ANNUAL REPORT 1985

AIT

Asian Institute of Technology

Cover : For much of Asia, continued growth pivots on sustained agricultural and industrial development. Higher education at AIT is committed to this goal.

The Institute's 1985 Annual Report
has been prepared by the Office of
Information Services.

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ANNUAL REPORT 1985

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SECTIONS

TABLES AND CHARTS

APPENDICES

ABBREVIATIONS

ASIAN INSTITUTE OF TECHNOLOGY

When it was established in 1959, the Asian Institute of Technology embarked on a bold venture: to provide advanced engineering education at a time when there were practically no graduate programs being offered by tertiary educational institutions in South and East Asia.

From an embryonic institution dedicated to the various branches of civil engineering, AIT evolved into an international institution with authority to award post graduate degrees and diplomas in engineering, applied science and related fields. In 1967, AIT became an independent, autonomous institution.

Today, AIT provides higher education and research not available in the national education systems of the countries which it serves, thus filling a key gap in the region's capacity for continued growth. AIT gives high quality education to Asian nationals who will return to their own countries to work and eventually occupy senior positions in government, business and industry, and educational and research institutions. All but a few (3.5 per cent) of AIT graduates have ignored the pull of the West and have stayed within Asia to become urgently needed technocrats.

Higher education at AIT is balanced between high level studies of fundamentals in classical engineering and management fields and an interdisciplinary approach to solving current and emerging technological problems in Asia. Yearly, the Institute teaches about 650 students in nine academic divisions, while also engaging in other academic and research activities in six operational centers.

External support is vital to AIT's work, and its greatest resource in effecting its educational mission is its donors. Governments, international organizations, private companies and individuals, and foundations have extended financial assistance as a firm expression of their belief in AIT's strategic role in the development of the world's fastest growing region.

Donors' contributions to the Institute come in the form of grants for scholarships, sponsored research, continuing education activities, campus development, equipment purchase, operating costs, secondment of faculty and senior administrative and research staff, local funds and the AIT Endowment Fund.

AIT has been described as a model in international cooperation. Countries as geographically far apart as those in the developed West and in the developing region of Asia have been the Institute's long term supporters.

Responsibility for the Institute's policy direction rests with the Board of Trustees, which consists of more than 40 members from Asia, Europe and North America.

INSTITUTE FACTS IN BRIEF (1985)

Student enrollment in full time academic programs

	Jan	May	Sept
Doctoral	26	21	29
Master's	492	452	487
Diploma	10	11	2

Enrollment in special programs

	Jan	May	Sept
ARRSTC	23	23	16
PCAD	30	30	21
ELC	4	10	17

Degrees and Diplomas awarded

	April	Aug	Dec	Total
Doctoral Degree	–	1	1	2
Master's Degree	121	80	91	292
Diploma	–	6	1	7

Faculty members and international academic and research staff

Jan	May	Sept
141	148	152

Alumni

Total Alumni	3588
Number of Countries Represented by Alumni	31
Number of AITAA Chapters	15
Total AITAA Members	2001

Donors

Type and Number of Donor	
Governments	21
International Organizations	10
Foundations	7
National Government Agencies	21
Business, Private and Others	19
Total Contributions in Cash and in Kind	Baht 408,624,000

Finance

Total Assets	Baht 1,104,480,000
Operating Budget 1984–85	
Cash –	Baht 143,100,000
Kind –	Baht 48,866,000
Total	Baht 191,966,000
Increase in Assets 1984–85	Baht 149,561,000

BOARD OF TRUSTEES

Professor Wahiduddin Ahmad (1986)
Former Vice Chancellor
Bangladesh University of Engineering and Technology
Dacca, Bangladesh

Ep **Dr. Se Hee Ahn (1986)**
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Bangkok, Thailand

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Ep Faculty Representative
Ip Geotechnical and Transporation Engineering
Asian Institute of Technology

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Bangkok, Thailand

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Head, Sub-Division of Bilateral Cooperation with Developing Countries in Asia and Europe
Ministry of Economic Cooperation
Federal Republic of Germany

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Ep Vice Chancellor
Sr The University of Newcastle
New South Wales, Australia

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The Commission of the European Communities for South-East Asia
Bangkok, Thailand

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Japan

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Managing Director
Sino-Brit Limited
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Sr **Dr. John A. Hrones**[□]
Provost Emeritus
Case Institute of Technology
Cleveland, U.S.A.

Ex **Professor C.S. Jha (1986)**
Ep Professor of Electrical Engineering
Sr Indian Institute of Technology
New Delhi, India

Professor F.S.C.P. Kalpage (1986)
Secretary
Ministry of Higher Education
Colombo, Sri Lanka

Professor Laeeq Ahmed Khan (1988)
OSD
Ministry of Education
Islamabad, Pakistan

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Former Deputy Prime Minister, Royal Thai Government
Bangkok, Thailand

Dr. Chen-Fu Koo (1986)
Chairman
Taiwan Cement Corporation
Taipei, Taiwan
Republic of China

Ep **Professor Choh-Ming Li (1988)**
Sr Emeritus Professor of Business Administration
University of California
Berkeley, U.S.A.

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Chairman
Linen, Fortinberry & Associates, Inc.,
U.S.A.

Ep **Mr. Oscar B. Mapua**[□]
President
Mapua Institute of Technology
Manila, Philippines

Ex **Professor Fumio Nishino**[○]
Ep Vice President for Academic Affairs
Ip Asian Institute of Technology
Sr

Mr. Erik Norsk (1988)
Managing Director, Kampsax A/S
Dagmarhus, Denmark

Ex **Professor Alastair M. North**[○]
Ep President
Ip Asian Institute of Technology
Sr

Dr. Ir. A.E. Pannenborg (1986)
Vice President, VP
N.V. Philips, Gloeilampenfabrieken
Eindhoven, Netherlands

Ex **H.E. Mr. John L. Paynter (1986)**
Ambassador Extraordinary and Plenipotentiary
The Canadian Embassy
Bangkok, Thailand

Ep *Sr* **Professor Jacques Peters (1988)**
Director of the Class of Science
Royal Belgian Academy
Belgium

Mr. Ralph A. Pfeiffer, Jr. (1988)
Chairman, IBM World Trade Americas/Far East Corp.
New York, U.S.A.

Professor S. Pramoetadi (1986)
Directorate General of Higher Education
Ministry of Education and Culture
Indonesia

Ex **H.E. Dr. Helmut Rueckriegel (1988)**
Ambassador Extraordinary and Plenipotentiary
The Embassy of the Federal Republic of Germany
Bangkok, Thailand

Sr **The Hon. D.J. Samuel (1988)**
President, Scallop Corporation
New York, U.S.A.

Ex **Dr. Pote Sapianchai (1988)**
Secretary-General
National Education Commission
Bangkok, Thailand

Ep *Ip* *Sr* **Professor Hiroyoshi Shi-igai (1986)**
Professor, Institute of Structural Engineering
University of Tsukuba
Sakura, Japan

Professor Narsingh Narayan Singh (1986)
Secretary
Ministry of Education and Culture
Kathmandu, Nepal

Ex **H.E. Mr. R. J. Smith (1988)**
Ambassador Extraordinary and Plenipotentiary
The Australian Embassy
Bangkok, Thailand

Ex **H.E. Mr. H.A.J. Staples, CMG (1988)**
Ambassador Extraordinary and Plenipotentiary
The British Embassy
Bangkok, Thailand

Ex **H.E. Mr. Masatada Tachibana (1986)**
Ambassador Extraordinary and Plenipotentiary
The Embassy of Japan
Bangkok, Thailand

Mr. Tan Teck Chwee (1987)
Chairman
Public Service Commission
Singapore

Mr. Prida Thimakorn○
President, AITAA
Asian Institute of Technology

Ex **Dr. Snoh Unakul (1988)**
Secretary General
National Economic and Social Development Board
Bangkok, Thailand

Professor Leonard Unger (1986)
Professor of Diplomacy
Tufts University
U.S.A.

Dr. Puey Ungphakorn□
Former Governor of the Bank of Thailand
London, United Kingdom

Secretary : Emilie Ketudat (Mrs.)
Asian Institute of Technology

Notes :

○ Ex Officio Member:
President, Vice President for Academic Affairs, the President of the AIT Alumni Association
□ Life member
In all other cases, the period of appointment terminates in the year shown in brackets, normally after the January Board meeting.
\+ Elected from the Faculty
Ep Member of Educational Policy Committee
Ex Member of Executive Committee
Ip Member of Institute Policy and Planning Committee
Sr Member of Student Relations Committee

PRESIDENT'S MESSAGE

The 1985 calendar year was characterized by the consolidation of the Institute's on-going activities and the commissioning of feasibility studies on some of the new ventures proposed in the Institute Plan (published in January of that year). Indeed, as I reported last year, the formulation of the plan with its 13 priority fields of study has had a beneficial effect on the objectivity of academic planning within the Institute. Typical of the growing cohesion in the Institute were the establishment of a Joint Irrigation and Drainage Program to be undertaken by faculty members from the Divisions of Agricultural and Food Engineering and Water Resources Engineering, the movement into the final planning stages of an interdivisional program of Natural Resources Development and Management, and the creation of an FAO-sponsored program on Integrated Agricultural Systems.

A feasibility study on the Asian Disaster Preparedness Center was sponsored by UNDRO, and a start-up grant provided by the United States Office of Foreign Disaster Assistance. A Director and a Program Coordinator have been appointed and this fascinating, new venture is now gathering momentum. Feasibility studies on computer aided manufacturing and biotechnology have been commissioned and will be received and examined in 1986.

During 1985 I visited the Institute's major student-sending countries. In all I found positive appreciation of AIT, particularly of the service being rendered by our graduates to their respective countries. The effectiveness of my visits was made possible by the wonderful arrangements made by our Trustees, to whom I accord a very sincere vote of thanks. During these visits it became very clear to me that the Institute must redouble its efforts in outreach through collaborations on teaching and research and through assistance to graduates who have returned to their own countries. The Institute has, of course, a very positive attitude towards this endeavor, and clear adoption of this role in human resource development is much appreciated.

In financial terms, the trend in the type of donors' contributions made to the Institute is giving cause for some concern. That is, while the growth of 'in kind' donations has been very healthy (32 per cent in the last fiscal year), the growth in unrestricted operating cash has been much slower (nine per cent between fiscal years 1983-84 and 1984-85). Since 'in kind' donations reflect the growing magnitude of the Institute's activities, and since cash expenditure rises with the level of activity, a very close watch has to be kept on the Institute's cash flow and the factors affecting it. Nevertheless, the year ended with all externally-funded activities well underway and a 12-month cash flow forecast remaining in credit over 1986.

Above and right: Graduation guest speakers namely, Dr. Snoh Unakul of Thailand and Lt. Gen. G.S. Butt of Pakistan.

The Institute awarded two Honorary Degrees in 1985. The first was to Dr. Monkombu S. Swaminathan, Director General of the International Rice Research Institute in the Philippines, for his work in improving crop productivity in the region; and the second to H.E. Mr. Sun Yun-Suan, former Prime Minister of the Republic of China. Mr. Sun is also a former Trustee. Since Mr. Sun's health did not permit him to travel and attend the December 1985 graduation ceremony, the award was made at a special ceremony held in Taipei on January 9, 1986. The services rendered to South and South East Asia by Dr. Swaminathan and Mr. Sun, the latest additions to our list of honorary graduates, provide a source of pride and inspiration to us all. At the two graduation ceremonies with no honorary graduand, very meaningful addresses were presented by Dr. Snoh Unakul, Secretary-General of the National Economic and Social Development Board of Thailand and an AIT Trustee, and Lt. Gen G.S. Butt, Chairman of the Water and Power Development Authority of Pakistan. We thank them for their inspiring speeches which added to the significance of these occasions.

Although no new academic buildings were opened in 1985, the Institute undertook moves to alleviate the shortage of accommodation for international faculty and senior staff. This shortage and the associated waiting list create a particular difficulty for newly-arrived expatriate faculty. Four duplex (semi-detached) houses, 12 single studio room apartments and three two-room apartments were opened during the year. Construction of a further 18 apartments commenced. This residential accommodation, together with the AIT Center, should meet the needs of incoming faculty and senior staff for the immediate future. Another building problem facing the Institute is damage caused by differential settlement of the campus. The effects are particularly severe on those buildings whose ground floors have not been rigidly attached to the piled structure. Extensive repairs in the Administration Building, including the insertion of short piles for the ground floor, are underway and a phased program of repair and maintenance has been initiated.

Finally, I should like to finish on a personal note by thanking our Trustees and all members of the Institute's faculty and staff for their support to me and AIT over the year. Their combined efforts are the strength of the Institute, and the steady progress catalogued in this report is the visible evidence of their success.

THE ACADEMIC ENVIRONMENT

DEVELOPMENTS

INTRODUCTION OF NEW ACADEMIC PROGRAMS

AGRICULTURAL SYSTEMS PROGRAM

The Institute's Agricultural Systems Program, commenced in January 1986, resulted from an agreement reached between AIT and FAO to collaborate on the implementation of a UNDP/FAO project to develop farming systems in Asia. The agreement was signed in September 1985.

The Agricultural Systems Program will be offered by the Division of Agricultural and Food Engineering (AFE). It will focus on crop/livestock/fish integration in rainfed areas.

The AIT/FAO agreement provides for six annual scholarships from FAO during the first two years of the project. FAO will also be responsible for the establishment of a project coordinating unit at AIT and the organization of a regional network of farming systems groups and institutions.

Over the long term, the project seeks to establish AIT as a regional lead center for education and training in farming systems research and development, and the formation of a regional network for the dissemination and exchange of information.

Courses in agricultural systems and livestock production will be offered in tandem with selected subjects from AFE's current fields of study. These fields are agricultural soil and water engineering, agricultural machinery and management, post-harvest technology and aquaculture.

FAO has appointed Dr. J.A. Gartner as Chief Technical Adviser to the project. He is on secondment to AIT for an initial period of two years.

The components in an integrated crop/livestock/fish farming system.

JOINT IRRIGATION AND DRAINAGE PROGRAM

A Joint Irrigation and Drainage Program, providing training in the planning, design, construction, operation and maintenance of irrigation and drainage systems, will be offered starting in the January 1987 term. A joint effort by faculty members from the Divisions of Water Resources Engineering and Agricultural and Food Engineering, the new program incorporates different disciplines necessary to fully develop the irrigation potential of the Asian region.

The program provides two course options as follows :

- Irrigation and drainage systems, emphasizing the conveyance and control of water in canal networks; and
- On-farm water management, emphasizing the control and utilization of water at the farm level.

The program will lead to the award of a Master's degree in Irrigation and Drainage in one of the above options.

Undergraduate studies in agricultural or civil engineering are required of applicants to the Master's program. A higher degree in irrigation and drainage, soil and water engineering or water resources engineering is required of applicants to the Doctoral program.

The program will have a division-like operation and will be headed by a program co-ordinator. Dr. Fried Christoph has been appointed to the post.

DOCTORAL PROGRAM IN HUMAN SETTLEMENTS DEVELOPMENT

The Academic Senate has approved the establishment of a Doctoral program in the Division of Human Settlements Development. The first student intake into the program will be in May 1986. As a result, all nine academic divisions in the Institute now offer Doctoral Programs.

ESTABLISHMENT OF ASIAN DISASTER PREPAREDNESS CENTER

The Board of Trustees has endorsed the establishment of the Asian Disaster Preparedness Center, in accordance with guidelines adopted by the Academic Senate. The establishment of the center is based on the results of a six-month feasibility study conducted in early 1985 with financial support from UNDRO.

As its major activities, the center will offer short courses in disaster mitigation, serve as a focal point for information on regional disasters, and work with other academic divisions at AIT on research concerning disaster prevention and management and the technical components of disasters.

Lt. Col. Brian Ward has been appointed Director of the center. He is assisted by Mr. E.M. Ressler as Program Coordinator.

The center is one of five initial projects in the Institute's proposed development park. The four others are software engineering, CAD/CAM manufacturing technology, product in-service engineering and selected bio-technology. Planning for these are underway and feasibility studies have been commissioned on the implementation of CAD/CAM as a regional service and the establishment of a biotechnology processing unit in the Institute.

MARKETING ROLE FOR RRDC

To promote project research, the Regional Research and Development Center (RRDC) will concentrate on project fund raising and on marketing the research potential of the Institute. RRDC will not conduct "in-house" research on its own but instead will focus on identifying and soliciting research projects in the region for placement in the Institute's academic divisions and centers. RRDC will report to the President through the Vice President for Development.

The appointment of Dr. Jacques Valls as RRDC Director has been approved. It will cover a contract period of two years starting from February 1, 1986.

