 02 July 2015 to 14 July 2015

Project leader: Mr. Fazle Karim
Sponsor: Min of Planning, Bangladesh
Total contracted amount: THB 1,077,243

Sustainable Development Planning and Management and Governance

Duration: 08 June 2015 to 19 June 2015

Project leader: Dr. Pradeep Kumar Dash

Sponsor: Government of India
Total contracted amount: THB 2,549,328

Public Administrative Reform, Good governance and Citizen Centered Service Delivery B4

Duration: 23 August 2015 to 01 September 2015

Project leader: Mr. Voravate Chonlasin

Sponsor: Bangladesh Public Administrative Training Centre
Total contracted amount: THB 1,229,977

Pump Technology for Industrial Waterworks 65165

Duration: 27 August 2015 to 02 September 2015

Project leader: Mr. Voravate Chonlasin

Sponsor: EBARA Japan
Total contracted amount: THB 469,059

Effective Negotiation and Dispute Resolution

Duration: 04 August 2015 to 18 August 2015

Project leader: Dr. Faiz Shah
Sponsor: Petrobangla and Bangladesh Gas Fields Co. Ltd.,
Total contracted amount: THB 1,856,250

Aquaculture and Aquatic Resources Management in South and Southeast Asia

Duration: 19 July 2015 to 08 August 2015

Project leader: Dr. Md. Zakir Hossain

Sponsor: Shanghai Ocean University
Total contracted amount: THB 1,694,000

Financial Management Accounting and Audit

Duration: 14 June 2015 to 21 June 2015

Project leader: Dr. Faiz Shah
Sponsor: Ministry of Health, Sri Lanka

Total contracted amount: THB 703,924

Defence Policies, Governance, Administration and Management

Duration: 15 June 2015 to 19 June 2015

Project leader: Dr. Md. Zakir Hossain

Sponsor: DHTI, Ministry of Defence, India
Total contracted amount: THB 894,205

Effective Negotiation and Dispute Resolution for Gas and Oil Industries

Duration: 10 June 2015 to 24 June 2015

Project leader: Dr. Faiz Shah

Sponsor: Petrobangla, Rupantarita Prakritig Gas Co. Ltd.
Total contracted amount: THB 1,889,410

Advance Management Visit Program, Thailand and Australia

Duration: 19 May 2015 to 30 May 2015

Project leader: Mr. Fazle Karim
Sponsor: The World Bank
Total contracted amount: THB 2,292,975

Institutional Development and Training Program to Support Healthy Communities in Thailand

Duration: 20 May 2015 to 30 June 2015

Project leader: Mr. Voravate Chonlasin

Sponsor: University of Cape Town, South Africa
Total contracted amount: THB 234,461

AIT Observation and Training

Duration: 27 April 2015 to 01 May 2015
 Project leader: Mr. Fazle Karim
 Sponsor: Nepal Government
 Total contracted amount: THB 629,466

Human Resource Management for Gas and Oil Companies Using IT

Duration: 11 May 2015 to 22 May 2015
 Project leader: Mr. Fazle Karim
 Sponsor: BGFCL
 Total contracted amount: THB 904,846

Sehat Mobile Project

Duration: 11 May 2015 to 11 November 2015
 Project leader: Mr. Faiz Shah
 Sponsor: Stora Enso Oyj
 Total contracted amount: THB 2,496,000

Leadership and Management Skills for the 21st century

Duration: 25 May 2015 to 05 June 2015
 Project leader: Mr. Fazle Karim
 Sponsor: Titas Gas, Bangladesh
 Total contracted amount: THB 1,260,950

Negotiation Skills and Conflict Management

Duration: 01 June 2015 to 12 June 2015
 Project leader: Mr. Fazle Karim
 Sponsor: Titas Gas, Bangladesh
 Total contracted amount: THB 945,500

Power System Dynamics and Power Sector Management

Duration: 14 May 2015 to 25 May 2015
 Project leader: Mr. Fazle Karim
 Sponsor: Dhaka Electricity Supply Co. Ltd., Bangladesh
 Total contracted amount: THB 839,995

Research and Policy Analysis

Duration: 25 May 2015 to 05 June 2015
 Project leader: Dr. Faiz Shah

Sponsor: Gross national Happiness commissions, Bhutan
 Total contracted amount: THB 746,461

Leadership, Corporate Governance and Financial Risk Management

Duration: 10 June 2015 to 11 June 2015
 Project leader: Mr. Fazle Karim
 Sponsor: Standard chartered Bank, Bangladesh
 Total contracted amount: THB 537,420

Selective ERP Planning and IT Technology Applications

Duration: 06 June 2015 to 19 June 2015
 Project leader: Mr. Fazle Karim
 Sponsor: Bangladesh Expert Processing Zone Authority
 Total contracted amount: THB 1,644,128