ENROLLMENTS

Enrollment during the Three Trimesters of 1985

	Jan	May	Sept
Regular Master's/ Doctoral Program in the Nine Academic Divisions	551	504	550
Special Program			
PCAD	30	30	21
ARRSTC	23	23	16
ELC	4	10	17
	608	567	604

Number of Students by Country in 1985

Countries	Jan	May	Sept
Afghanistan	2	–	–
Bangladesh	30	37	41
Bhutan	–	–	1
Botswana	1	–	–
Brunei	–	–	1
Burma	6	7	8
Canada	1	1	1
Honduras	1	1	1
Hong Kong	6	4	6
India	39	47	31
Indonesia	36	33	40
Iran	–	2	1
Japan	9	6	8
Jordan	–	–	1
ROK	16	13	16
Malaysia	27	16	25
Mongolia	–	1	–
Nepal	37	30	38
Norway	–	1	–
Pakistan	33	35	40
Papua New Guinea	1	2	2
PRC	16	12	12
Philippines	57	59	51
ROC	63	48	62
Singapore	12	3	1
Sri Lanka	46	43	59
Tanzania	1	1	–
Thailand	154	152	146
USA	1	1	1
Vietnam	12	12	11
North Yemen	1	–	–
Total	**608**	**567**	**604**

GRADUATIONS

DEGREES AND DIPLOMAS AWARDED

	Apr	Aug	Dec	Total
Doctorate	–	1	1	2
Master's of Engineering	94	54	54	202
Master's of Science	27	26	37	90
Diploma	–	6	1	7
Total	121	87	93	301

1985 Graduates Record

		Country																		Division									
		Bangladesh	Burma	Canada	Hongkong	India	Indonesia	Japan	ROK	Malaysia	Nepal	Pakistan	PNG	PRC	Philippines	ROC	Singapore	Sri Lanka	Tanzania	Thailand	Vietnam	AFE	CA	ET	EE	GTE	HSD	IEM	SEC	WRE	Total
M.Eng.	Apr	3			1	3	5	4	3	8	7	6			7	18		8		19	2	2		1	25	32			32	2	94
	Aug	5			1	12	3		2		1	5		1	9	3	1	1	1	8	1	18	13	22	1						54
	Dec	2	2	1		1	4	2	1	1	5	3			6	6		6		13	1		1	1	1		5	21	1	24	54
M.Sc	Apr						2			1					1	4		7		11	1		3		11	11	2				27
	Aug	1								2				1	4	5	1	2		10		14	8	3	1						26
	Dec	4				2			1	1	3	2	1	2	4	1		3		13		1	1	2			29	4			37
D.Eng.	Apr																														–
	Aug					1																						1			1
	Dec										1														1						1
Dip.AIT	Apr																														–
	Aug						2				1									3		1	1		3			1			6
	Dec																			1					1						1
	Total	15	2	1	2	19	16	6	7	13	18	16	1	4	31	37	2	27	1	78	5	36	27	29	44	43	36	27	33	26	301

AIT AWARDS

In recognition of their excellent academic performance,course work and thesis research, outstanding students are honored with the Institute's highest graduation awards. These are the Tim Kendall Memorial Prize, the Hisamatsu Prize and the Institute Prize. The 1985 award presentations are detailed below.

HONORARY DEGREES

At its 43rd graduation held on April 19, the Institute conferred an Honorary Degree of Doctor of Technology on Dr. Monkombu Sambasivan Swaminathan, Director General of the International Rice Research Institute. The award was in recognition of Dr. Swaminathan's contributions to the academic and technological development of the Asian region. A cytogeneticist by training, Dr. Swaminathan has devoted his professional career to improving the yield of Asia's staple food grains. He has been Director General of IRRI since 1982.

The award of an Honorary Degree to H.E. Mr. Sun Yun-Suan, former Prime Minister of the Republic of China, was made at a special ceremony held in Taipei on January 9, 1986. Mr. Sun's health did not permit him to attend the December 1985 graduation ceremony at the Institute. A former member of the AIT Board of Trustees, Mr. Sun was cited for his contributions to the academic and technological development of his country. Mr. Sun has achieved great renown as an engineer, administrator, economic planner and statesman.

AIT honorary graduates. H.E. Mr. Sun Yun-Suan, above left; Mr. M. Swaminathan, left.

Faculty and International Academic and Research Staff During 1985

Promotions

Full Professor:

Suphat Vongvissessomjai July 1

Associate Professor:

D.R. Hall May 1
Y. Yamamoto Jan 1

Suphat

Hall

Appointments

Professor:

C.P. Gupta May 8

Associate Professor:

J.J. Bogardi July 2
R. Codoni Mar 15
D.A. Gartner Oct 22
S.G. Ilangantileke May 1
J.E. Lukens Nov 1
T. Murata Apr 22
Prida Wibulswas June 1
B.K. Worcester Nov 1

Ilangantileke, Gupta

Bogardi

Codoni

Gartner

Lukens

Murata

Prida

Worcester

Faculty and International Academic & Research Staff During 1985

Country of Origin	January Term			May Term			September Term		
	Faculty	Staff	Total	Faculty	Staff	Total	Faculty	Staff	Total
Australia	6	1	7	5	1	6	4	1	5
Bangladesh	2	2	4	2	2	4	2	2	4
Belgium	3	–	3	3	–	3	4	–	4
Burma	–	1	1	–	1	1	–	1	1
Canada	2	1	3	2	1	3	2	1	3
China, Republic of	2	–	2	3	–	3	3	–	3
Denmark	3	–	3	3	–	3	2	–	2
France	4	1	5	3	1	4	3	1	4
Germany	6	1	7	7	1	8	7	1	8
India	10	4	14	13	4	17	13	5	18
Indonesia	–	1	1	–	1	1		1	1
Italy	1	–	1	1	–	1	1	–	1
Japan	5	–	5	7	–	7	7	–	7
Malaysia	1	1	2	1	1	2	1	1	2
Nepal	1	2	3	1	2	3	1	1	2
Netherlands	2	1	3	2	1	3	1	1	2
New Zealand	1	–	1	1	–	1	1	–	1
Norway	1	–	1	1	–	1	1	–	1
Pakistan	1	2	3	1	2	3	1	1	2
Philippines	3	6	9	3	6	9	3	7	10
Poland	–	–	–	–	–	–	1	–	1
Portugal	–	–	–	–	–	–	1	–	1
Sri Lanka	3	5	8	5	5	10	5	4	9
Switzerland	1	–	1	2	–	2	2	–	2
Thailand	18	16	34	18	16	34	17	19	36
U.K.	9	2	11	8	2	10	10	3	13
U.S.A.	7	1	8	7	1	8	6	1	7
Vietnam	1	–	1	1	–	1	1	1	2
TOTALS	93	48	141	100	48	148	100	52	152

Assistant Professor:

S.R. Goldin Nov 1
H. Hanaki Apr 22
I. Towhata Apr 25
K.T. Rudahl Nov 1

Short-Term Visiting Faculty Member:

K.M. Anatharamaiah Sept 10
B. Anjaneyulu Sept 10
J.A. Bowen Aug 26
V.M. Malhotra Apr 29
E.A. Mesritz Jan 8
P.J. Rousseeuw Sept 1
S. Sahu May 14
B. Singh Jan 12
P.A. Venkatachalam Sept 10
T. Uomoto June 18
D. Wilms Sept 4

Long-Term Visiting Faculty Member:

H. Demaine Apr 3
J.P.C. Guimaraes July 1
I.Y. Lu May 1
W. Przybylo Aug 28
T.A. Reddy Jan 20
G. Sibbing Aug 1
M. Smithies June 15
P. Vrat May 1
L.S. Yapa December 23

Lu, Vrat

Rudahl, Goldin Hanaki

Demaine, Guimaraes

Tawatchai, Lucas

Towhata

Reddy Smithies

Prinya Chongrak

Professor:

A. Ishido Oct 25
J.R.M. Radok Aug 31
G.Y. Saunier Jan 31
N.C. Thanh June 30

Associate Professor:

D.G. Carmichael May 10
W.E. Eppendorfer Sept 30
S. Ohgaki Apr 20
J.J. Mol June 1

Instructor:

C. Vorratnchaiphan Aug 19

Yapa

Vespry, Valls

Przybylo

Dr. Tawatchai Tingsanchali was appointed Chairman of the Division of Water Resources Engineering, replacing Prof. Suphat Vongvisessomjai; Dr. N.J.D. Lucas took over from Prof. Gerard Saunier as Chairman of the Energy Technology Division. Both appointments took effect on February 1, 1985.

Prof. Prinya Nutalaya replaced Prof. A.S. Balasubramaniam as Chairman of the Geotechnical and Transportation Engineering Division, with effect from December 1, 1985.

As from February 1, 1985, Mr. Arthur Vespry became Director of the Library and Regional Documentation Center, replacing Dr. Jacques Valls who joined the Regional Research and Development Center (RRDC). Originally appointed as RRDC Senior Consultant on Information Science, Dr. Valls was promoted to the position of RRDC Director with effect from Feburary 1, 1986.

Dr. Chongrak Polprasert served as Acting Chairman of the Division of Environmental Engineering from August 1, 1985 up till his appointment as Chairman on January 1, 1986, replacing Dr. B.N. Lohani.

PUBLICATIONS

The encouragement and financial support given to academic publications are an important component of the Institute's policy. The following summary provides an indication of the continuing emphasis placed on this activity by the Institute.

Summary of Publications during 1985

Division/Center	Type of Publication: Research Journal Paper	Conference Paper	Research Report	Edited Proceedings/ Book	Total Publications
AFE	4	11	1	4	20
CA	5	4	3	1	13
EE	3	9	2	1	15
ET	4	16	3	1	24
GTE	9	36	2	–	47
HSD	10	8	15	2	35
IEM	17	12	11	1	41
SEC	8	18	1	–	27
WRE	8	7	10	–	25
ARRSTC	–	1	1	–	2
ELC	3	1	–	3	7
LRDC	–	6	3	1	10
TOTAL	71	129	52	14	266

AIT's Specialized Information Centers

Specialized information centers in the Institute screen, select, analyze, digest and repackage the considerable amount of information available on specific topics, so as to make information readily accessible to users in forms that match their requirements.

The Asian Information Center for Geotechnical Engineering (AGE) was established in 1973, followed by the International Ferrocement Information Center (IFIC) in 1976. The Renewable Energy Resources Information Center (RERIC) and the Environmental Sanitation Information Center (ENSIC) were both established in 1978. These centers' regular and occasional publications are detailed below.

Publications

	Regular	Occasional
AGE	AGE REFDEX AGE News AGE Current Awareness Services	
IFIC	Journal of Ferrocement	Do-It-Yourself Nos. 5 and 6 Slide Presentation Series No. 4 Lecture Notes Proceedings International Directory of Ferrocement Organizations and Experts 1982-1984
RERIC	RERIC News Renewable Energy Review Journal RERIC Holdings List Abstracts of AIT Reports and publications on renewable energy resources	RERIC Membership Directory Solar Rice Dryer Project (Thailand), AIT Research Report No. 171 A Village-Size Solar Refrigerator, AIT Research Report No. 172 Fuelwood Strategies and Action Programs in Asia: Comparative Experience in Bangladesh, Indonesia, Nepal, Republic of Korea, Sri Lanka and Thailand, Report of a CEC-AIT Workshop, Bangkok, December 17-22, 1984 RERIC Bulletin on Renewable Energy Resources (in Thai Language)
ENSIC	ENFO Environmental Sanitation Abstracts Environmental Sanitation Reviews	

CONTINUING EDUCATION

Serving as the Institute's main arm in the dissemination of technological advances, the Continuing Education Center (CEC) conducts short courses, workshops and other activities which reflect the development priorities of the Asian region. Among CEC's course offerings in 1985, the greatest demand was for short-term training in **agricultural and water resources development,** covering on-farm water management, problem soils, municipal water supply, groundwater development and operational hydrology.

CEC courses in **rural development** during 1985 were of two main types namely, people-centered and infrastructure-oriented. An example of the former was a course on the role of rural women. Examples of the latter included programs in rural water supply and sanitation, and road construction and maintenance.

Management training for both the public and private sectors included such activities as project management training for public works engineers, and seminars on computer applications in business management and management information systems.

In response to an increasing demand for training in **energy technology,** CEC conducted courses in various aspects of solar energy harnessing, mini-hydropower schemes, and energy and environment statistics for macroplanning.

In collaboration with AIT's academic divisions and drawing expertise mainly from the faculty, research staff and alumni, CEC co-organized and conducted a total of 25 continuing education activities in 1985 on the above mentioned subject areas, ranging from contracted tailor-made training programs to advertised international workshops and seminars. Some of these are highlighted below.

- **On-Farm Water Management**

Effective irrigation system management, together with improved cropping system practices, are vital to cost-effective irrigation infrastructure development. CEC's on-farm water management course addresses a broad range of technical solutions, as well as the development of skills to ensure effective technology transfer and the deployment of ways and means by which to tap farmers' participation in the operation and maintenance of irrigation systems.

On-farm water management is a regular CEC course which has been in special demand by agricultural scientists and engineers from Asian countries. The Commission of European Communities has sponsored this course four times since 1982.

- **Project Management for Public Works Engineers**

Development projects are essential to the growth of developing countries. Because these projects are invariably capital-intensive while also being heavily dependent on the use of natural and human resources, their success depends to a large extent on effective management and decision-making.

Failed development projects are due in the main to managerial deficiencies, as seen in inadequate project planning and coordination, inefficient organization and monitoring and improper scheduling of the work involved.

Among the 1985 management training programs of CEC was a 12-week course held for 25 Indonesian engineers from the Directorate General of Water Resources Development. Conducted jointly with the Division of Industrial Engineering and Management, this course focussed on upgrading and updating the engineers' know-how and skills in the planning, design and implementation of large infrastructure development projects.

- **Identification of Appropriate Technologies and Methods of Technology Transfer for Rural Women**

Women's increased involvement in the mainstream of agricultural and rural development received further impetus from activities held during the UN Decade, for Women. Following on the heels of the decade, CEC and the Human Settlements Development Division, under the sponsorship of ESCAP, conducted a three-tiered training program geared towards streamlining women's involvement in crop production and small-scale rural-based entrepreneurship. Representatives from China, India, Malaysia, Pakistan, the Philippines, Sri Lanka and Thailand participated in the program.

As a first step, a survey was conducted to determine the general trend in the allocation of tasks for rural women. This data gathering activity culminated in an AIT workshop which discussed such issues as the mapping of present and future farming extension technologies relevant to rural women, the identification of agricultural extension strategies, as well as the preparation of a farming technology manual. The third tier involved the publication of this manual and its subsequent dissemination.

A complete list of CEC's activities in 1985 is on page 53.

THE RESEARCH ENVIRONMENT

Agricultural and Food Engineering

Buffalo/Fish and Duck/Fish Integrated Systems for Small-Scale Farmers at the Family Level

The objective of the project is to develop practical systems of fish production based on buffalo and duck manure suitable for family level fish ponds. Fish are being raised on campus in ponds receiving different amounts of manure. Ten family level fish ponds have been constructed in two pilot villages in Northeast Thailand to demonstrate the feasibility of raising fish on buffalo manure in villages.

Principal Investigator: Dr. Peter Edwards.
(Supported by ODA, UK).

A family level integrated duck/fish farming system in a Thai village.

Manual Soybean Seeder : Phase II

In an effort to increase the use of paddy growing land during the dry season, farmers in Thailand plant soybean directly into rice stubble, thus avoiding the need for tillage. Most of the work is performed by women and is both back-breaking and time-consuming. In order to improve the planting, both in efficiency and convenience, a simple, manually operated soybean seeder with a roller metering device has been developed. The seeder is being tested at experiment stations and in farmers' fields. The results have so far been very promising.

In addition to planting soybean, the seeder is being modified to plant crops such as upland rice, mungbean and other upland crops.

Principal Investigators: Prof. Gajendra Singh, Dr. David Gee-Clough, Mr. Chaiyaphol Kaewprakaisaengkul, Mr. Pinai Thongsawatwong.
(Supported by IDRC, Canada).

Heat Sterilization and Accelerated Drying of High Moisture Rice for Safe Storage

The objective of this project is to evaluate the performance of small-scale disinfestation systems that rely on heating wet rice to suitable temperatures in order to arrest microbiological degradation during storage and at the same time accelerate the drying process. Special attention is being given to maximum temperature and duration of exposure, content of grain, and moisture removal or drying rate.

The project is studying the quality effects of high temperature short time (HTST) exposure of high moisture rice; the heat sterilization and accelerated drying of rice in experimental rotary conduction dryers to prolong the safe storage period; and a comparison between conduction and fluidized-bed heating, and related economic feasibility.

Principal Investigator: Dr. V.K. Jindal.
(Supported by USAID).

High temperature treatment of paddy in rotary dryers heated by burning rice husk.

Computer Applications

A Thai CAI System for Teaching Arithmetics in Grade 6

The objectives of the project are to introduce computers as a new tool in Thai education, to design an easy-to-use CAI system for teachers and students, to design courseware for a mathematics course in the syllabus for Grade Six, and to implement and test the developed courseware in selected primary schools.

The first one to be developed and tested in Thai schools, this CAI system allows teachers to create question and answer files, as well as student files to record student performance. Explanations and exercises are displayed in Thai. The development of the courseware has met with some difficulty in the display of Thai characters on the screen. This problem as well as the lack of standard Thai character codes pose a major obstacle to the implementation of the system in the future. An artificial intelligence approach to generate and select questions has been incorporated, based on an appropriate level of difficulty to suit individual students. This approach has been well received by teachers and students.

Principal Investigator: Dr. Kanchit Malaivongs.
(Supported by the Office of National Primary Education, Ministry of Education, RTG).

Energy Technology

Research and Development of Solar-Powered Desiccant Refrigeration

Since the mid-1970s, AIT has been experimenting on solar-powered intermittent absorption refrigeration systems and has since developed a relatively simple model for use in remote places which have plenty of sunshine but no ready supply of fuel or electricity. This work is now being integrated into a new project involving solar-powered desiccant cooling in collaboration with Professor Z. Lavan of the Illinois Institute of Technology, USA. Professor Lavan's work is supported by USAID, and AIT is a subcontractor in this project. During the first year of the two-year project, theoretical studies and design work will be undertaken. During the second year, a prototype unit will be built and tested at the AIT Energy Park.

Principal Investigators : Professor R.H.B. Exell, Dr. S.C. Bhattacharya, Mr. Y.R. Upadhyaya.
(Supported by USAID).

Assistance in Strengthening Overall Energy Planning and Policy Analysis Capability and Master Plan

This project is Activity A-4 of the Regional Energy Development Program (REDP) of ESCAP. It is designed to develop a comprehensive proposal, comprising the organizational arrangement and detailed plan of action for Cycle II (1987–1991) of REDP, evolved through a process of intensive interaction among all the parties concerned. The ET Division is responsible for the underlying research and analysis, as well as the organization of a series of workshops for donor agencies, UN implementing agencies and national representatives. The project is implemented in consultation with a team of regional experts. In addition, the division is engaged in a survey of the energy sector in Asian countries, to be used in the preparation of an energy policy profile for Asia. This document will analyze the underlying patterns and emerging trends in the Asian energy sector.

Principal Investigators: Dr. N.J.D. Lucas, Dr. Rene Codoni, Dr. F. Sauter-Servaes, Dr. Dang Van Giap.
(Supported by UNDP, ESCAP and EEC).

Design of Biogas Plants for Pig Manure and Water Hyacinths

This project studies the digestion of pig manure and water hyacinth. After separation into solid and, liquid, two streams of pig manure are digested separately in "high solids" and "low solids" digesters. Both digesters are of plug flow-type and are covered with a plastic film. Their efficiency and performance will be compared with those of dome-type digesters. Biogas utilization will be demonstrated by running lamps, brooders (heat radiators) and I.C. engines. Research on effluent utilization will be conducted with vegetables and maize. At least one pilot digester will be constructed in a pig farm.

Studies on water hyacinth digestion will also be problem-oriented. After studying the parameters concerning the pre-treatment of water hyacinth, a 7 m^3 plug-flow digester will be constructed and tested on campus. Energy consumption in pre-treatment and stirring, as well as the cost-benefits will be analyzed. Biogas and effluent utilization in I.C. engines and fish ponds will be studied.

Principal Investigator: Mr. Tentscher.
(Supported by GTZ).

AIT-designed plug flow digesters installed at the Tabkwong Swine Research Station.

Environmental Engineering

Effect of Deforestation and Agricultural Land Use on the Nutrient Level and Suspended Solids Load of Tropical Streams

Three major factors affect the nutrient and suspended solids content of tropical streams: land use, land form and meteorology. Related researches conducted in Europe and North America have mostly focussed on the effects of land use and land form. Being site specific, these researches are not necessarily applicable to developing tropical countries.

Investigation of the effects of deforestation taking place in the catchment area (on the nutrient and suspended solids content) is a novelty. However, it is of great importance due to the direct impact of deforestation on other land use. It is also useful in planning and designing water and wastewater treatment facilities.

Principal Investigators: Dr. H. Orth, Dr. Kaew Nualchawee. (Supported by EEC).

Air Pollution Inventory of Selected Industries Related to Lignite Utilization

Lignite, a solid, low-grade mineral fuel is in abundant supply in Thailand. Its energy applications can be seen in tobacco curing and iron smelting, and in lime, phosphate, cardboard, candy and preserved food factories. However, the increasing utilization of lignite is alarming due to a variety of pollutants that result from its combustion.

In this project, air pollutants such as carbon monoxide, sulfur dioxide, nitrogen dioxide, and total suspended particulates are measured in the light of wind speed and direction and diurnal variation of industry operations to assess their effects on air quality in particular, and on the environment in general.

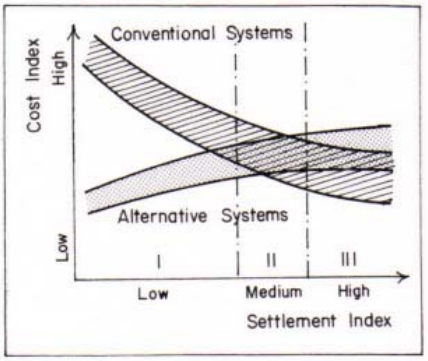
Principal Investigators: Mrs. Samorn Muttamara, Dr. B.N. Lohani, Mr. Sompol Boonthanon. (Supported by Consultants Technology Co., Ltd.).

Economic, Institutional and Technical Implications of Alternative Urban Sanitation and Recycling Options – A Case Study of Thailand

Sanitation and recycling options generally applied in industrial countries are in many cases not appropriate for developing countries, due to differing climatic, socio-economic and institutional factors, as well as operational restrictions and dissimilar cost structures. While comprehensive planning guidelines for each option have been developed, the gap between a general analysis and documentation of these factors should be filled so that the planning process for projects, especially those not guided by large institutions, is facilitated by excluding unfeasible options from the start.

This project focusses on a systematic comparison of alternative options, based on on-site treatment in septic tanks, sludge cartage, small bore sewer systems, aquaculture and biogas production. These will be compared to a conventional system marked by a conventional and small bore sewerage system, biological wastewater treatment plant and landfill for sludge disposal. Chonburi has been selected as a representative medium size town.

Principal Investigators: Dr. H. Orth, Mr. H.D. Kammeier, Dr. C. Polprasert, Dr. P. Edwards. (Supported by GTZ).



Cost Index: Cost per cap. per year (covering initial investment, operation and maintenance, and system replacement costs)

Settlement Index: Population density, settlement characteristics, network configuration and other variables

I, II, III: Areas in which either alternative systems (I) or conventional systems (III) or appropriate mixture (II) would be most economical

Geotechnical and Transportation Engineering

Control of Congestion at Highly Saturated Intersections

This is a detailed study on methods to alleviate traffic congestion in Bangkok and to reduce delay at saturated signalized junctions and in their networks.

The project has determined the saturated flow rates and the factors for conversion of trucks, buses and other vehicles into passenger car units. It has also included the fixed-time linking of four highly saturated intersections in the built-up area of central Bangkok.

It is anticipated that Phase II of this project will be sponsored in the near future, thus enabling the completion of the study.

Principal Investigators: Prof. John Hugh Jones, Mr. A.D. May, Mr. F.O. Montogomery. (Supported by the British Science and Engineering Research Council and the British Transport and Road Research Laboratory).

Impact of Quaternary Geology on Urban Development and Land Use of the Central Plain of Thailand

In Bangkok rapid industrial/population growth and geologic location have brought about such major problems as traffic congestion, insufficient low-cost housing, inadequate water supply, environmental pollution, flooding and land subsidence. It is obvious that while Bangkok is expanding,other suitable areas should also be developed to divert population and industrial concentration.

This three-year study is carried out jointly with McGill University in Canada. The main objective is to study the Quaternary geology of the Bangkok area which will eventually affect land use and development. The knowledge to be gained will include subsoil conditions, groundwater availability, construction material location and natural hazards. The findings and recommendations of this study will serve as a guide for potential industrial and land development.

Principal Investigators: Prof. Prinya Nutalaya, Dr. R.J. Whiteley. (Supported by IDRC).

Digital seismograph in high resolution seismic reflection field operations at AIT campus.

Land Subsidence in AIT Campus

Many buildings at AIT were built in 1973 on filled ground. Their original design and construction did not take into account the probable effect of regional subsidence due to deep well pumping, which has increased in an exponential manner in the last decade. As a result, floors and partition walls resting on the filled ground have experienced substantial subsidence, although the main framework of the administration and academic buildings are on sound piled foundations.

This project monitors the zones where excessive subsidence has taken place. Remedial measures proposed by the project are now being implemented.

Principal Investigators: Dr. D.T. Bergado, Prof. A.S. Balasubramaniam. (Supported by AIT).

Water Resources Engineering

Hydraulic Model Study of Lower Mae Ping Project for Lower Mae Ping Barrage Scheme and Mae Wang Diversion Scheme

The Lower Mae Ping Project is the pumped storage project of the Bhumipol Dam Project in Tak province, North Thailand. It is situated in the Ping River 9 km downstream of the Bhumipol Dam. A barrage will be built across the Ping River. Apart from the ponding by Mae Ping Barrage, another barrage will be constructed at the Wang River upstream of the confluence between the Ping and the Wang. This barrage will divert the Wang River flow to a small reservoir that will maintain and store additional water for the Lower Ping storage connected by a channel. The project is divided into two interconnected schemes, namely; the Lower Mae Ping Barrage Scheme and the Mae Wang Diversion Scheme. The primary objective of conducting the hydraulic model studies for the two schemes is to determine protective measures against silt deposition in front of the Lower Mae Ping Barrage, its extrusion and scour protection in the Ping River within the reach immediately downstream of the barrage.

Model study of Lower Mae Ping project, pump storage of Bhumibol Dam.

As for the Mae Wang Diversion Scheme, the model will be used to determine the location of the diversion channel and its layout, which will minimize the intrusion of the sediment from the Wang River via the channel into the reservoir connecting the Wang River and the Lower Ping storage. Simultaneously the ability to remove the sediment of the Wang Barrage will be examined and improved, if necessary.

Principal Investigators: Dr. Tawatchai Tingsanchali, Mr. Prida Thimakorn. (Supported by EGAT).

Integrated Flood Relief Plan of the West Bank

This project studies the socio-economic feasibility of the Integrated Flood Relief Plan of the West Bank, which may include a flood bypass channel along the west bank of the Chao Phraya river, necessary diking, gates and regulators and pump stations. Land development and improvement in urban areas and land and waterway transportation are being considered in the feasibility study. The flood relief plan takes into account the city flood protection in relation to four main components: peak flow in the Chao Phraya river, high tides, stormwater and drainage in the city, and in flow of surface water.

Principal Investigators: Dr. Tawatchai Tingsanchali, Prof. Suphat Vongvisessomjai.
(Supported by BMA).

Human Settlements Development

Prevention of Seasonal Malnutrition through the Transfer and Study of the Adoption Behavior of Alternative Sources of Protein

This project addresses the problem of energy protein malnutrition in rural Thailand and seeks alternative sources of protein which have a potential for wider application at the village level. Local methods of food storage and preservation are surveyed, assessed and analyzed, with the aim of improving food availability during periods of relative scarcity.

The project bases its comprehensive view of Thailand's malnutrition problem and of related national policies and projects on an analysis undertaken during the initial stages of the project. Its assessement of alternative protein sources is based on literature and on the context of agricultural production in Thailand. The project has also compiled a bibliography on the relevant aspects of nutrition and a fairly comprehensive list of resource persons and research institutes working on nutrition in Thailand. It has carried out an extensive survey of traditional food preservation techniques and minor sources of protein in the rural areas of Northern, Southern and Northeastern Thailand. Duck eggs, fish and the winged bean have been identified as promising protein sources.

Data obtained from the regional nutrition centers of the Ministry of Public Health have proved inadequate for an in-depth study of malnutrition and its seasonality factors.

To better understand the linkages between nutrition and agricultural production as well as other socio-economic and cultural factors, the usefulness of an extensive "Basic Needs Survey", conducted in 1983 in the cassava-growing province of Nakhon Ratchasima, has been assessed.

It has been concluded that basic needs surveys of a comprehensive nature only render vague guidelines for project identification and a rather general picture of the village economy.

Principal Investigators: Dr. Walter E.J. Tips, Dr. Vinod K. Jindal, Prof. Karl E. Weber. (Supported by EEC).

A Thai villager prepares "pla ra" (fermented fish) which is particularly popular in Northeast Thailand.

Microcomputer-Based Evaluation and Planning Tools for Rural Center Development

The increasingly widespread availability of relatively inexpensive microcomputer hardware has paved the way for a host of applications down to regional or sub-regional engineering and planning offices. However, while the hardware has become a common feature, appropriate software is often difficult to come by. This situation is the basis for this research project which has been carried out in the Human Settlements Development Division since 1984.

Regional planning, particularly the development of rural centers and small towns, obviously requires a systematic and yet simple approach to the relationships between centers and their hinterland. Likewise, in a city situation, the adequate distribution of community facilities is one of the most common concerns of any urban planner. For example, an assessment of existing conditions in central facilities requires a planning tool which would clearly show the respective catchment areas and the under serviced areas. A well-founded planning response should be able to identify suitable locations for new markets, schools or health centers or, show how the transport and road network can be improved so that existing facilities can be more effectively utilized by wider catchment areas.

The microcomputer package which has been developed for dealing with these issues comprises four modules: (i) inventory data on settlement points road links and assessment criteria, (ii) accessibility index computation for single services or groups of services, (iii) graphics facility for printing isopleth or filter maps, and (iv) comparative assessment of costs and effectiveness of simulated planning options.

The graphical output is in fact the most effective means of communicating the spatial impact of alternative planning scenarios.

The package has been successfully used in the context of a regional settlement study for West Pasaman, Sumatra. Further test applications are underway. A fully documented users' manual which will soon be completed will enable planners to apply the extremely user-friendly, "menu driven" software. The hardware configuration required is kept to a minimum: a microprocessor with 256 K RAM and two 5¼ disk drives, a Monochrome video terminal and a dot-matrix (graphics) printer. Color video display, plotter and digitizer tablet are optional.

Principal Investigator: Mr. H.D. Kammeier.
(Phase I supported by GTZ; Phase II by ISS).

Structural Engineering and Construction

Described here are some commercial contracts which demonstrate the usefulness and versatility of the basic testing equipment in the SEC laboratory in contributing to the safe and economic operation of industrial organizations.

Test results of these investigations have met the required specifications.

Load Test of Insucrete Panels

The Insucrete panel is a prefabricated panel which is a module of 50 mm thick steel wire space frame with approximately 25 mm thick Polyurethane insulation formed in place at the center. Tests were carried out to determine its strength as bearing walls, free-standing cantilever walls, or security fencing, roof and floor systems under different loading conditions.

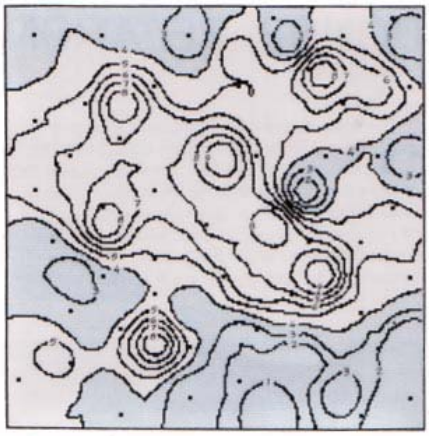
Principal Investigators: Dr. Pichai Nimityongsakul, Mr. Chalat Choeypunt. (Sponsor: Insucrete Co., Ltd.)

Tests of Flexible Urethane Foam for Use as Motorcycle Cushion

Molded flexible urethane foams which have been used for manufacturing the saddles of motorcycles were tested for their mechanical properties. The five types of tests carried out were as follows: density test, tensile test, tear resistant test, compression test, and repeat permanent set in compression.

Principal Investigator: Mr. Chalat Choeypunt.
(Sponsor: Thai Summit Auto Parts Industry Co., Ltd.)

A complete list of completed and on-going contract and grant research starts on page 54.



A sample of an isopleth map produced by an ordinary dot-matrix printer. Areas of critically low levels of service are shaded. (Assumption: accessibility index lower than 4, on a scale of 1 to 10, as shown by the isopleth lines).

Mechanical Properties Test of Epoxy

To investigate the mechanical properties of the three types of epoxy, namely Jotapox (glue), Permatett M4 (chemical resistance) and Permatett UW (underwater epoxy), the following tests were carried out: compressive strength, flexural strength, tensile strength, tensile bending strength, shear strength (slant cylinder) and adhesive strength.

Principal Investigator: Mr. Chalat Choeypunt.
(Sponsor: Jotun Thailand Ltd.)