Design, Construction and Maintenance and Troubleshooting of Gas Measurement Instruments

Duration: 01 June 2015 to 12 June 2015
 Project leader: Mr. Fazle Karim
 Sponsor: Bangladesh Gas Fields Co. Ltd.,
 Total contracted amount: 1,152,000

Water Resources Project (Thailand Indonesia)

Duration: 21 May 2015 to 16 June 2015
 Project leader: Mr. Fazle Karim
 Sponsor: Bangladesh Water Development Board, Bangladesh
 Total contracted amount: THB 2,048,043

Public administration Reform, Good Governance and Citizen Centered Service Delivery

Duration: 19 April 2015 to 30 June 2015
 Project leader: Mr. Voravate Chonlasin

Sponsor: Ministry of Public Administration, Bangladesh
 Total contracted amount: THB 1,676,094

Leadership and Organization Renewal

Duration: 12 May 2015 to 30 June 2015
 Project leader: Mr. Voravate Chonlasin
 Sponsor: Nepal Telecom
 Total contracted amount: THB 903,778

International Immersion Programme for Executive MBA of Indian Institute of Technology (IIT), Kharagpur, India

Duration: 01 June 2015 to 11 June 2015
 Project leader: Ms. Narumon Wangnai
 Sponsor: Indian Institute of Technology Kharagpur, India
 Total contracted amount: THB 932,246

Pipeline Risk Assessment and Management

Duration: 18 May 2015 to 29 May 2015
 Project leader: Mr. Fazle Karim
 Sponsor: SGFL, Bangladesh
 Total contracted amount: THB 830,277

Professional Development Program on Quality Assurance in Higher Education

Duration: 23 March 2015 to 01 April 2015
 Project leader: Narumon Wangnai
 Sponsor: University Grant commission, Bangladesh
 Total contracted amount: THB 3,068,014

Sustainable Development Planning, Management and Governance

Duration: 8 June 2015 to 19 June 2015

Project leader: Dr. Pradeep Kumar Dash
Sponsor: Government of India
Total contracted amount: THB 2,549,328

Ensuring Training Effectiveness (Batch 6)

Duration: 23 March 2015 to 10 April 2015
Project leader: Ms. Narumon Wangnai
Sponsor: Higher Education Commission, Pakistan
Total contracted amount: THB 1,020,079

Professional Training on Banking and Finance Batch 2

Duration: 03 March 2015 to 28 June 2016
Project leader: Dr. Sundar Venkatesh
Sponsor: Bangladesh Central Bank, Sampath Bank PLC, Sri Lanka
Total contracted amount: THB 4,955,075

Capacity Enhancements for Consultants and Clinical Physiotherapist for Disabled Person B2

Duration: 09 March 2015 to 25 March 2015
Project leader: Mr. Voravate Chonlasin
Sponsor: Ministry of Social Welfare, Bangladesh
Total contracted amount: THB 2,148,743

Sustainable Energy and Cogeneration Technologies for Gas Transmission and Distribution

Duration: 09 March 2015 to 20 March 2015
Project leader: Mr. Fazle Karim
Sponsor: Titas Gas, Bangladesh
Total contracted amount: THB 1,421,887

Bridge Inspection Evaluation and Maintenance

Duration: 23 March 2015 to 10 April 2015

Project leader: Furqan Ali Shaikh
Sponsor: Government of Sudan
Total contracted amount: THB 1,041,453

Energy for Sustainable Development

Duration: 16 November 2015 to 27 November 2015
Project leader: Tharakorn/Mahbooba
Sponsor: Government of Taiwan
Total contracted amount: THB 4,126,9640

In Depth Financial Statement Analysis and Risk Management

Duration: 23 November 2015 to 30 November 2015
Project leader: Mr. Fazle Karim
Sponsor: Bangladesh Bank
Total contracted amount: THB 856,004

Capacity Enhancements for Consultants and Clinical Physiotherapist for Services to PWD (Batch II)

Duration: 15 February 2015 to 31 December 2016
Project leader: Mr. Voravate Chonlasin
Sponsor: JPUF World Bank
Total contracted amount: THB 3,134,960

Human Resources and Customer Relationship Management

Duration: 02 November 2015 to 13 November 2015
Project leader: Mr. Fazle Karim
Sponsor: Bhutan Power Corporation limited
Total contracted amount: THB 695,763

International Program on Advanced Management

Duration: 12 October 2015 to 16 October 2015
Project leader: Dr. Faiz Shah

Sponsor: Post graduate institute of Management Sri Lanka
Total contracted amount THB 466,843