Testing an insucrete panel

DONOR RELATIONS

The Institute experienced a steady growth in contributions which totalled Baht 408,624,000 by the end of fiscal year 1984-85. Donors included 21 governments, 13 international organizations, seven foundations, 20 national government agencies, 14 business and industrial firms, as well as private groups and individuals. The total contributions received in cash and in kind are detailed as follows:

Types of Grant	Cash	Kind	Total
Scholarships	124,548,000		
Research Projects	47,375,000		
Continuing Education	22,629,000		
Capital Grants/Bldg.	11,254,000		
Equipment	17,149,000	95,683,000	
Endowment Fund	3,279,000		
Operating Grant	15,208,000		
Faculty Secondment	7,147,000	32,839,000	
Local Funds/Others	31,513,000		
	฿ 280,102,000	128,522,000	408,624,000

Summary of Donations Received

GOVERNMENTS

Australia (4.58)
Belgium (0.39)
Canada (4.40)
China, Republic of (2.57)
Denmark (1.47)
France (5.74)
Germany, Federal Republic of (8.38)
India (0.34)
Indonesia (1.07)
Italy (0.14)
Japan (7.74)
Korea, Republic of (0.62)
Netherlands (2.87)
New Zealand (0.33)
Norway (1.18)
Philippines (0.13)
Sri Lanka (0.03)
Switzerland (0.70)
Thailand (10.98)
United Kingdom (1.04)
United States of America (10.67)

Sub-Total 65.37

INTERNATIONAL ORGANIZATIONS

ADB (0.28)
EEC (3.36)
ESCAP (1.04)
Mekong Secretariat (0.02)
ICTP (0.01)
UNDP (0.26)
UNESCO (0.11)
WHO (0.18)
WMO (0.68)
World Bank (0.14)

Sub-Total 6.08

Cash and Kind FY 1984-85 (%)

NATIONAL GOVERNMENT AGENCIES

Bangladesh Agricultural Research Council (0.07)
IDRC (0.99)
Petra Christian University, Indonesia (0.10)
University of North Sumatra, Indonesia (0.16)
Mara Institute of Technology, Malaysia (0.01)
BMA, Thailand (0.06)
BAAC, Thailand (0.02)
Bank of Thailand (0.01)
Dept. of Mineral Resources, Thailand (0.73)
DTEC, Thailand (0.15)
Fine Arts Department, Thailand (0.02)
NESDB, Thailand (1.80)
NEA, Thailand (0.04)
Ministry of Education, Thailand (0.05)
Prime Minister's Office, Thailand (0.78)
Provincial Waterworks Authority, Thailand (0.01)
RID, Thailand (0.28)
Royal Thai Airforce (0.06)
Supreme Command Headquarters, Thailand (0.01)
EGAT, Thailand (0.20)
University of Stirling, U.K. (0.05)

Sub-Total 5.60

BUSINESS, FOUNDATIONS, PRIVATE & OTHERS

Kocks Consult GmbH, FRG (0.01)
Marden Family, Hong Kong (0.11)
Kawasaki Steel Corp., Japan (0.02)
Japan Society of Civil Engineers (0.08)
Nepal Rastra Bank (0.03)
Norsk Data Co., Norway (0.62)
BES Engineering Corp., RoC (0.10)
China Technical Consultants Inc., RoC (0.09)
Taiwan Power Co., RoC (0.20)
Motor Columbus Consultant Engineering, Switzerland (0.02)
A.R. Group Consulting Co. Ltd., Thailand (0.19)
Foremost Dairies Co. Thailand (0.01)
Italthai International Hotel Co. Ltd., Thailand (0.02)
Polytechnology Co. Ltd., Thailand (0.01)
Regional Engineering Consultants Co. Ltd., Thailand (0.01)
Siam Cement Co. Ltd., Thailand (0.13)
Siam City Cement Co. Ltd., Thailand (0.01)
Team Consulting Engineer Co., Thailand (0.06)
Shell International Petroleum Co., U.K. (0.29)
Academy for Educational Development, Inc., U.S.A. (0.14)
KEIDANREN, Japan (0.42)
Lee Foundation, Singapore (0.27)
Rockefeller Foundation, U.S.A. (0.09)
Agricultural Development Council, U.S.A. (0.10)
AIT Foundation Inc./IBM-AFE, U.S.A. (19.68)
AIT–UK Appeal Fund/Shell International Petroleum Co., U.K. (0.24)

Sub-Total 22.95

Details of Donors Support during FY 1984-85

GOVERNMENTS

The Government of Australia's existing triennial grant which ended this year provided a cash grant of ฿13,761,000 for scholarships and activities of the Regional Documentation Center. In addition, 97.5 man/months of faculty and staff secondments were provided.

For the next triennial grant covering the period from 1985–1988 the Government of Australia has approved a budget of A$ 5.9 million for scholarships, faculty and staff secondments and activities of the Regional Documentation Center.

The Royal Belgian Government made a cash grant of ฿146,000 for scholarships and provided 36.5 man/months of faculty secondments under the current Memorandum of Understanding. Six scholarships are provided annually.

The Government of Canada contributed a total cash grant of ฿ 17,979,000 for scholarships, research projects, continuing education activities and faculty and staff support under the present Broad Based Development Program.

The Royal Danish Government presented a cash grant of ฿4,322,000 for scholarships. In addition, 33.5 man/months of faculty secondments were provided.

The Government of the Republic of France contributed a total cash grant of ฿20,005,000 for scholarships, research projects, continuing education activities, construction, local fund, and equipment as well as 81 man/months of faculty and staff secondments. An equipment grant worth ฿275,000 in kind was also provided.

The Government of the Federal Republic of Germany through GTZ, DAAD and CDG made a combined cash grant of ฿29,091,000 for scholarships, research projects, continuing education activities and equipment. In addition, GTZ provided 68 man/months of faculty and staff secondments as well as ฿1,797,000 worth of equipment as in kind contributions.

The Government of India contributed an annual local fund of ฿243,000 for support of academic related activities of the Institute in India. Twenty man/months of short term faculty secondments were also provided.

The Government of Indonesia contributed ฿3,644,000 for continuing education activities. In addition, an endowment fund of ฿729,000 was presented to the Institute.

The Government of Italy provided 12 man/months of faculty secondments. It has officially approved the project "Strengthening the Program in Exploration and Engineering Geology of the Division of Geotechnical and Transportation Engineering at AIT" with a total budget of US$770,000.

The Government of Japan made a total cash grant of ฿25,217,000 for scholarships, equipment and operating costs to the Institute. A total of 77.5 man/months of faculty secondments was also provided. In addition, equipment worth ฿2,424,000 was given to the Institute as in kind support.

The Government of the Republic of Korea presented an endowment fund, entitled the "Korea Fund", amounting to ฿2,550,000. It has also offered to second one faculty member to teach in the Division of Environmental Engineering, beginning in 1986.

The Royal Netherlands Government made a total cash grant of ฿9,001,000 for scholarships, books and the Asian faculty support program. It has also provided 11 man/months of faculty secondments as well as continuing support to the ISS/AIT cooperation program.

The Government of New Zealand granted ฿1,089,00 for scholarships and activities of the International Ferrocement Information Center as part of the triennial grant ending this year.

For the next triennial covering the period 1985–1988, the New Zealand Government has approved a total grant of NZ$322,000 for scholarships and activities of the International Ferrocement Information Center.

The Royal Norwegian Government contributed ฿4,398,000 for scholarships. In cooperation with Norsk Data, 12 man/months of faculty secondments and equipment worth ฿2,540,000 were provided as in kind support.

The project "Strengthening the Computer Education and Computing Capability of AIT" has been approved with a total budget of $3,683,000.

The Government of the Republic of the Philippines presented a cash grant of ฿524,000 for operating costs of the Institute.

The Government of the Republic of China contributed ฿9,102,000 for scholarships and also seconded two faculty members for a total of 24 man/months.

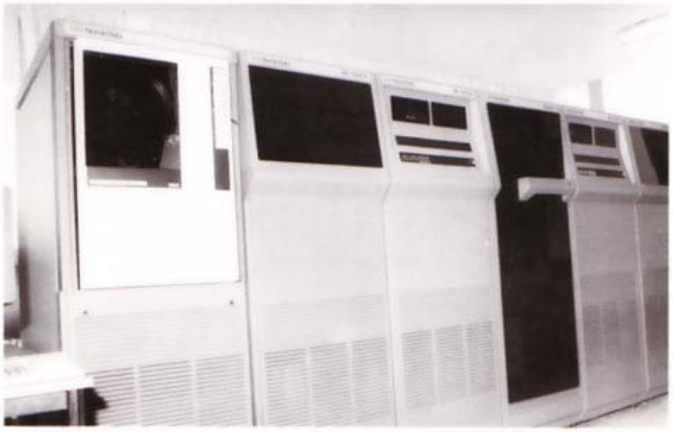
The Government of Sri Lanka provided ฿101,000 as local fund for academic and related activities of AIT faculty, staff and students in Sri Lanka.

The Government of Switzerland made a cash grant of ฿2,120,000 for scholarships and provided 15 man/months of faculty secodments.

The Royal Thai Government made a total cash grant of ฿44,878,000 for scholarships, construction, operating costs and tax reimbursements.

The Government of the United Kingdom contributed ฿1,536,000 for research projects and continuing education activities. A total of 72 man/months of faculty secondments was also provided.

The Government of the United States of America made a total cash grant of ฿22,277,000 for scholarships, research projects, continuing education activities and faculty and staff support. Equipment worth ฿17,782,000 was presented to the Institute as in kind support. In addition, 69.5 man/months of faculty secondments were provided.



In 1985, AIT made great strides in strengthening its computer capability and in expanding the scope of computer education offered by the Division of Computer Applications and the Regional Computer Center's Programs in Computer Application Development.

Advance computer equipment donated by IBM in December 1984 became operational in early 1985. The donation included a new IBM mainframe computer – the 3083 processor complex – and other new generation IBM ancillary equipment, including three 3380 disc storage units, six 5080 color graphics workstations and the 6670 information distributor (laser printer).

Included in a US$3.7 million computer support pledged by the Norwegian Government in 1985 was the delivery by January 1986 of two Norsk Data super mini-computers – the ND 530/CX and ND 570/CX, together with several data base packages, fourth generation languages and a new CHILL compiler.

As part of a grant from the Japanese Government, the Institute received in 1985, 33 units of NEC APC3 and 34 Fujitsu personal computers.

FOUNDATIONS

1. The AIT Foundation, Inc. made grants totaling ฿79,297,662.50. These grants were made possible by the following gifts:
   (a) ฿ 78,293,000.00 from IBM Americas/Far East Corp.,
   (b) ฿ 507,787.50 from the Starr Foundation,
   (c) ฿ 496,875.00 from AITF in honor of Dr. Henri Busignies.

2. The AIT-UK Appeal Fund presented a grant of ฿970,000 contributed by SIPC to support one faculty member in the Division of Energy Technology.

3. The Ford Foundation contributed ฿4,000 to the scholarship program.

4. IDRC provided a total grant of ฿4,054,000 for research projects and continuing education activities.

5. KEIDANREN of Japan contributed ฿1,697,000 for scholarships.

6. The Lee Foundation of Singapore provided ฿1,118,000 for scholarships.

7. The Rockefeller Foundation supported 11 man/months of faculty secondments.

INTERNATIONAL

1. Cash contributions totalling ฿24,212,000 for scholarships, sponsored research projects and continuing education activities were received from the following international organizations: ADC, ADB, ESCAP, World Bank, WHO, WMO, UNDP, FAO, UNEP, the Mekong Secretariat, UNESCO and the Center for Human Settlements (HABITAT).

2. EEC provided a total grant of ฿13,163,000 for scholarships and sponsored research projects. In addition, it also provided 17 man/months of faculty and staff secondments.

3. WMO, UNDP/WMO and UNDP/FAO contributed a total of 12 man/months of faculty secondments to the Institute.

NATIONAL GOVERNMENT AGENCIES

Twenty national government agencies of the Governments of Thailand, Bangladesh, Malaysia, Indonesia and the United Kingdom provided grants totaling ฿18,829,000 for scholarships, sponsored research projects and continuing education activities.

BUSINESS AND INDUSTRIES

1. Fifteen business enterprises in the United States, the Republic of China, Japan, Nepal, Thailand and the United Kingdom contributed a total of ฿5,324,000 for scholarships, sponsored research projects and continuing education activities.

2. Motor Columbus Engineering Consultant of Switzerland provided two man/months of faculty secondments.

3. SIPC provided three man/months of faculty secondments.

PRIVATE AND OTHERS

1. The Japan Society of Civil Engineering contributed ฿323,000 for continuing education activities.

2. The Marden Family in Hong Kong provided a grant of ฿437,000 for one scholarship.

Faculty and Staff Secondments during FY 1984-85

Donor Country/ Organization	Man/Month 1984–85
Australia	97.5
Belgium	36.5
Denmark	33.5
France	81
Germany	68
India	20
Italy	12
Japan	77.5
Netherlands	11
Netherlands/ISS	11.5
Norway	12
Republic of China	24
Switzerland	15
United Kingdom	72
United States (USAID/THAI)	69.5
Sub-Total	641
EEC	17
WMO	3
UNDP/WMO	6
UNDP/FAO	3
Sub-Total	29
Rockefeller Foundation	11
AIT Foundation – IBM/AFE	24
Motor Columbus Consultant/ Switzerland	2
SIPC	3
Sub-Total	29
GRAND TOTAL	710

Total Contributions Received in Cash and in Kind FY 1959-60 to FY 1984-85

DONORS	PERCENTAGE
AUSTRALIA	5.38
AUSTRIA	0.03
BANGLADESH	0.03
BELGIUM	0.83
CANADA	5.32
REPUBLIC OF CHINA	3.57
DENMARK	1.25
FRANCE	2.31
FEDERAL REPUBLIC OF GERMANY	7.92
INDIA	0.20
INDONESIA	0.20
IRAN	0.01
ISRAEL	0.06
ITALY	0.21
JAPAN	11.10
REPUBLIC OF KOREA	0.40
NEPAL	0.03
NETHERLANDS	2.94
NEW ZEALAND	0.92
NORWAY	0.83
PAKISTAN	0.08
PHILIPPINES	0.25
SRI LANKA	0.01
SWEDEN	0.04
SWITZERLAND	0.68
THAILAND	12.19
UNITED KINGDOM	4.93
UNITED STATES OF AMERICA	14.92
VIETNAM	0.01
INTERNATIONAL ORGANIZATIONS	2.64
NATIONAL GOVERNMENT AGENCIES	5.66
BUSINESS, FOUNDATIONS, PRIVATE & OTHERS	15.05
TOTAL	**100.00**

Distribution of Scholarships during FY 1984-85

FROM REGULAR DONORS
September 1984 – May 1985

Donors	No. of Scholarships Internally Nominated	Externally Nominated	Total
GOVERNMENTS			
Australia	28	–	28
Belgium	6	–	6
Canada	39	–	39
Denmark	10	–	10
France	11	–	11
Germany, Federal Republic of			
Doctoral	2	–	2
Master's	15	28	43
Certificate	–	2	2
Japan			
Doctoral	1	–	1
Master's	19	–	19
Netherlands	14	–	14
Netherlands – ISS	3	–	3
New Zealand	2	–	2
Norway	15	–	15
Republic of China	–	23	23
Switzerland	7	–	7
Thailand (King's)	13	–	13
United States of America			
Master's	–	12	12
Certificate	–	17	17
INTERNATIONAL ORGANIZATION			
EEC	5		5
FOUNDATIONS			
AIT Foundation, Inc.			
Henry Busignies	1	–	1
Starr Foundation	1	–	1
KEIDANREN, Japan	1	–	1
Lee Foundation, Singapore	1	–	1
INDUSTRIES			
BES Engineering Corp., RoC	1	–	1
China Technical Consultants Inc., RoC	–	–	1
Chinese Petroleum Corp., RoC	–	–	–
Ret. Ser Engineering Agency, RoC	–	–	–
SIPC, UK	6	–	6
Taiwan Cement Corp.,RoC	1	–	1
Taiwan Power Co., RoC	2	–	2
PRIVATE INDIVIDUAL			
Dorothy Marden	1	–	1
TOTAL – Doctoral			3
TOTAL – Master's			266
TOTAL – Certificate			19

FROM OTHER DONORS
September 1984 – May 1985

DONORS	No. of Scholarships
INTERNATIONAL ORGANIZATIONS	
Academy for Educational Development – AID Pakistan	2[c]
MUCIA-AID Indonesia	1
DANIDA-Bangladesh	1[c]
Mekong Secretariat	1[c]
Thai-Australia World Bank	1
UN-Habitat	1[c]
World Bank Hydrology Project	1
INDUSTRIES	
Nippon Steel Corp., Japan	1
Siam Cement Co., Thailand	2
NATIONAL GOVERNMENT ORGANIZATIONS	
BAAC, Thailand	2
BMA, Thailand	1
NESDB, Thailand	2
Petra Christian University, Indonesia	2
RTAF, Thailand	1[s]
University of North Sumatra, Indonesia	
Master's	5
Certificate	1[c]
OTHER SOURCES	
Self-supporting students	2
TOTAL – Master's	20
TOTAL – Certificate	6
TOTAL – Special	1

Legend : c – certificate, s – special

TOTAL SCHOLARSHIPS RECEIVED FROM REGULAR DONORS AND OTHER DONORS
September 1984 – May 1985

Type of Scholarship	Regular Donors	Other Donors	Total
Doctoral	3	–	3
Master's	266	20	286
Certificate	19	6	25
Special	–	1	1

Scholarship presentations. Opposite page, from top picture to bottom: King's Scholarship Awards presented by HRH Princess Maha Chakri Sirindhorn on behalf of her father, His Majesty King Bhumibol Adulyadej of Thailand; Mr. Bernard Coe, Chairman of Shell Company, Thailand, presenting scholarship grants on behalf of Shell International Petroleum Co. Ltd.; French scholarships presented by Mr. Christian Pellaumail, Cultural Counsellor at the French Embassy in Bangkok.

Top picture: CIDA scholarship grants presented by H.E. Mr. John Paynter, the Canadian Ambassador to Thailand. Above: German scholarship presentation by H.E. Dr. Helmut Rueckriegel, the Ambassador of the Federal Republic of Germany to Thailand.

ALUMNI RELATIONS

AITAA 15th Governing Board Meeting

GREATER ROLE FOR AIT AND ALUMNI URGED

The Governing Board of the AIT Alumni Association (AITAA) at its 15th meeting,held from January 9 to 11, 1986 in Taipei, has proposed projects to enhance the role of AIT and all its alumni in the region, and to increase the utilization of AIT resources. The meeting was hosted by the AITAA-Republic of China Chapter.

The proposed projects are as follows:

- The establishment of a consortium, initially limited to a small group of consultant alumni and operating on a project to project basis. The partnership, which may include AIT itself, will enable AIT alumni to undertake major development projects in the region. As a first step, a data bank, listing forthcoming projects inviting international bidding, the expertise/ specializations of all AIT alumni and AIT alumni-owned firms, and the academic/research resources of AIT itself, will soon be established.
- Improved efforts in fund-raising.
- The holding of periodic roving seminars in various target countries to improve the capabilities of AIT alumni and other interested professionals.
- Wider exchange of information among all AIT alumni.

The meeting was attended by members of the AITAA Executive Committee and AITAA chapter representatives.

The meeting also raised the following recommendations.

- The need to avoid duplication of degree programs already offered by other educational institutions in the region, and to ensure the complementarity of AIT's existing and forthcoming programs.
- Further exploration of courses with a more practical orientation.
- Employment of internationally renowned faculty.
- Increased participation of AITAA local chapters in student recruitment and selection.
- Build up of research expertise in the different academic divisions at AIT.

NEW AITAA EXECUTIVE COMMITTEE SWORN IN

The new Executive Committee of AITAA, led by President Prida Thimakorn, was sworn in at a ceremony held on May 30. The committee will serve for a two-year term until May 1987.

Mr. Prida, an Associate Professor of Hydraulic Engineering in the Division of Water Resources Engineering at AIT, graduated from the SEATO Graduate School of Engineering in 1962. As AITAA President, he will be assisted by the following Executive Committee members:

Dr. Nicanor Austriaco (SEC '65 and '75), Executive Secretary;
Dr. Huynh Ngoc Phien (WRE '76 and '78), Auditing Secretary;
Dr. Ashim Das Gupta (WRE '73 and '76), Business Secretary;
Mr. Jugal Agarwalla (CO '75), Finance Secretary; and
Ms. Mendeluz Bautista (EE '83), Press Secretary.

Outgoing AITAA Executive Secretary, Dr. Kanchit Malaivongs, welcomes the new AITAA President, Mr. Prida Thimakorn (left) and the incoming Executive Secretary, Dr. N. Austriaco, during the official handing over ceremony.

In the absence of Dr. Phien who has been on leave, Dr. Kanchit Malaivongs (SEC '67 and '76) has been appointed Acting Auditing Secretary.

1961-84 TRACER STUDY OF ALUMNI

The 1961-84 Tracer Study of Alumni, undertaken by the Development Office at AIT, has for its population the Institute's 3,286 graduates during the 23-year period. It provides a comprehensive record of the career advancement of 1,152 alumni who responded to questionnaires mailed by the Development Office during the early part of 1985. A similar study, covering graduates from 1961-81, was published in 1982.

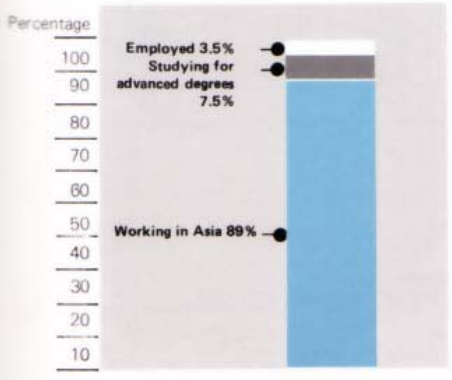
In addition to facilitating professional interaction among all AIT alumni, the Institute conducts this periodic study to assess the effectiveness and relevance of technological education offered at AIT, to determine the Asian region's new and emerging technological needs, and to ensure that future course offerings at AIT respond to the technological goals of developing countries.

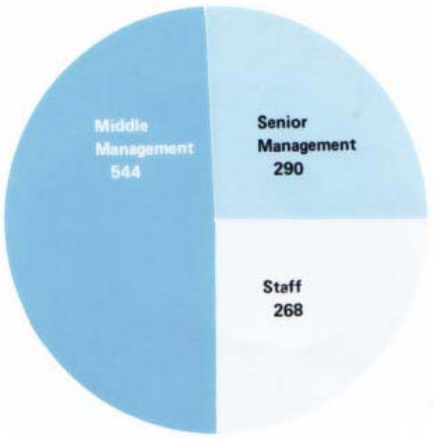
Highlights of the new tracer study are as follows:

- **GEOGRAPHICAL PROFILE OF AIT ALUMNI**

All but a few (3.5%) of AIT graduates have ignored the pull of the West and have stayed within Asia to become urgently needed technocrats. Brain drain from AIT has decreased from 5.8 per cent in the 1961-81 tracer study.

Most of the respondents staying outside Asia are in the developed countries where they are pursuing higher studies (7.5%). Other reasons given for residence in the developed countries include employment (3.5%) and marriage/political asylum (1.39%).



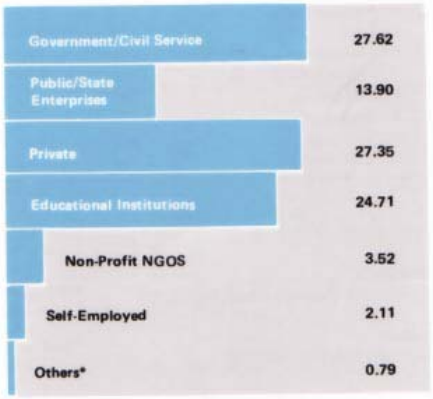


Respondents by Level of Position

- **EMPLOYMENT DATA**

The majority of the respondents (almost 50%) are currently occupying middle management positions. The rest are in senior management (26%) and staff (24%) positions.

In pursuing their careers, many AIT graduates are engaged in more than one type of professional activity. The most frequently cited activity, research and development, is followed by management, production, construction and design, consultancy and teaching.



* Others – the response did not have any clear indication of the type of employer.

Respondents by Type of Employer

Alumni Distribution by Country

1. South East Asia and the Pacific	AIT Graduates	AITAA Members
1. Brunei	5	4
2. Burma	20	14
3. Indonesia	165	108
4. Kampuchea	3	2
5. Laos	1	0
6. Malaysia	170	110
7. Papua New Guinea	5	3
8. Philippines	367	179
9. Singapore	24	8
10. Thailand	967	638
11. Vietnam	54	12

2. South and West Asia	AIT Graduates	AITAA Members
1. Afghanistan	18	10
2. Bangladesh	300	88
3. India	229	103
4. Iran	10	7
5. Nepal	94	52
6. Pakistan	252	112
7. Sri Lanka	262	122
8. Turkey	6	3

AITAA Chapter Presidents

Bangladesh
Dr. Hamidur Rahman Khan (WRE '65)

Brunei
Mr. Yong Foh Fui (EE '75)

Republic of China
Mr. George Shih-Yi Chen (CO '72)

Hong Kong (Macao)
Mr. Maurice Wing Woo Lee (EE '75)

India
Dr. Ashok Kumar Gupta (CO '71)

Indonesia
Mr. Dradjat Hoedajanto (SEC '74)

Japan
Mr. Yoshiaki Takahashi (HSD '79)

Republic of Korea
Dr. Kang Byung-Hee (GTE '70)

Malaysia
Mr. Seng Khee Woo (IEM '81)

3. East Asia	AIT Graduates	AITAA Members
1. China, People's Republic of	6	1
2. China, Republic of	478	317
3. Hong Kong	58	37
4. Japan	24	23
5. Korea, Republic of	52	39
6. Macao	5	5

4. North America, Europe and Africa	AIT Graduates	AITAA Members
1. Canada	2	1
2. Ghana	2	1
3. Malawi	1	0
4. Tanzania	3	0
5. U.K.	2	1
6. U.S.A.	3	1

Nepal
Mr. Laxman Prasad Ghimire ('CO '72)

Pakistan
Mr. Iqtidar A. Chaudhri (WRE '64)

Philippines
Mr. Rene S. Santiago (CO '73)

Singapore
Mr. Ho Siew-Koon (WRE '71)

Thailand
Mr. Sommart Boonpiraks (WRE '61)

U.S.A.
Mr. Gregorio I. Patron (WRE '66)

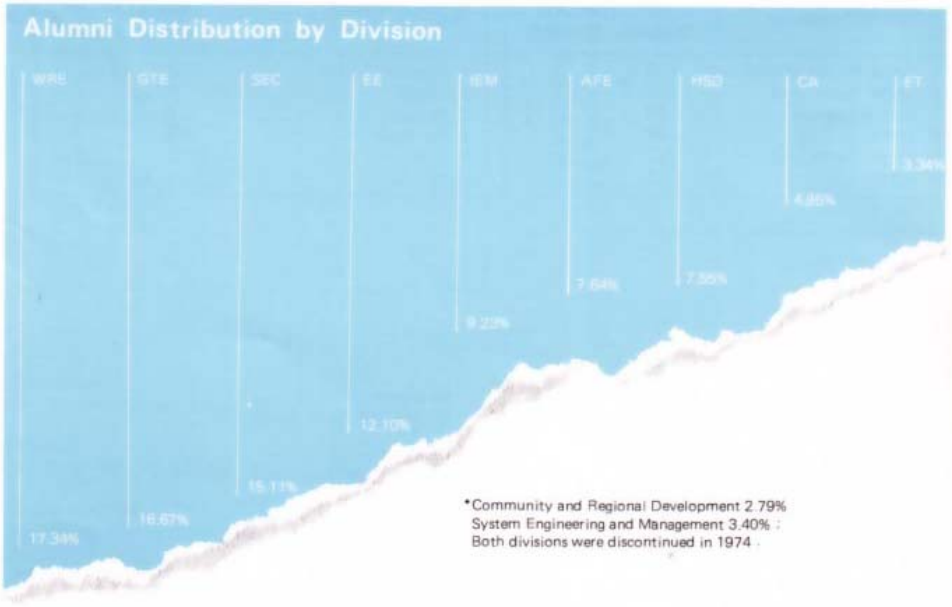
COOPERATION BETWEEN AITAA AND THE AIT FOUNDATION

The AIT Foundation has pledged to contribute US$50,000 as a maximum matching grant for the total scholarship funds that will be raised by AITAA. AITAA's first scholarship grant in the amount of US$18,000 will cover the full cost of one student in AIT's Master's Program.

RE-ESTABLISHMENT OF AITAA-INDIA CHAPTER

The inauguration of the AITAA-India Chapter's new committee members on November 22 marked the formal re-establishment of the chapter. The new committee members are as follows: Dr. Ashok Kumar Gupta (CO '71), President; Dr. Madhab Chandra Bora (IEM '72), Vice President; Mr. Vinod Kumar Lohani (AFE '82), Secretary/Treasurer; Mr. Arun Kumar Sharma (WRE '80), Auditor; and Mr. Ramani Kumar Barman (WRE '74), Press Relations Officer.

The chapter has resumed normal activities in addition to special projects lined up by the new committee. First established in 1975, the chapter ceased temporarily due to difficulties in coordinating various activities.



CENTRAL ADMINISTRATION

The year 1985 saw the completion of a comprehensive Administrative Organization Report; the establishment of a Computer Project Team and considerable progress in modernizing financial records; the conversion of the accounting system from one traditionally recorded in United States dollars to one based on Thai currency; the recruitment of the first Internal Auditor to the staff; the resignations of two senior staff in the Adminstrative Data Processing Unit (ADPU) offset by a firm commitment to continue the valuable work of this section; growth in the new internal committee structure with no additional supporting staff resources; the introduction of new safety measures and continuation of energy conservation investigations; and progress in the computerization of certain areas in Medical Services and Physical Plant operations.

The Administrative Organization Report, authored by the Bursar and Chief Administrative Officer, Mr. J.H. Bradridge, as one of his assignments upon appointment, was within the internal committee structure at year's end. One recommendation, the establishment of four new senior staff positions and the promotion of long-serving incumbents to these positions, was approved.

This development was offset by the abolition of the four positions which they previously held and the restructuring of responsibilities and job definitions (three in the Finance Department and one in the Physical Plant Department).

In addition to making recommendations concerning proposed changes in the organizational structure and in personnel, the report also provided a thorough justification of the staffing levels in Central Administration, based on the unique characteristics of AIT and its physical location and attendant residential requirements.

- **Computerization of Financial Records**

The purchase of a General Ledger package from Software International, a subsidiary of the General Electric Group, and the establishment of a Computer Project team, comprising the Bursar as Chairman, the Deputy Director of Finance, the Manager of ADPU, the Internal Auditor and the Management Accountant, paved the way for positive progress in the computerization of financial records in the Institute. A study tour of appropriate North American universities which have computerized their financial records was undertaken in mid-1985 by the Bursar, the Deputy Director of Finance and the Management Accountant and provided further impetus to the task. The three staff also visited the SI Headquarters in Boston, CAUSE in Colorado and NACUBO in Washington, the latter two visits being in regard to staff training and development activities concerning computerization.

A study tour undertaken by Mrs. Nuallaong Juntrasook, Deputy Finance Director and Mr. Vichit Tengamnuay, Management Accountant (above, left and right) together with the Bursar, Mr. James Bradridge, paved the way for the computerization of various records and operations at the Institute.

Major tasks completed so far include the restructuring of the various funds from the present 12 funds to five new, amalgamated funds and the review and finalization of the existing Chart of Accounts into a new, computerized version. Both changes will be implemented from July 1, 1986.

The revised fund structure incorporates administrative re-organization proposals and limits funds in future to the following: unrestricted current funds, restricted current funds, sponsored program funds, plant funds and agency funds.

All financial and management reports currently produced are under review. As far as practicable, reporting requirements of faculty are taken into consideration.

Significant changes affecting the accounting system include reducing the various bank accounts for each existing fund to one bank account for all funds in baht and one in US dollars, and the elimination from accounting records and reports of the Thai satang (equivalent to cents).

The Computer Project Team has ensured that proposed changes, the revised fund structure, the new chart of accounts, etc. are acceptable to concerned professional parties, such as the external auditors and the Director of Finance and his staff. They are invited to comment on their areas of concern and to attend appropriate meetings of the team.

- **Computerization of Physical Plant Jobs**

Full computerization of utility billing has reduced the work load of the Finance and Auxiliary Services Departments.

Computerization of motor pool operation is next in line. The programming work completed by ADPU in October 1985 is in the testing stage. Full implementation is expected to start in early 1986.

Computerization systems for work order, internal charging and stock inventory are on the list for programing and development by ADPU.

Institute Safety

An Institute Safety Committee has been established and the Deputy Director of Physical Plant has been appointed Institute Safety Officer. The committee is responsible for the development of the Institute's policy concerning safety measures and for the preparation of a safety manual.

Members of the Institute Safety Committee. From left to right: Mr. Nipon Masavisut, Prof. D.M. Brotton (Committee Chairman), Mr. Agha Ahmad, Mrs. Samorn Muttara, Mr. D. Ravindram and Mr. Udom Mokkao.

Major achievements to date include:

- the provision of additional fire extinguishers following a survey of all fire fighting equipment on campus. The BCF type of fire extinguisher for multi-purpose use has been standardized to enable easy use and better maintenance, and replacements are expected to be made in due course.
- the holding of seminars at the opening of every term to familiarize students with fire safety and prevention measures and the use of various types of equipment on campus. An instructional video film will be prepared for future use.
- the on-going relocation of the cylinder storage system. This is expected to be completed in due course.

Energy Conservation

During the period 1979-84, when AIT acquired new buildings including the Library, the Energy Technology Buildings, the Korea House, Staff Housing Projects II and III, and Student Village III, the Institute's total electricity consumption rose by 1.6 M kWhrs to 7.4 M kWhrs or 27 per cent. During this five-year period, a 20 per cent increase in costs (four per cent each year) would have been reasonable. The moderate rise in consumption, in spite of the extensive addition of new buildings, laboratory equipment and new computers, clearly reflects the work of the Energy Conservation Group. Efforts for further improvement are regularly implemented and monitored.

Administrative Data Processing Unit

In spite of a slowing down of activities in mid-1985 due to the resignations of the Coordinator and the Manager of this unit, work moved ahead during the latter part of the year.

The unit currently implements 12 application systems, distributed by functional areas as follows:

Student	–	Grade reporting and analysis
		Exam scheduling
		Student registration
Finance	–	Payroll
		Sponsored program funds
		Cash receipts and disbursements
		Financial status reports
Personnel	–	Faculty and staff reports
		Telephone directory
Facilities	–	Utility billing
External	–	Alumni tracer study reports
Relations		Mailing list

Major activities/projects developed in 1985 included INTERPERS, an interactive personnel information system; motor pool system, an interactive vehicle booking and billing system for Physical Plant; and course catalog and class scheduling, a reporting system implemented on the microcomputer.

The position of Coordinator of ADPU remains unfilled pending finalization of a proposed administrative re-organization. Mrs. Aida Mah has been the unit's Acting Manager since July 1985.

Administrative Services

With the resignation of the Coordinator for Data Processing and Personnel in July 1985, responsibility for personnel functions reverted to the Director of Administrative Services. This department is also responsible for functions concerning general services, government relations, purchasing and security services.