Modern Education Leadership and Management Batch 3

Duration: 14 December 2015 to 18 December 2015
Project leader: Dr. Faiz Shah
Sponsor: Ministry of Education, Sri Lanka
Total contracted amount: THB 1401,580

Modern Education Leadership and Management Batch 2

Duration: 09 November 2015 to 13 November 2015
Project leader: Dr. Faiz Shah
Sponsor: Ministry of Education, Sri Lanka
Total contracted amount: THB 1,389,883

Banking Management

Duration: 21 September 2015 to 25 September 2015
Project leader: Dr. Faiz Shah
Sponsor: Rasht Riya Banjaya Bank, Nepal
Total contracted amount: THB 589,340

Management of Small Agro Enterprises

Duration: 19 April 2015 to 25 April 2015
Project leader: Dr. Md. Zakir Hossain
Sponsor: United Mission to Nepal
Total contracted amount: THB 200,893

Project Management

Duration: 19 April 2015 to 26 April 2015

Project leader: Dr. Pradeep Kumar Dash
Sponsor: Flood and Erosion Management Agency in Assam
Total contracted amount: THB 653,172

Design, Construction and Maintenance of Gas Troubleshooting and Measurement Instruments

Duration: 3 November 2015 to 16 November 2015

Project leader: Mr. Fazle Karim
Sponsor: Bangladesh Gas Fields Co., Ltd.

Total contracted amount: THB 2,444,827

Modern Education Leadership and Management

Duration: 19 July 2015 to 29 July 2015

Project leader: Dr. Faiz Shah
Sponsor: Ministry of Education Sri Lanka

Total contracted amount: THB 1,532,150

Monitoring and Evaluation of Quality Management Projects in Higher Education

Duration: 05 October 2015 to 16 October 2015

Project leader: Ms. Narumon Wangnai

Sponsor: Ministry of Education, Youth and Sports, Cambodia
Total contracted amount: THB 1,305,477

Hydrological Data Analysis and Hydropower Cost Estimation

Duration: 07 September 2015 to 19 September 2015

Project leader: Dr. Md. Zakir Hossain

Sponsor: Ministry of Economic Affairs, Government of Bhutan
Total contracted amount: THB 442,631

Management and Administration of Health Services

Duration: 28 September 2015 to 02 October 2015

Project leader: Dr. Faiz Shah
Sponsor: UVA province
Total contracted amount: THB 843,004

Professional Training Program on IT application in ERP and Financial Analysis

Duration: 24 August 2015 to 29 August 2015

Project leader: Mr. Fazle Karim
Sponsor: World Bank

Total contracted amount: THB 483,852

Selective ERP Planning and IT Technology Applications

Duration: 08 June 2015 to 19 June 2015

Project leader: Mr. Fazle Karim
Sponsor: Bangladesh Export Processing Zone Authority

Total contracted amount: THB 1,664,128

Engineering Leadership Program

Duration: 16 November 2015 to 27 November 2015

Project leader: Mr. Fazle Karim
Sponsor: Multi donor

Total contracted amount: THB 1,135,362

Development and Management of Health Science Higher Education Program, UHS

Duration: 21 December 2015 to 25 December 2015

Project leader: Mr. Voravate Chonlasin

Sponsor: University of Health Sciences, Cambodia

Total contracted amount: THB 576,800

Cold Storage Design and Management for Agri Business

Duration: 17 December 2015 to 23 December 2015

Project leader: Dr. Md. Zakir Hossain

Sponsor: Ministry of Counter Narcotics, Afghanistan

Total contracted amount: THB 142,861

Hospital Financial Management and Accounting

Duration: 14 December 2015 to 19 December 2015

Project leader: Dr. Faiz Shah
Sponsor: Ministry of Health, Sri Lanka

Total contracted amount: THB 753,881

Project Management, Monitoring and Evaluation in Higher Education

Duration: 23 November 2015 to 11 December 2015

Project leader: Ms. Narumon Wangnai

Sponsor: HEQEP, Bangladesh
Total contracted amount: THB 796,140

Professional Development Program on Quality Assurance in Higher education

Duration: 18 November 2015 to 29 November 2015

Project leader: Ms. Narumon Wangnai

Sponsor: University Grants Commission, Bangladesh
Total contracted amount: THB 1,286,544

Office Management Skills Using IT

Duration: 19 October 2015 to 24 October 2015

Project leader: Mr. Fazle Karim
Sponsor: Bangladesh Bank
Total contracted amount: THB 676,048

Performance Management and Employee Relationship

Duration: 16 November 2015 to 27 November 2015

Project leader: Mr. Fazle Karim
Sponsor: Multi donor
Total contracted amount: THB 1,416,788