Significant personnel statistics reported by the department for 1985 are as follows:

	Local Hire Staff	International/ Seconded Faculty and Staff	Total
Appointment	131	54	185
Reappointment/ Extension of Contract	184	59	243
Promotion	25	5	30
Transfer	11	1	12
End of Contract/ Resignation	78	28	106
Removal	4	–	4
Death	1	–	1
Increase after Probation Period	28	–	28

Architectural Services

• Work Completed – The principal construction project completed in 1985 was the IFS Housing Project, comprising four duplex houses and an apartment block of 15 mini-apartments. A covered carpark and a children's playground (part of this project) were also completed. Minor works carried out included the partition and modification of rooms to create additional office/classroom space, and the installation of equipment and furnishing.

The four duplex houses in the IFS Housing Project constructed in 1985

• Work in Progress

– The design and preparation of tender documents for the next stage of the proposed housing project are in progress. The 1985-86 Staff Housing Project of 18 apartment units will be located next to those completed in 1985. Housing reserve funds and a grant from the Royal Thai Government will support this project.

– Project preparation, cost estimates and preliminary design of some of the proposed buildings have been carried out. These buildings are the manufacturing technology and product performance testing center for AIT's proposed development park, new academic buildings, and the students' dormitory complex.

Repair work is underway to alleviate the problem of subsidence of the ground floor of the administration building and of the staircases in the academic buildings.

Auxiliary Services

This department is responsible for a combination of functions, foremost of which is the operation of the AIT Center. The number of workshops and conference activities organized by AIT, as well as those promoted to outside organizations by the center itself, has increased. The volume of return business from long-term AIT Center clients has also grown significantly.

The center's hotel occupancy increased from 44.61% in 1984 to 67.08% in 1985. Renovation and upgrading work are carried out on a continuing basis.

The new two-bedroom garden suite has enhanced hotel accommodation. Since opening in May 1985 and with confirmed reservations up to May 1986, the garden suite has recovered 40 per cent of its construction costs. Ninety per cent of the suite's business was derived from AIT Center-promoted sales activities.

The operational role of the bookstore, a major section in this department, will be reviewed internally in 1986. This follows a decision made in 1985 to cease textbook selling while continuing other bookstore services provided to the campus community.

The Printing Office, formerly under this department, was transferred in July 1985 to the Office of Media Services, which reports to the Office of the Vice President for Development.

Internal Audit

Mr. Avinash Patel was appointed the first Institute Internal Auditor in March 1985. The Internal Auditor is directly responsible to the Bursar.

Mr. Patel

In broad terms, the responsibilities of the Internal Auditor include assessing compliance with policies and procedures laid down by the Institute, advising management on improvements in procedures, ensuring the effectiveness of internal controls and, as far as possible, detecting irregularities. In addition, the Internal Auditor is given assignments on an ad hoc basis, primarily in areas involving financial activity.

Physical Plant

Physical Plant is the largest department of AIT, with 84 staff members and ten sections responsible for the day-to-day functioning of a residential campus. With the addition of new buildings and increasingly sophisticated equipment, the work of this department has expanded. However, staff numbers and budgetary allocations have not increased proportionately.

A significant development in 1985 was the restructuring of the work of the senior staff resulting in the creation of the new position of Deputy Director of Physical Plant. The previously titled post of Engineer was abolished and the incumbent, Mr. Agha M. Ahmad, was appointed to the new position.

Mr. Agha Ahmad, Deputy Director of Physical Plant, is also responsible for the Instrumentation Unit which has been transferred from the Office of Media Services under the Office of the Vice President for Development to the Physical Plant.

The Instrumentation Unit was transferred from the Office of Media Services to the Physical Plant in July 1985 and the Deputy Director of Physical Plant was appointed direct supervisor for this Unit. The unit's main objectives are as follows:

- design, development and testing of electronic instruments for thesis, research work and various projects;
- calibration, repair and maintenance of electronic instruments;
- assistance to students, faculty and staff in the selection and installation of equipment/ instruments;
- repair and modification of microcomputers for specific research and various other purposes; and
- development of a microcomputer interface, data communication and control system.

Medical Service

During 1985 medical records of individual patients, as well as an inventory of medical supplies, were computerized as part of a special study by some students in the Computer Applications Division.

The figures below show the number of cases served by the Medical Clinic in 1985.

	Cases
Staff and dependents	1,250
Students and dependents	750
Short course students	110
Research associates	140

Financial Management

All records and reports are still being processed manually, with the exception of payroll which has been partly computerized and some financial reports which are prepared with the use of the word processing system.

The organizational structure of this department was reviewed in 1985. The former positions of Chief Accountant, Senior Accountant and Accountant (Accounts Administrative Section) were re-titled and re-graded to Deputy Director of Finance, Financial Accountant and Management Accountant, respectively. Long-serving incumbents were promoted to these new posts. New job descriptions, combined with the modernization of the accounting system and the incorporation of high standards of professional performance and monitoring were approved. The successful appointees were Mrs. Nuallaong Juntrasuk (Deputy Director of Finance), Mr. Narong Sa-iam (Financial Accountant) and Mr. Vichit Tengamnuay (Management Accountant). Restructuring proposals, including salary revisions, for all staff below the senior team in this department are expected to be presented within 1986 by the Director of Finance.

The accompanying Balance Sheet as at 30 June 1985 is the first produced in Thai baht. Next year it is planned that comparative figures will be included. This financial section is concluded with relevant notes to assist in a better understanding of the complexities of the Fund Accounting system.

Appendices

ASSETS

CURRENT FUNDS	Baht
Unrestricted:	
Cash at banks	12,253,026.39
Investments, at cost	26,843,145.93
Advance duties and taxes (Note 2)	23,716,088.83
Other receivables	2,305,164.93
Deposits	240,172.00
Due from other funds	
– Loan Funds	28,375.00
– Endowment Funds	2,511,600.00
Restricted:	
Cash at banks	3,579,271.75
Investments, at cost	20,408,210.52
Accounts receivable and accrued income	1,045,467.61
Due from other funds	
– Unrestricted Current Funds	3,497,611.93
– Agency Funds	2,108,425.35
Total Current Funds	98,536,560.24
LOAN FUNDS	
Cash at bank	13,490.52
Accounts receivable	14,884.48
Total Loan Funds	28,375.00
ENDOWMENT FUNDS	
Investments, at cost	31,193,071.94
Accrued income	153,302.74
Total Endowment Funds	31,346,374.68
GENERAL RESERVE	
Cash at banks	899,552.82
Investments, at cost	91,519,819.53
Accrued income	2,592,217.62
Total General Reserve	95,011,589.97

at June 30, 1985

LIABILITIES AND FUND BALANCES

	Baht
CURRENT FUNDS	
Unrestricted :	
Accounts payable and accrued expenses	3,100,152.98
Deposits	345,600.00
Due to other funds	
– Restricted Current Funds	3,497,611.93
– Sponsored Program Funds	5,625.10
– Auxiliary Enterprise Funds	894,622.71
– Unexpended Plant Funds	200,837.00
– Agency Funds	161,977.93
Fund balances (Schedule 1)	59,691,145.43
Restricted :	
Accounts payable and accrued expenses	3,037,359.44
Due to other funds	
– Sponsored Program Funds	500,000.00
Fund balances (Schedule 1)	27,101,627.72
Total Current Funds	98,536,560.24
LOAN FUNDS	
Due to other funds	
– Unrestricted Current Funds	28,375.00
Total Loan Funds	28,375.00
ENDOWMENT FUNDS	
Due to other funds	
– Unrestricted Current Funds	2,511,600.00
Fund balances (Schedule 3)	28,834,774.68
Total Endowment Funds	31,346,374.68
GENERAL RESERVE	
Fund balances (Schedule 4)	95,011,589.97
Total General Reserve	95,011,589.97

ASSETS

	Baht
PLANT FUNDS	
Unexpended:	
Cash at banks	11,608,427.04
Investments, at cost	8,743,001.04
Accounts receivable and accrued income	27,851.62
Deposits	153,435.00
Due from other funds:	
– Unrestricted Current Funds	200,837.00
Maintenance and Construction Reserve:	
Cash at banks	225,806.20
Investments, at cost	4,700,000.00
Net investment in plant, at cost:	
Land development	13,229,823.23
Buildings	407,812,011.75
Furniture and equipment	341,342,190.70
Library acquisitions	37,912,728.77
Construction in progress	16,491,426.75
Total Plant Funds	842,447,539.10
AUXILIARY ENTERPRISE FUNDS	
Cash at banks	2,369,130.79
Investments, at cost	5,326,732.38
Accounts receivable and accrued income	1,048,164.25
Deposits	1,497,338.70
Inventories	2,312,005.76
Due from other funds	
– Unrestricted Current Funds	894,622.71
Total Auxiliary Enterprise Funds	13,447,994.59
SPONSORED PROGRAM FUNDS	
Cash on hand and at banks	3,079,902.55
Investments, at cost	8,767,787.25
Accounts receivable	849,077.88
Due from other funds	
– Unrestricted Current Funds	5,625.10
– Restricted Current Funds	500,000.00
– Agency Funds	864,905.28
Total Sponsored Program Funds	14,067,298.06
AGENCY FUNDS	
Cash at banks	4,326,287.17
Investments, at cost	15,363,047.43
Accounts receivable and accrued income	516,446.94
Due from other funds	
– Unrestricted Current Funds	161,977.93
Total Agency Funds	20,367,759.47

LIABILITIES AND FUND BALANCES

		Baht
PLANT FUNDS		
Unexpended:		
Accounts payable and accrued expenses		53,000.00
Fund balances (Schedule 5)		
– Unallocated		8,118,063.70
– Allocated		12,562,488.00
Maintenance and Construction Reserve:		
Fund balances (Schedule 6)		4,925,806.20
Net investment in Plant, at cost:		
Fund balances (Schedule 7)		
– Allocated		816,788,181.20
Total Plant Funds		842,447,539.10
AUXILIARY ENTERPRISE FUNDS		
Accounts payable and accrued expenses		1,416,188.40
Deposits		30,800.00
Fund balances (Schedule 8)		
Auxiliary services – Unallocated	2,043,000.00	
– Allocated	251,892.14	
– Reserve	7,832,313.54	10,127,205.68
Academic related		
Continuing Education Center – Allocated		1,873,800.51
Total Auxiliary Enterprise Funds		13,447,994.59
SPONSORED PROGRAM FUNDS		
Accounts payable and accrued expenses		5,701.00
Fund balances (Schedule 9)		14,061,597.06
Total Sponsored Program Funds		14,067,298.06
AGENCY FUNDS		
Accounts payable and accrued expenses		124,130.00
Due to other funds		
– Restricted Current Funds		2,108,425.35
– Sponsored Program Funds		864,905.28
Fund balances (Schedule 10)		
– Allocated	13,989,549.64	
– Unallocated	3,280,749.20	17,270,298.84
Total Agency Funds		20,367,759.47

Notes to the Financial Statements

JUNE 30, 1985

1. Summary of significant accounting policies

a) Accrual basis : The financial statements of the Asian Institute of Technology have been prepared on the accrual basis except for depreciation accounting as explained in note 1 (d) to the financial statements. The statement of current funds revenues and expenditures is a statement of financial activities of current funds related to the current reporting period. It does not purport to present the results of operations or the net income or loss for the period as would a statement of income.

b) Fund accounting : In order to ensure observance of limitations and restrictions placed on the use of the resources available to the Institute, the books of account of the Institute are maintained in accordance with the principles of "fund accounting". This is the procedure by which resources for various purposes are classified for accounting and reporting purposes into funds that are in accordance with activities or objects specified.

Within each fund group, fund balances that are restricted by outside sources are so indicated and are distinguished from unrestricted funds allocated to specific purposes by action of the governing board. Externally restricted funds may only be utilized in accordance with the purpose established by the source of such funds and are in contrast with unrestricted funds over which the governing board retains full control to use in achieving any of its institutional purposes.

Income derived from investments is accounted for as revenue in the unrestricted current funds, with the exception of general reserve fund and unexpended plant fund in which income is accounted for in the fund maintaining the investment.

All other unrestricted revenue is accounted for in the unrestricted current fund. Restricted gifts, grants, appropriations and other restricted resources are accounted for in the appropriate restricted funds.

c) Assets and liabilities in terms of foreign currency outstanding at balance sheet date are converted into Baht at the approximate bank rates ruling at that date. Gains or losses on exchange are taken up in the statement of changes in fund balances as and when incurred.

d) Physical plant and equipment are stated at cost at date of acquisition or fair value at date of donation in the case of gifts. Depreciation on physical plant and equipment is not recorded.

2. Advance duties and taxes

Advance duties and taxes comprise :

	Baht
Employee personal income taxes	12,337,720.10
Import duty and business tax on automobiles	6,586,797.32
Others	4,791,571.41
	23,716,088.83

The refund of the above advance from the Royal Thai Government will be subjected to annual Government budget.

3. Investments

At 30 June 1985, a fixed deposit of Baht 6.5 million included in investments of General Reserve is pledged with a bank as a collateral against outstanding letter of guarantee issued by the bank.

4. Commitments

At June 30, 1985 the Institute had outstanding commitments of approximately Baht 17.8 million in respect of contracts for construction in progress at that date but not completed and for outstanding purchase orders.

5. Accounting records

During the early part of 1985 the Board of Trustees decided to convert the accounting records of the Institute to Baht. The changeover from US Dollar accounting had no significant effect on the financial statements.

AUDITORS REPORT TO THE TRUSTEES OF THE ASIAN INSTITUTE OF TECHNOLOGY

We have examined the accompanying balance sheet of the Asian Institute of Technology as at 30 June 1985 and the related statements of changes in fund balances and current funds revenues and expenditures for the year then ended. Our examination was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned financial statements present fairly the financial position of the Asian Institute of Technology as at 30 June 1985 and the changes in fund balances and the current funds revenues and expenditures for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Price Waterhouse
Bangkok
October 15, 1985

Financial Review

1. The balance sheet as certified by the Auditors has not been consolidated to show the overall AIT financial position. This can be done by eliminating all amounts owing to and from the funds to each other. This results in a total net asset and liability position of 1,104 million baht compared with 954 million baht at 30 June 1984 or an increase of 15.72%. It is planned that additional useful comparative financial data will be provided in future annual reports.

2. A brief description of the funds follows :
   - Unrestricted Current Funds are funds available for general operating purposes without restrictions imposed by outside agencies. This is the operating budget of AIT.
   - Restricted Current Funds are funds available subject to restrictions imposed either externally or internally, specifying the manner in which said funds are to be used in current operations.
   - Loan funds are funds available for needy students to borrow for a short period.
   - Sponsored Program Funds are funds available subject to restrictions by donors or other agencies, as a condition of gifts, that they be used for research projects, conferences, seminars, short courses, or any other program.
   - Auxiliary Enterprise Funds are funds provided for operating auxiliary services, other campus services and academic related services, in support of academic divisions and/or administrative departments with a non-profit making purpose.
   - Endowment Funds are funds which donors or other agencies have stipulated, as a condition of gifts, that the principal is to be maintained inviolate and in perpetuity, with only the income from the investments of the fund being expended.
   - General Reserve is the fund which the Board of Trustees have stipulated shall be held in reserve for future use.
   - Unexpended Plant Funds are funds to be used for the acquisition of physical properties.
   - Maintenance and Construction Reserve was established in 1979 in order to provide funds for costs of maintenance and construction.
   - Agency Funds are funds held in trust by the Institute on behalf of donors and other agencies.

Notes to the Financial Statements

JUNE 30, 1985

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a) Accrual basis : The financial statements of the Asian Institute of Technology have been prepared on the accrual basis except for depreciation accounting as explained in note 1 (d) to the financial statements. The statement of current funds revenues and expenditures is a statement of financial activities of current funds related to the current reporting period. It does not purport to present the results of operations or the net income or loss for the period as would a statement of income.

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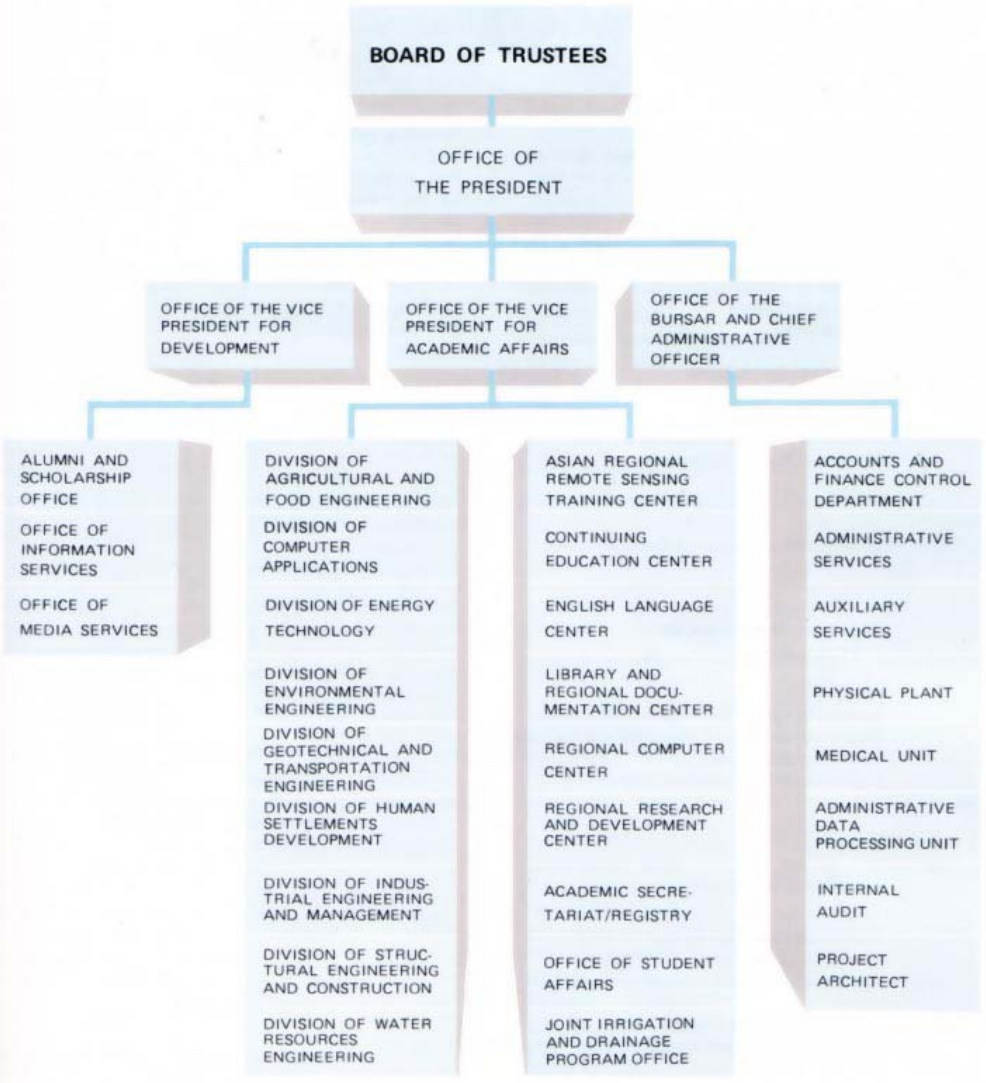
- Agency Funds are funds held in trust by the Institute on behalf of donors and other agencies.

ORGANIZATIONAL CHART OF AIT
Committees in the Institute

Committee Chairmen as of December 1985

Dr. Thanat Khoman	Executive Committee
Prof. C.S. Jha	Educational Policy Committee
Dr. Pote Sapianchai	Honorary Degrees Committee
Prof. A.M. North	Institute Policy and Planning Committee
Prof. Choh-Ming Li	Student Relations Committee
H.E. Mr. John L. Paynter	Nominating Committee

Note: Following a decision taken at the Annual Board Meeting in January 1986, the Educational Policy Committee and the Institute Policy and Planning Committee have been merged into the Policy and Planning Committee.



Note: As from Feburary 1986, the Regional Research and Development Center will be reporting to the Office of the Vice President for Development.

Senior Administrative Officers

SENIOR STAFF

President	Prof. Alastair North
Vice President for Academic Affairs	Prof. Fumio Nishino
Vice President for Development	Prof. Ricardo P. Pama
Bursar	Mr. James H. Bradridge
Academic Secretary	Mrs. Emilie Ketudat
Academic Planning Officer	Mr. W.P.P. Abeydeera
Director of Administrative Services	Mr. Nipon Masavisut
Director of Auxiliary Services	Mr. Steven Molnar
Director of Finance	Mr. Pongsagdi A. Vejjajiva
Director of Physical Plant	Mr. Noppadon Muangkroot

DIVISION CHAIRMEN

Division of Agricultural and Food Engineering	Dr. David Gee-Clough
Division of Computer Applications	Dr. Kanchit Malaivongs
Division of Energy Technology	Dr. N.J.D. Lucas (from February 1, 1985) Prof. Gerard Saunier (until January 31, 1985)
Division of Environmental Engineering	Dr. Chongrak Polprasert (Acting, from August 1, 1985) Dr. B.N. Lohani (on sabbatical leave from July 1985)
Division of Geotechnical and Transportation Engineering	Prof. Prinya Nutalaya (from December 4, 1985) Prof. A.S. Balasubramaniam (until December 3, 1985)
Division of Human Settlements Development	Prof. Karl E. Weber
Division of Industrial Engineering and Management	Dr. O. Fujiwara
Division of Structural Engineering and Construction	Prof. D.M. Brotton
Division of Water Resources Engineering	Dr. Tawatchai Tingsanchali (from Feburary 1, 1985) Prof. Suphat Vongvisessomjai (until January 31, 1985)

CENTER DIRECTORS

Continuing Education Center	Dr. Nicanor C. Austriaco
English Language Center	Mr. David Hall
Library and Regional Documentation Center	Mr. Arthur Vespry (from February 1, 1985)
Regional Computer Center	Dr. Milton J. Marcus
Regional Research and Documentation Center	Dr. Jacques Valls (Acting, from November 22, 1985) Prof. P.P.G.L. Siriwardene (until November 21, 1985)
Asian Regional Remote Sensing Training Center	Dr. Kaew Nualchawee

STUDENT AFFAIRS

Dean of Student Affairs	Mrs. Hilary Wongkaew
Student Union President	Mr. K.E. Seetharam (from September 1985) Mr. Lee Jin (until August 1985)

Full Time Faculty Members

Raymon W. Archer B.A. (Hons. in Econ.), Sydney; M.R.A.P.I.
Associate Professor, HSD

Buddy H. Atwell B.S., Ph.D., Texas A & M.
Associate Professor, ARRSTC

Nicanor C. Austriaco B.S.C.E., National Univ. of the Philippines; M.Eng., D.Eng., AIT.
Director, CEC

A.S. Balasubramaniam B.Sc., Ceylon; Ph.D., Cambridge.
Professor, GTE

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Assistant Professor, GTE

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Associate Professor, ET

Janos J. Bogardi Dipl.Ing., Technical Univ. Budapest; Dr.Ing., Karlsruhe.
Associate Professor, WRE

Denis Borel B.M.T., Lycee J.B. Say, Paris; Dipl. Ing., Ecole d'Ingenieurs Arts & Metiers; Dr. Ing., Sciences Sociales, Toulouse.
Associate Professor, ARRSTC

Derick Maxwell Brotton B.Sc., London; Ph.D., Leeds; D.Sc., Manchester; C.Eng., F.I. Struct.E., F.I.C.E.
Professor, SEC

Michael Brown M.A., St. Andrews; PDESL, Leeds.
Assistant Professor, ELC

David G. Carmichael B.Eng., M.Eng., Univ. of Sydney; Ph.D., Univ. of Canterbury.
Associate Professor, SEC

Sarvesh Chandra B.E., M.S.U.; M.Tech.; Ph.D., I.I.T., Kanpur.
Assistant Professor, GTE

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Associate Professor, WRE

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Associate Professor, IEM

Rene Codoni Ph.D., Basle.
Associate Professor, ET

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Associate Professor, WRE

Hiranya D. Dias M.A., Ph.D., Cambridge.
Professor, HSD

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Associate Professor, AFE

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Assistant Professor, ARRSTC

Wilfried H. Eppendorfer B.Sc., M.Sc., Ph.D., Royal Vet. and Ag. Univ., Copenhagen.
Associate Professor, AFE

A.B. Etherington B.Arch., Cornell; M.A., Hawaii; M.E.P., Philippines; M.Arch., McGill.; Ph.D., Hawaii.
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R.H.B. Exell M.A., D.Phil., Oxford.
Professor, ET

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Associate Professor, IEM

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Professor, AFE

David R. Hall B.A. (Hons.), Birmingham; M.A., Essex; PGCE, Leeds.
Associate Professor and Director, ELC

Keisuke Hanaki B.Eng., M.Eng., Ph.D., Tokyo.
Assistant Professor, EE

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Fude I B.C.E., National Tsing Hua; Ph.D., Iowa.
Professor, EE

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Associate Professor, AFE

Akira Ishido B.E.C.E., D.Eng., Tokyo.
Professor, GTE

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Associate Professor, HSD

Jens Raunsø Jensen M.Sc., Ph.D., Royal Vet. and Ag. Univ., Copenhagen.
Associate Professor, AFE

Vinod Kumar Jindal B.Sc.A.E., Pantnagar; M.S., Nebraska; Ph.D., Pennsylvania State.
Associate Professor, AFE

John Hugh Jones B.Sc., M.S., California.
Professor Emeritus, GTE

Hans Detlef Kammeier Dipl.Ing., Reg. Bmstr, Munich.
Associate Professor, HSD

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Instructor, CA

Worsak Kanok-Nukulchai B.Eng., Chulalongkorn; M.Eng., AIT; Ph.D., California (Berkeley).
Associate Professor, SEC

Pisidhi Karasudhi B.Eng., Chulalongkorn; M.Eng., Chulalongkorn-SEATO Graduate School; Ph.D., Northwestern.
Professor, SEC

Brian R. Kenny M.A., Sussex; ITCL. Dip. TESOL, London.
Assistant Professor, ELC

Georges Kozminski Ing., Ecole Nationale Superieure de Geologie, Nancy.
Instructor, ARRSTC

France Lasnier Ph.D., Paris.
Assistant Professor, ET

Bindu Nath Lohani B.E., (Hons.), Birla Institute; M.E., North Carolina State; D.Eng., AIT.
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Associate Professor, ET

John E. Lukens B.S., Worcester Polytechnic, Ph.D., Cornell.
Associate Professor, ARRSTC.

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Associate Professor, CA

Milton J. Marcus B.S., A.M., MBA., Ph.D., Columbia Univ.,
Director, RCC

Jacob Jan Mol M.Sc., Agricultural Univ., Wageningen, Netherlands.
Associate Professor, AFE

Takahiro Murata B.Eng., M.Eng., D.Eng., Tokyo.
Associate Professor, GTE

Samorn Muttamara B.Sc., Chulalongkorn; M.S., Oregon State.
Associate Professor, EE

Pichai Nimityongskul B.Eng., Chulalongkorn; M.Eng., D.Eng., AIT.
Associate Professor, SEC

Fumio Nishino B.Eng., M.Eng., Tokyo; Ph.D., Lehigh.
Professor, SEC

Alastair M. North B.Sc., Aberdeen; Ph.D., Birmingham.
Chair Professor in Applied Science.

Kaew Nualchawee B.Sc., Chulalongkorn; M.S., Connecticut; Ph.D., Colorado State.
Associate Professor and Director, ARRSTC

Prinya Nutalaya B.A., M.S., Ph.D., Colorado State.
Professor, GTE

Takashi Onishi B.Eng., M.Eng., D.Eng., Tokyo.
Assistant Professor, HSD

Hermann Maria Orth Dipl.Ing., Dr.Ing., Karlsruhe.
Associate Professor, EE

Magnus B. Øverby B.Sc., M.Sc., Oslo.
Assistant Professor, CA

Ricardo P. Pama B.S.C.E., Mapua Inst. of Tech.; M.Eng., Chulalongkorn-SEATO Graduate School; Ph.D., St. Andrews.
Professor, SEC

Huynh Ngoc Phien B.Sc., B.A., Hue; M.Sc., D.Tech.Sc., AIT.
Associate Professor, CA

Chongrak Polprasert B.Eng., Chulalongkorn; M.Eng., AIT; Ph.D., Washington.
Associate Professor, EE

Md. Ataur Rahman B.Sc.C.E., Bangladesh Univ. of Eng. and Tech., Dhaka; M.S., Ph.D., Texas A&M.
Associate Professor, AFE

Giovanni Rantucci Dott. Geol., Rome.
Associate Professor, GTE

Kurt T. Rudahl B.A., New York; M.S., Wisconsin.
Assistant Professor, ARRSTC

Khalid Saeed B.Sc. Eng., Univ. of Eng. & Tech., Lahore; M.Eng., AIT; Ph.D., MIT.
Associate Professor, IEM

Gerard Y. Saunier Ph.D., Montreal; D.Sc., Grenoble.
Professor, ET

F. Sauter-Servaes M.A., Syracuse; Dr.rer.soc., Konstanz.
Assistant Professor, ET

E. Desingu Setty M.C.D., Ghandigrani; M.A., Karnataka; Ph.D., Ranchi.
Associate Professor, HSD

Gajendra Singh B.Sc.A.E., Pantnagar; M.S., Rutgers; Ph.D., California (Davis).
Professor, AFE

P.P.G.L. Siriwardene B.Sc., Ceylon; Ph.D., Cambridge; D.Sc., Punjabi Univ.
Head, RRDC

Gunter Stahl Dipl.Ing., Dr.Ing., (Mech. Eng.), Technical Univ., Braunschweig.
Associate Professor, ET

Graeme H. Storer M.Sc., Otago; A.T.C.L. London; Dip. TESL/TEFL., New South Wales.
Assistant Professor, ELC

Mario T. Tabucanon B.S.E.E., B.S.M.E., Cebu Inst. of Tech; M.Eng., D.Eng., AIT.
Associate Professor, IEM

John C.S. Tang B.S., M.S., Ph.D., Florida.
Associate Professor, IEM

Prida Thimakorn B.Eng., Chulalongkorn; M.Eng., Chulalongkorn-SEATO Graduate School.
Associate Professor, WRE

Tawatchai Tingsanchali B.Eng., Chulalongkorn; M.Eng., D.Eng., AIT.
Associate Professor, WRE

Walter E.J. Tips B.Sc., M.Sc., M.TRP, D.TRP, Ghent.
Assistant Professor, HSD

Ikuo Towhata B.E., M.E., Ph.D., Tokyo.
Assistant Professor, GTE

Prapaporn Tungsarote B.Com., M.Com., Chulalongkorn.
Instructor, CA

Yves G. van Frausum B.S., Free Univ. of Brussels; M.S., Dijon; Ph.D., Free Univ. of Brussels.
Assistant Professor, IEM

Dirk L. van Oudheusden B.S., State U. Antwerp; M.S., Ph.D., Free Univ. of Brussels.
Associate Professor, IEM

H. Arthur Vespry B.Arch., Ottawa; B.Lib. Sc., McGill; M.Lib. Sc., Western Ontario.
Director, LRDC

S. Vigneswaran B.Sc. (Hons.); Peradeniya; M.Sc., AIT; Docteur Ingenieur, Montpellier.
Assistant Professor, EE

Suphat Vongvisessomjai B.Eng., Chulalongkorn; M.Eng., D.Eng., AIT.
Professor, WRE

Paul Charmniern Vorratnchaiphan B.A., College General, Penang; M.Sc., AIT.
Instructor, HSD

Karl E. Weber M.A., Dr. Phil., Heidelberg.
Professor, HSD

Kok Leong-Wee B.Sc., London; M.Sc., Ph.D., Stirling.
Assistant Professor, AFE

R.J. Whiteley B.Sc. (Hons.), M.Sc., Sydney; Ph.D., New South Wales.
Associate Professor, GTE

Prida Wibulswas DIC, Imperial College; Ph.D., London.
Associate Professor, ET

Martin Wieland Dipl.-Ing. ETH, Dr.Sc., Techn., Swiss Federal Inst. of Tech.
Associate Professor, SEC

H. Wongkaew B.A., Dip.Ed., TEFL., Sydney; M.A., Lancaster.
Assistant Professor and Dean of Student Affairs

Bruce K. Worcester B.S., Maine; M.S., Arizona; Ph.D., Iowa State. Associate Professor, ARRSTC

Vilas Wuwongse B.Eng., M.Eng., D.Eng., Tokyo Inst. of Tech.
Assistant Professor, CA

Associated Faculty Members

AGRICULTURAL AND FOOD ENGINEERING

Apichart Anukularmphai B.Sc., M.Sc., Technion, Israel; M.Eng. Ph.D., Utah. (Managing Director, A & R Consultants Co., Ltd., Thailand)

Billy J. Cochran B.S., Mississippi; M.S., Texas A & M; Ph.D., Oklahoma State.
(Member, IRRI, Thailand)

Paiboon Prabuddham B.Sc. (Agric.), Kasetsart; M.S., Univ. of Philippines; Ph.D. Illinois.
(Member, Kasetsart University, Thailand)

COMPUTER APPLICATIONS

Duangkaew Sawamiphakdi B.A., Australian National, Dip. Comp. Sc., Canberra College of Advanced Education; M.S., Ph.D., Univ. of Iowa.

Mark Tamthai B.A. Univ. of Washington; M.A., Ph.D., Indiana.

Somkuan Bruminhent B.Eng., Chulalongkorn; M.Eng., Ph.D., Georgia Inst. of Tech.

ENVIRONMENTAL ENGINEERING

Pakit Kiravanich B.Eng. (Civil), M.Eng. (Sanitary), Chulalongkorn; Ph.D. (Environmental), Oklahoma State.

Wanchai Pothiphichitr B.Sc., Imperial College, London; Ph.D., Imperial College and Chelsea College, London.