AMVP Governance of Educational Institution in the 21st Century

Duration: 14 November 2015 to 28 November 2015

Project leader: Dr. Faiz Shah
Sponsor: Higher Education Commission, Pakistan

Total contracted amount: THB 7,203,396

Social Business Consulting

Duration: 01 October 2014 to 31 December 2015

Project leader: Dr. Faiz Shah
Sponsor: Thai social enterprise office

Total contracted amount: THB 595,200

Office Management

Duration: 02 November 2015 to 06 November 2015

Project leader: Dr. Faiz Shah
Sponsor: Bhutan Development Bank

Total contracted amount: THB 397,296

Printing and Digital Publishing in Education

Duration: 23 March 2015 to 01 May 2015

Project leader: Dr. Faiz Shah
Sponsor: Ministry of Education, Sri Lanka

Total contracted amount: THB 634,094

Leadership and Management Skills for the 21st Century

Duration: 20 April 2015 to 01 May 2015

Project leader: Mr. Fazle Karim
Sponsor: Titas Gas, Bangladesh
Total contracted amount: THB 1,058,509

Effective Negotiation and Strategic Management for Gas Oil and Coal Industries

Duration: 21 April 2015 to 02 May 2015

Project leader: Dr. Faiz Shah
Sponsor: GTCL

Total contracted amount: THB 866,210

Human Resource Management for Oil Gas and Mineral Exploration Industries Using IT

Duration: 30 March 2015 to 10 April 2015

Project leader: Mr. Fazle Karim
Sponsor: Sylhet Gas Fields Limited (SGFL)

Total contracted amount: THB 896,108

Sustainable Development Planning Management and Governance

Duration: 25 January 2015 to 31 January 2015

Project leader: Dr. Pradeep Kumar Dash

Sponsor: Government of India
Total contracted amount: THB 3,145,681

Capacity Development Training Program for UVA province

Duration: 20 January 2015 to 30 June 2015

Project leader: Dr. Faiz Shah
Sponsor: Government of Sri Lanka

Total contracted amount: THB 2,880,446

Effective Public Sector Leadership and Execution

Duration: 08 February 2015 to 12 February 2015

Project leader: Dr. Faiz Shah
Sponsor: Government of Sri Lanka

Total contracted amount: THB 554,995

Accounting and Auditing for Gas, Oil and Mining Industries

Duration: 16 February 2015 to 27 February 2015

Project leader: Mr. Fazle Karim
Sponsor: Titas Gas Transmission and Distribution Co Ltd

Total contracted amount: THB 1,433,000

Higher Education Management

Duration: 09 February 2015 to 14 February 2015

Project leader: Dr. Faiz Shah
Sponsor: Sri Lanka Foundation

Total contracted amount: THB 196,920

Banking Management

Duration: 18 March 2015 to 24 March 2015

Project leader: Dr. Faiz Shah
Sponsor: Rashtriya Banjaya Bank, Nepal

Total contracted amount: THB 558,003

Climate Change Considerations in Environmental Impact Assessments (EIA)

Duration: 08 December 2015 to 11 December 2015

Project leader: Dr. Faiz Shah
Sponsor: PACT

Total contracted amount: THB 933,118

Geomatics and Surveying

Duration: 26 January 2015 to 06 February 2015

Project leader: Dr. Md. Zakir Hossain

Sponsor: UNFAO, Afghanistan
Total contracted amount: THB 1,328,324

International Program on Advanced Management

Duration: 23 November 2015 to 29 November 2015

Project leader: Dr. Faiz Shah
Sponsor: Postgraduate Institute of Management Sri Lanka

Total contracted amount: THB 569,384

6.8 Ongoing Grant and Sponsored Trainings

Institutional Capacity Building for Public Works and Transport Training Center

Duration: 20 July 2015 to 31 December 2016

Project leader: Ms. Narumon Wangnai

Sponsor: GIZ_PTTC_Lao PDR
Total contracted amount: THB 1,608,750

**Professional Training Program
on Contract and Procurement
Management**

Duration: 1 February 2016 to
12 February 2016

Project leader: Mr. Fazle Karim
Sponsor: Food and Agriculture
Organization

Total contracted amount: THB
1,026,419

**Public Administration Reform,
Good Governance and Citizen
Centered Service Delivery
(B.5)**

Duration: 24 January 2016 to
02 February 2016

Project leader: Mr. Voravate
Chonlasin

Sponsor: Ministry of Public
Administration, Bangladesh

Total contracted amount: THB
1,058,610

Chapter 7: INTERNET EDUCATION AND RESEARCH LABORATORY (intERLab)

7.1 Introduction

Continual expansion of the Internet is creating greater demand for well-trained human resources to support the infrastructures and applications of the Internet. New computer science and engineering solutions are needed to simply handle the exponential growth in the traffic and bandwidth usage which is putting severe strain on the Internet today. There is urgent need for a new breed of engineers and technologists to respond to the growing demand from this rapid expansion with endless range of new applications.

As the Internet continues to penetrate every corner of society and of the economy, there are other non-technical issues to be addressed along with the advancement of technological progress. There is a definite need for better understanding of the Internet's social, business, economic as well as legal implications in order to promote the standards of behaviour and practices for the community that are appropriate to continued growth and beneficial use of the Internet.

The intERLab was established in December 2003 as a fixed regional center for Internet infrastructure capacity building, where AIT based on its human and institutional networks, could play a very significant role for the region. Many Internet organizations such as Network Startup Resource Center (NSRC) funded by NSF, the Asia-Pacific Network Information Centre (APNIC) and the Asia-Pacific Advanced Network (APAN) as well as many Internet business organizations provided strong support for the intERLab establishment.

The concept of establishing a fixed location for the internet human resources development has been discussed and endorsed by leading Asia-Pacific Internet organizations at their AP* Retreat meeting at AIT in year 2000. Several leading research institutions in

Asia-Pacific, Europe and the US have indicated their interests in forming up a network of support for the intERLab research, training and education. The main idea is to work together with partners on training and workshops in order to produce network engineers for the stable deployment of the Internet. It was also encouraged that the intERLab develops its own expertise by doing its own research and eventually become one of the leading Internet research centers in the region.

The core component of the laboratory will be on research activities. This will be achieved by maintaining excellent research facilities and staff, hosting visiting researchers and taking advantage of linkages with research laboratories worldwide. The lab was built upon pre-existing Internetworking Research Laboratory of the School of Advanced Technologies and the Distributed Education Center.

7.2 Mission

To become one of the leading Internet regional centers of excellence; establishing intERLab/AIT name, as one of the leading Internet infra-structure HRD centers in the Asia-Pacific region; launching our research products at the regional and international level; and developing a regular degree program under SET.

7.3 Unit Governance

PROF. KANCHANA KANCHANASUT

IntERLab Director

7.4 Resources

Education

Distance Education and E-Education Platform VClass

VClass open source consortium

VClass trainings for AIT faculty and staff

VClass hosting service and technical support

ASEAN Virtual Institute of Science and Technology (AVIST) hosting

Custom courseware development;

E-learning consultancy;

Instructional design consultancy;

Custom course design

CanalAVIST streaming VDO over Trans-Eurasia Information Network (TEIN)

Research

Streaming Technology on the Internet

DVRelay for streaming high quality Video (DV format) over heterogeneous network

Overlay network for streaming content delivery

Computer Network Research

Wireless Internet as information infrastructure for rural Asia

Digital Ubiquitous Mobile Broadband OLSR emergency network project

Multimedia communication over heterogeneous network

Training and Internet Information Center

Trainings for Network Infrastructure Engineers (7~8 courses per year)

Human Resource Development for Trans-Eurasia Information Network

Secretariats for AP* Retreat and Asia Pacific Networking Group (APNG) organizations

7.5 Faculty and Research Staff

Faculty

KANCHANA KANCHANASUT, M.Sc and Ph. D. Computer Science, University of Melbourne, Australia. Graduate Diploma in Computer Science, University of Queensland, Australia. B. Sc. Mathematics, University of Queensland, Australia.

Professor of Computer Science, School of Engineering and Technology and Director of intERLab. [Internet for education; Heterogeneous Networks; Emergency Networks; Mobile Ad Hoc Networks; Streaming Media and Distributed Computing]

Affiliates

MONGKOL EKPANYAPONG, Ph.D., Georgia Institute of Technology. M.Eng., Asian Institute of Technology, Thailand. B.Eng., Chulalongkorn University, Thailand.

Assistant Professor School of Engineering and Technology [VLSI design, physical design automation, micro architecture, compiler, and Embedded Systems]

POOMPAT SAENGUDOMLERT, Ph.D. in Electrical Engineering and Computer Science, MIT, USA M.S. in Electrical Engineering and Computer Science, MIT, USA B.S.E. in Electrical Engineering, Princeton University, USA

Associate Professor School of Engineering and Technology [Areas of Communication Theory; Optical networks; Resource Allocation Problems and Array Processing]

TEERAPAT SANGUANKOTCHAKO-RN, D.Eng in Information Processing, Tokyo Institute of Technology, Japan. M.Eng in

Information Processing, Tokyo Institute of Technology, Japan. Certificate in Japanese Language, Osaka University of Foreign Study, Japan. B.Eng. in Electrical Engineering, Chulalongkorn University, Thailand.

Associate Professor School of Engineering and Technology [Digital Signal Processing; Routing Algorithm in the network such as IP and MPLS network; High Speed network and IP-based multimedia applications]

Adjunct Researchers

TANACHAI KONGPOOL, Bachelor's Degree of Computer Science, KMUTNB King Mongkut's University of Technology North Bangkok

Assistant Researcher National Electronics and Computer Technology Center (NECTEC) [Network management; Network engineering; Ad hoc Network]

AIMASCHANA NIRUNTASUKRAT, Ph.D. in Electrical Engineering, University of Maryland (College Park), Master of Engineering in Electrical Engineering, Chulalongkorn University, Bachelor of Engineering (with honors) in Electrical Engineering, Chulalongkorn University

Researcher National Electronics and Computer Technology Center (NEC-TEC) [Network congestion control; Network performance modeling; Application of AI; Biomedical signal processing]

PANITA PONGPAIBOOL, Ph.D. in Electrical and Computer Engineering, Carnegie Mellon University Master of Science in Electrical Engineering, Stanford University Bachelor of Science (with University Distinction) in Electrical Engineering, Stanford University

Researcher National Electronics and Computer Technology Center (NECTEC) [Optical network management; IP-overoptical networking; Survivable and fault-tolerant networks; Network measurement; Traffic classification; IPv6; Mobile IP and Intelligent transport system]

ONNO W. PURBO, Ph.D., University of Waterloo, Canada. M.Eng., McMaster University, Canada.

Retired Lecturer from Institute of Technology Bandung (ITB) & Retired Indonesian Civil Servant. He is an Eisenhower Fellow & Ashoka Senior Fellow. In the last 20 years, dedicate his time to educate Indonesians on Information technology, open source, Internet Telephony & Low Cost "Wireless" Internet Access. He has published 40+ books & thousands of articles in IT. He is active in 170+ mailing lists and moderate 10+ mailing lists. His vision is "To See Knowledge Based Society in Indonesia"

THIRAPON WONGSAARDSAKUL, D.Tech.Sc. in Computer Science, Asian Institute of Technology Master of Science in Telecommunications and Computers, George Washington University Bachelor of Engineering in Computer Engineering, Kasetsart University Associate Dean, School of Science and Technology, Bangkok University [Voice over IP; Mobile Ad Hoc Network; Peer to Peer; Distributed Hash Table; Intelligent transport system]

BORIBOON PINPRAYONG, Ph.D in Business Administration, Asian Institute of Technology, Thailand, M. Business Administration, Sukhothai Thammathirat Open University, Nonthaburi, Thailand, Bachelor of Communication Art, Sukhuthai Thammathirat Open University, Nonthaburi, Thailand [ICT Management, Corporate Restructuring, Change Management, Corporate Strategy and Planning, Human Resource Management, and ICT Occupational Standard]

Research Staff

PREECHAI MEKBUNGWAN, Master of Engineering in Information and Communications Technologies (ICT), Asian Institute of Technology, Thailand. Bachelor of Engineering in Computer Engineering, Kasetsart University, Bangkok, Thailand.

Research Associate [Mobile Ad Hoc Network, Delay Tolerant Networking]

NUNTHAPAT WESHUWANNARUGS, Master of Science in Information and Communications Technologies, Asian Institute of Technology, Thailand. Bachelor of Science in Computer Science, Payap University, Chiang Mai

Research Associate [Mobile ad hoc networking; Vehicular ad hoc networking; Disaster emergency networking]

ADISORN LERTSINSRUBTAVEE, Ph.D in Computer Science, UPMC Sorbonne Universités, France, M.Sc in Communication Networks and Services, Telecom and Management SudParis (INT), France, M.Eng in Information and Communication Technology, Asian Institute of Technology, Thailand, BBA in General Management, Sukhothai Thammathirat University, Thailand, B.Eng. in Telecommunication Engineering, King Mongkut's Institute of Technology Ladkrabang, Thailand

Research Specialist-Post Doc [Mobile ad hoc networking; Vehicular ad hoc networking; Disaster emergency networking; Intelligent transportation system; Network Coding; Information retrieval; Multimedia databases]

APINUN TUNPAN, Ph.D. and M.S. in Computer Science, University of Maryland College Park, USA. B.Eng. in Computer Engineering, Chulalongkorn University, Thailand.

Senior Research Specialist [Mobile ad hoc networking; Vehicular ad hoc networking; Robotic ad hoc networking; Disruption tolerant networking; Disaster emergency networking; Intelligent transportation system; Network Coding; Information retrieval; Multimedia databases]

7.6 Grants and Sponsored Research Completed in 2015

DUMBO V

Duration: 01-01-2015 to 31-12-2015

Project Investigators Prof Kanchana Kanchanasut
Sponsor: NECTEC/ISIF
Total Contracted Amount (THB): 3,000,000

Interlab training 2015

Duration: 01-01-2015 to 31-12-2015
Project Investigators: Viraphan Samadi
Sponsor: TEIN4 Engineers, Network engineers
Total Contracted Amount (THB): 2,000,000

Internet exchange

Duration: 01-05-2014 to 31-12-2014
Project Investigators Prof Kanchana Kanchanasut, Viraphan Samadi
Sponsor: THNIC Foundation
Total Contracted Amount (THB): 1,000,000

Interlab IT service 2015

Duration: 01-01-2015 to 31-12-2015
Project Investigators: Viraphan Samadi
Sponsor: AIT
Total Contracted Amount (THB): 7,125,844

Bangkok internet exchange

Duration: 01-01-2015 to 31-12-2015
Project Investigators: Prof Kanchana Kanchanasut
Sponsor: THNIC foundation
Total Contracted Amount (THB): 2,000,000

Asian internet engineering conference 2015

Duration: 01-01-2015 to 31-12-2015
Project Investigators: Prof Kanchana Kanchanasut
Sponsor: Researcher/ engineers interested in internet technology
Total Contracted Amount (THB): 700,000

7.7 On-going Grants and Sponsored Research

Bangkok internet exchange 2016

Duration: 01-01-2016 to 31-12-2016
Project Investigators: Prof Kanchana

Kanchanasut
Sponsor: THNIC foundation
Total Contracted Amount (THB): 2,000,000

AIT internal development and maintenance

Duration: 01-01-2015 to 31-12-2015
Project Investigators: Viraphan Samadi
Sponsor: AIT
Total Contracted Amount (THB): 1,500,000

DUMBO VI

Duration: 01-01-2016 to 31-12-2016
Project Investigators: Prof Kanchana Kanchanasut
Sponsor: THNIC foundation/NECTEC
Total Contracted Amount (THB): 2,500,000

interlab IT service 2016

Duration: 01-01-2016 to 31-12-2016
Project Investigators: Mr Viraphan Samadi
Sponsor: AIT
Total Contracted Amount (THB): 7,306,200

AIT internal development and maintenance 2016

Duration: 01-01-2016 to 31-12-2016
Project Investigators: Mr Viraphan Samadi
Sponsor: AIT
Total Contracted Amount

Asian internet engineering conference 2016

Duration: 01-01-2016 to 31-12-2016
Project Investigators: Prof Kanchana Kanchanasut
Sponsor: Researcher/ engineers interested in internet technology
Total Contracted Amount (THB): 700,000

Interlab training 2016

Duration: 01-01-2016 to 31-12-2016
Project Investigators: Viraphan Samadi
Sponsor TEIN4 Engineers, Network engineers
Total Contracted Amount (THB): 1,000,000

Low-cost Real-time Monitoring of Haze Air Quality Disasters in Rural

Communities in Thailand and Southeast

Asia

Duration: 01-01-2016 to 31-12-2017

Project Investigators: Dr. Mongkol

Ekpanyapong

Sponsor: STIC-ASIE

Total Contracted Amount

(THB): 1,398,540

Chapter 8: INSTITUTE-WIDE SPONSORED AND CONTRACTED PROJECTS

8.1 Grants and Sponsored Research Completed in 2015

Planning and structuring process
Duration: 01-10-2015 to 30-11-2015
Project Investigators: Dr Theo Ebbers
Sponsor: GIZ
Total Contracted Amount (THB): 177,357

Capacity development of UPEHSD project stake holders
Duration: 27-10-2014 to 30-12-2015
Project Investigators: Muhammad abu Yusuf
Sponsor: urban Public nad environment health sector and ADB
Total Contracted Amount (THB): 4,541,438

AGS_Asia secretariat
Duration: 01-08-2014 to 31-07-2015
Project Investigators: Prof.Kazuo Yamamoto
Sponsor: Mitsubishi Rayon Company
Total Contracted Amount (THB): 312,000

Climate Technology Centre and Network phase 1
Duration: 01-10-2013 to 30-06-2015
Project Investigators: Prof. Mukand S. Bable, Dr.Sangam Shrestha and Dr. Rejendra Shrestha
Sponsor: UNEP, Kenya
Total Contracted Amount (THB): 39,00,000

8.2 On-going Grants and Sponsored Research

Renewable energy technologies for integrated community farming system
Duration: 01-04-2015 to 31-03-2016
Project Investigators: Prof S kumar, Dr Kyoto Kusakabe, Dr avishek Datta
Sponsor: Wisions of sustainability
Total Contracted Amount (THB): 455,000

Applying space based technology and information and communication technolgy to strengthen disaster resilience
Duration: 01-10-2015 to 30-10-2018
Project Investigators : Dr Manzul k Hazarika
Sponsor: ADB
Total Contracted Amount (THB): 38,327,520

JAXA-Capacity Building 2015-2016
Duration: 01-09-2015 to 31-12-2016
Project Investigators: Dr lal samarakoon
Sponsor: Japan aerospace explration company
Total Contracted Amount (THB): 5,714,285

Food waste and loss at AIT
Duration: 01-07-2015 to 30-06-2016
Project Investigators : Dr Prabhat kumar, Dr. Abha Mishra, Dr Anil k Anal and Avishek Datta
Sponsor: FAO
Total Contracted Amount (THB): 990,000

Emerging Pests and Diseases of Cassava in Southeast asia: seeking eco-friendly solutions to overcome a threat to livelihood and industries
Duration: 02-09-2014 to 01-09-2016
Project Investigators: Dr Prabhat Kumar
Sponsor: International centre for Tropical agriculture (CIAT)
Total Contracted Amount (THB): 1,338,876

Sustaining and Enhancing the Momentum for Innovation and earning Around System of Rice Intensification (SRI) in the Lower Mekong River Basin
Duration: 01-01-2013 to 31-01-2018
Project Investigators: Dr. Abha Mishra
Sponser: The European Union represnetd by European Commission
Total Contracted Amount (THB): 112,703,266

Chapter 9: OVERVIEW OF RESEARCH ACTIVITIES FOR 2015

Overall during the period January to December of 2015 there were **441** sponsored and contracted projects which were conducted by the faculty and staff from within the Fields of Study (FoS) of the three schools, SET, SERD and SOM, as well as in AIT Extension, InterERLab, and Institute wide projects. The total Publications for the same period stood at **475** from across AIT. The breakdown of which is indicated in the table below.

SCHOOL/FoS	SPONSORED & CONTRACTED PROJECTS		TOTAL PROJECTS	PUBLICATIONS				TOTAL PUBLICATIONS
	Completed	On-going		Refereed Journals	Conference Proceedings	Refereed Books/Chapters	Other Publications	
SET	45	40	85	99	29	16	1	145
CS/IM	3	2	5	9	2			11
CEIM	3	4	7	11	3			14
GTE	1		1	3	4			7
IME	3	3	6	17	6	2		25
Mech/MES	4	9	13	10	3		1	14
Nano			0	2	2			4
RSGIS	16	15	31	9				9
StE		2	2	3				3
TC			0	4	4			8
TrE	3		3	10				10
ICT			0	1	1			2
WEM	12	5	17	20	4	14		38
OTM			0					0
SERD	75	104	179	139	105	23	53	320
ASE	5	7	12	4	12	2		18
AARM	8	7	15	3	9	1	1	14
E	18	27	45	19	51		10	80
EEM	16	26	42	21	16	2	5	44
FEBT	9	9	18	26	7			33
GDS	10	13	23	16	2	10	35	63
NRM	3	8	11	18	4	3		25
PPT			0					0
RRDP		1	1	10	2	2		14
UEM	5	5	10	9	2	2	2	15
ABM		1	1	11		1		12
DPMM	1		1	2				2
SOM		23	23	6	4			10
intERLab	6	8	14					
AIT Ext	127	3	130					
Inst-wide	6	4	10					
TOTAL	259	182	441	244	138	39	54	475

School/Fos	Doctoral Student's Dissertation	Masters Students Research				Total Masters Students Research
		Thesis	Research Studies	Projects	Internships	
SET	15	139	23	62	1	240
CEIM	1	11		62		74
CS		6	4			10
GTE		20	7			27
ICT	1		2			3
IM	1	1	5			7
IME	2	15	1			18
ME	3	19				22
MES	1	11				12
NT		1				1
OTM		7			1	8
RSGIS	2	11				13
STE	1	9				10
TC		1	4			5
TE	1	4				5
WEM	2	23				25
SERD	23	118	14	6	0	161
AARM	1	6				7
ABM	1	2				3
ASE	2	6	1			9
CCSD		3				3
E	4	15	4			23
EEM	5	32	5			42
FBT	1	11	1			13
GDS	2	14				16
NRM	4	13				17
RRDP	1	9	3			13
UEM	2	7				9
UM				6		6
SOM	11	0	14	87	0	112
BA			14	8		22
BF				10		10
CSR				3		3
EMBA(V)				65		65
EMBA(BKK)				1		1
DBA	3					3
SM-PHD	8					8
SET&SERD	0	9	1	0	0	10
DPMM		1	1			
UWEM		8				
SERD&SOM	0	0	3	0	0	3
EBM			3			3
TOTAL	49	266	55	155	1	526

For the same period January to December of 2015 there was a total of **49** Doctoral Dissertations which were undertaken by the faculty from within the Fields Study (FoS) of the three schools, SET, SERD and SOM. The total Masters Student Research for the same period stood at **526** from within the three schools. The breakdown of which is indicated in the table below.