GEOTECHNICAL AND TRANSPORTATION ENGINEERING

Prapansak Buranaprapa B.Eng. (Hon.), Chulalongkorn; M.Eng., Chulalongkorn-SEATO Graduate School of Engineering; Ph.D., Oklahoma State.
(Member, Highway Department, Thailand)

Surachat Sambhandharaksa B.Eng., New South Wales; M.Eng., AIT; Sc.D., Massachusetts Inst. of Tech.
(Member, Chulalongkorn University, Thailand)

Yongyuth Taesiri B.Eng., (Hons.), Khonkaen; M.Eng., AIT; Ph.D., Florida.
(Member, Highway Department, Thailand)

Prapon Vongvichien B.Eng., Chulalongkorn; M.Eng., AIT; Ph.D., Ohio State.
(Member, Office of Policy and Planning, Ministry of Interior, Thailand)

HUMAN SETTLEMENTS DEVELOPMENT

Somboonwan Hemasatara B.S. Chulalongkorn; M.B.A., D.B.A., Indiana.
(Member, NIDA, Thailand)

Atikul Jamlong B.C.A. (Econ.) Victoria; M.Com., Auckland; Ph.D., Cornell.
(Member, NIDA, Thailand)

Somsak Tambunlertchai B.A., Thammasat; M.A., Ph.D., Duke.
(Member, Thammasat University, Thailand)

INDUSTRIAL ENGINEERING AND MANAGEMENT

Somboonwan Hemasatara B.S., Chulalongkorn; M.B.A., D.B.A., Indiana.

STRUCTURAL ENGINEERING AND CONSTRUCTION

Vithool Jearkjirm B.Eng., Chulalongkorn; M.S., Ph.D., Purdue.
(Assistant Managing Director, Thai Yong Panich, Co., Ltd., Thailand)

Ping Kunawatsatit B.Eng., Chulalongkorn; M.Eng., Kyoto; Ph.D., Purdue.
(Member, Chulalongkorn University, Thailand)

WATER RESOURCES ENGINEERING

Helmut Eggers Dip.Ing. (Civil), Dr.-Ing., Karlsruhe
(Member, University of Bonn, Germany)

Affiliated Faculty Members

AGRICULTURAL AND FOOD ENGINEERING

John A. Colman B.A., Carleton; Ph.D., Wisconsin.

ENERGY TECHNOLOGY

V.G. Dang Econ.Eng., Institut National des Sciences et Techniques Nucleaires, Saclay; Ph.D., Paris 1 Pantheon-Sorbonne.

ENVIRONMENTAL ENGINEERING

Eddie K.S. Hum B.Sc., Nanyang Univ.; M.Sc., Ph.D., AIT.

Visiting Faculty Members

COMPUTER APPLICATIONS

Vishv Mohanm Malhotra B.E.(Hons.), B.I.T.S. Pilan; M.Tech. Ph.D., IIT, Kanpur.

R.Sadananda B.E., Mysore; M.E., Roorkee; Ph.D., IIT, Kanpur.

P.A. Venkatachalam B.E., Madras; M.Tech., IIT, Kharagpur; Ph.D., IIT, Kanpur.

ENERGY TECHNOLOGY

E.A. Mesritz M.Sc., Delft University.

T.A. Reddy Ph.D., University of Perpignan.

ENVIRONMENTAL ENGINEERING

H.S. Shin B.Sc., Seoul National University; M.Sc., Pennsylvania State University; Ph.D., Pennsylvania State University

GEOTECHNICAL AND TRANSPORTATION ENGINEERING

Kanakatti M. Anantharamaiah B.E., Mysore; Dip. T & C.P., New Delhi; Ph.D., Birmingham.

HUMAN SETTLEMENTS DEVELOPMENT

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Joao P.C. Guimaraes Lic. Eng. Civ., U. Porto; Dipl. Reg. Dev. Planning., M.Soc. Sc., ISS, The Hague.

Gerardus M. Sibbing Doctorandus, Erasmus, Rotterdam.

Lakshman A. Yapa B.A. (Hon.) Ceylon; Ph.D., Syracuse.

INDUSTRIAL ENGINEERING AND MANAGEMENT

Iuan-Yuan Lu B.Eng., Chung-Yuan Christian, RoC; M.Eng., D.Eng., Keio, Japan.

Sandananda Sahu B.Sc., College Rourkela, India; M.Tech., Ph.D., IIT, Kharagpur.

Prem Vrat B.Tech. (Hons.), M.Tech., IIT, Kharagpur; Ph.D., IIT, Delhi.

WATER RESOURCES ENGINEERING

R.D. Verma B.Eng., Roorkee, India; M.Sc., Missouri; Ph.D., Cornell.

Tsan-Wen Wang B.S., M.S., National Taiwan; M.S., Colorado State; Ph.D., South Dakota.

ENGLISH LANGUAGE CENTER

Michael Smithies M.A., Oxford; M.A., California.

Date	Title	Co-Organizers/ Sponsors	No. of Participants
SHORT COURSES			
8 – 12 Jan	Design and Construction of Ferrocement Structures	IFIC	30
21 Jan – 12 Apr	Project Management for Engineers	Ministry of Public Works, Indonesia/ IEM	25
11 Mar – 5 May	Management of Problem Soils	BARC	9
17 Mar – 20 Apr	On-Farm Water Management	EEC/WRE/AFE	43
15 July – 3 Aug	Rural Road Construction and Maintenance	GTZ/BADC/GTE	8
12 Aug – 6 Sept	Energy and Environment Statistics	CDG/ET/EE	16
30 Sept – 1 Oct	Planning and Design of Small Hydropower Schemes	CEC	25
14 Oct – 13 Dec	Groundwater Development and Management (Planning and Field Work)	UNDP/WRE/GTE	15
12 – 22 Dec	Fourth Asian School on Solar Energy Harnessing, Solar Components and System Testing	KMIT/UNESCO/ESCAP/ AFME/ICTP/ET	30
WORKSHOPS			
4 – 8 Feb	Improving Teaching-Learning	British Council	20
25 Feb – 8 Mar	Identification of Appropriate Technologies and Method of Technology Transfer for Rural Women	ESCAP/HSD	15
29 – 30 Apr	Improving Organizational Effectiveness	CEC	20
10 – 12 May	Management of Training	CEC	8
9 Aug – 6 Sept	Development and Completion of Masterplan on Rural Water Supply and Sanitation	UNICEF/EE	9
14 Oct – 1 Nov	Reduction of Operation Costs in Municipal Water Supply Systems	CEFIGRE	17
4 – 16 Nov	Standard Procedures in Operational Hydrology	CDG/WMO/WRE	24
2 – 10 Dec	Design and Construction of Solar Dryer	MCC	3
SEMINARS			
15 Feb	The Management of Highway Maintenance	USAID/GTE	15
3 – 7 June	Computer-Based Management Information Systems, Indonesia	Ministry of Education, Indonesia	11
14 June	Energy Saving by Anaerobic Wastewater Treatment, Solid Waste Disposal and Sanitary Land Filling	CEC	50
19 – 21 Aug	Computers in Business Management: Microcomputers, System Analysis and EDP Audit	CEC	35
14 – 16 Oct	Expert Systems in Industry and Business	CA	18
SYMPOSIUM			
14 – 16 Jan	Design and Construction of Ferrocement Structures	IFIC	114

Completed and On-Going Contract and Grant Research

Projects are grouped according to their principal investigating division or center and are detailed as follows: project title, investigator(s), sponsor(s) and budget. Projects listed above the blue line have been completed during 1985, while those below it are in progress.

Division of Agricultural and Food Engineering

Small Scale Integrated Farm

Dr. Edwards, Dr. Eppendorfer, Prof. Singh
Ministry of Foreign Affairs, The Netherlands
US$39,991

Aquaculture Production Basis

Dr. Colman
International Center for Living Aquatic Resource Management
US$3,924

Fish Production with Composted Water Hyacinth

Dr. Edwards
GTZ
US$53,262

Use of Waste-Grown Tilapia as Fish Feeds

Dr. Wee
AIT
US$2,500

Resource Recovery and Health Aspects of Sanitation

Dr. Chongrak, Dr. Edwards, Dr. Lohani, Dr. Wee
EEC
US$159,741

Buffalo/Fish and Duck/Fish Integrated Systems for Small-Scale Farmers

Dr. Edwards
ODA
US$57,376

Effect of Rainfall, Soil, and Land Use on Soil Erosion in Solo Watershed, Java

Dr. Jensen
DANIDA
US$6,051

Soil Bin Operation

Dr. Gee-Clough
Thai Agency Engineering Co. Ltd.
US$1,321

Evaluation, Improvement and Demonstration of a Manual Soybean Seeder

Prof. Singh, Dr. Gee-Clough
IDRC
US$146,000

Heat Sterilization and Accelerated Drying of High Moisture Rice for Safe Storage

Dr. Jindal
USAID (Thailand)
US$150,000

EEC Tilapia Project

Dr. Edwards
EEC
US$47,667

Applied Nutrition for Rural Development

Dr. Jindal, Dr. Tips
EEC
US$66,299

Improving the Tractive Performance of Wheeled Tractors in Wet Paddy Fields

Dr. Gee-Clough
EEC
US$58,590

Division of Computer Applications

A Thai CAI for Teaching Arithmetics in Grade 6

Dr. Kanchit
Ministry of Education, Thailand
US$8,700

Division of Environmental Engineering

Treatability Study of Ceramic Wastes

Dr. Lohani, Mr. Sompol
The Polytechnology Co. Ltd.
Baht 40,000

Comparative Study of the Properties of Bangkok Solid Waste and Compost

Dr. Lohani, Mr. Sompol
Department of Public Cleansing (BMA)
Baht 53,500

A Training Course on Planning for Rural Water Supply and Sanitation

Mrs. Samorn, Dr. Lohani
CEFIGRE
US$16,715

Preparation of the National Decade Masterplan for Rural Water Supply and Sanitation in Thailand

Prof. Anat, Prof. Thanh, Mrs. Samorn (undertaken with RRDC)
NESDB, Thailand
Baht 15,000,000

Resource Recovery and Health Aspect of Sanitation

Dr. Chongrak, Dr. Edwards, Dr. Lohani, Dr. Wee
EEC
US$159,741

Environmental Impact Study for Laem Chabang Port

Mrs. Samorn, Dr. Lohani, Prof. Thanh
Pacific International Consultants Co. Ltd.
Baht 547,000

Establishing Design Norms for Intermittent Water Supply Schemes

Dr. Vigneswaran, Dr. Chongrak
Provincial Waterworks Authority, Thailand/ WHO
Baht 94,030

Effect of Deforestation and Agricultural Land Use on the Nutrient Level and Suspended Solids Load of Tropical Streams

Dr. Orth, Dr. Kaew
EEC
Baht 1,668,000

Air Pollution Inventory of Selected Industries Related to Lignite Usage

Mrs. Samorn, Dr. Lohani, Mr. Sompol
Consultants Technology Co. Ltd.
Baht 220,000

Economic, Institutional and Technical Implications of Alternative Urban Sanitation and Recycling Options – A Case Study of Chonburi, Thailand

Dr. Orth, Mr. Kammier, Dr. Edwards, Dr. Chongrak

GTZ

DM 94,200

Factors Affecting the Applicability of Water Hyacinth Systems for Wastewater Treatment in Southeast Asia

Dr. Orth

GTZ

DM 55,000

Division of Energy Technology

Royal Orchid Hotel Solar System Testing

Prof. Saunier, Mr. Bouix

Italthai International Hotel

US$5,000

Development of Multi-Fuel Intermittent Ice-making Machine Appropriate for Remote Rural Areas

Dr. Reddy

AFME

US$10,800

Use of Utilizability Methods to Analyze Solar Radiation Data

Dr. Reddy

AFME

US$4,500

Theoretical and Experimental Studies on Solar Ponds and Their Applications

Dr. Reddy

AFME/EGAT

US$20,000

German Solar Project

Mr. Winden, Dr. Reddy

GTZ

US$23,500

Field Trial Procedure to Assess the Behavior of Photovoltaic Modules under Natural Condition

Dr. Lasnier, Mr. Winden

AFME

US$4,000

Field Trial Procedure to Assess the Behavior of Photovoltaic Refrigerators under Natural Conditions of Operation

Dr. Lasnier

AFME

US$3,000

Assistance in Strengthening Overall Energy Planning and Policy Analysis Capability and Master Plan

Dr. Lucas

UNDP/ESCAP

US$300,000

Design of Biogas Plants for Pig Manure and Water Hyacinths

Mr. Tenscher

GTZ

DM 235,000

Solar Water Heater Characterization and Testing Method

Mr. Bouix

AFME

US$3,500

Improvement of Dynamic Method of Testing to Determine Solar Thermal Collector Performance

Mr. Bouix, Mr. Supachart

AFME

US$10,000

Research on Utilization of Alternative Fuels in Internal Combustion Engines

Dr. Stahl

GTZ

US$81,000

Biomass Valorization in Asia

Dr. Bhattacharya

EEC

(ECU) 250,000

Gasification and Combustion of Biomass Residues

Dr. Bhattacharya

AFME

US$11,000

Characterization of Rural Energy Uses (Phase 1 and Phase 2)

Dr. Dang

EEC

US$129,900

Research and Development of Solar-Powered Desiccant Refrigeration

Prof. Exell

USAID

US$48,800

Solar-Powered Ice-Maker (Extension to previous project)

Prof. Exell

ODA

US$9,500

Photovoltaic Regional Data Base

Dr. Lasnier

AIT

US$2,000

Demonstration Photovoltaic Village

Dr. Lasnier

AFME

US$2,650

Division of Geotechnical and Transportation Engineering

Investigation of Land Subsidence on AIT Campus

Dr. Bergado, Prof. Balasubramaniam

AIT

US$6,167

Spatial Variability of Bangkok Subsoils

Dr. Bergado

AIT

US$1,280

Control of Congestion at Highly Saturated Junctions

Prof. Jones

British Science and Engineering Research Council, and British Transport and Road Research Laboratory

US$83,784

Geotechnical Aspects of Mae-Kuang Irrigated Agriculture Development Project

Prof. Balasubramaniam, Dr. Yamada, Mr. Sataporn

The Consultant Joint Venture, Bangkok

US$11,894

Foundation Investigation at Cement Factory Site, Saraburi, Thailand

Prof. Prinya, Dr. Bergado

The Siam City Cement Co. Ltd.

US$13,144

Bangkok World Trade Center Project

Prof. Balasubramaniam, Mr. Sataporn
Moh & Associates (s) Pte. Ltd., Singapore
US$8,122

Impact of Quaternary Geology on Urban Development and Land Use of the Central Plain of Thailand

Prof. Prinya, Prof. Yong
IDRC
Baht 1,900,260

Comparative Study of the Stability of AIT Embankment with and without Granular Piles

Dr. Bergado
AIT
Baht 65,000

Modal Change Effect by New Transport

Dr. Murata
JICA
Baht 63,000

A Research on the Promotion of Industrial Activities in Rural Areas

Dr. Onishi
JICA
US$5,000

Village Change in Northeast Thailand during the Fifth National Economic and Social Development Plan

Dr. Demaine
AIT/ISS
US$2,300

Feasibility of Improved Low-Rise/ High Density Urban Development Patterns Based on the Chinese Townhouse

Mr. Kammeier
GTZ
US$5,000

Microcomputer-Based Evaluation and Planning Tools for Rural Center Development, Phase II

Mr. Kammeier
ISS/AIT
US$2,500

Building a Productive Community after Land Reform: Pilot Project at Champhuang, Nakhon Ratchasima Province, Northeast Thailand

Prof. Weber
CIDA/HSD
US$7,500

Evaluation of Local Level Projects in Asian Countries

Prof. Weber
Foster Parents Plan International
US$52,657

Prevention of Seasonal Malnutrition through the Transfer and Study of the Adoption Behavior of Alternative Sources of Protein

Dr. Tips
EEC
US$105,000

Belgian Low-Cost Housing Project in Cooperation with PGC-KUL Leuven

Dr. Etherington, Dr. Tips
Belgian Government BADC-VLIR University Cooperation Program
US$370,000

Optimum Water Resources Utilization Study, Choshui River Basin

Prof. Suphat, Dr. Tawatchai, Prof. Fude I
Taiwan Power Co./Water Resources Planning Commission of RoC
US$174,810

Flood Routing and Control Alternatives of the Chao Phraya River for Bangkok

Prof. Anat, Prof. Suphat, Dr. Tawatchai (undertaken with RRDC)
NESDB, Thailand
Baht 8,000,000

Improving of Canals Connecting Khlong Tawee Wattana and Khlong Khoon Ratpinidjai to Alleviate Flood Damage, West Bank of the Chao Phraya River

Prof. Suphat
Department of Drainage and Sewerage (BMA)
US$66,079

Efficient Use of Rainfall for Supplementary Irrigated Lowland Rice, Phase I

Dr. Christoph
GTZ/GmbH, Eschborn
Baht 360,000

Sediment Control of Mae Kum Luang Project

Mr. Prida
NEA, Thailand
US$38,695

Coastal Engineering Investigation of Laem Chabang Port Project

Mr. Prida
AR Group Consulting Co. Ltd.
US$60,175

Integrated Flood Relief Plan of the West Bank

Dr. Tawatchai, Prof. Suphat
BMA
US$293,470

Control of Waste Disposal from Offshore Tin Mining, Phase I

Mr. Prida, Prof. Suphat
Department of Mineral Resources, Thailand
US$313,503

Modelling of Water Resources Development of the Mananga Basin

Dr. Dyhr-Nielsen
Danish Hydraulic Institute
US$9,573

Efficient Use of Rainfall for Supplementary Irrigated Lowland Rice, Phase II

Dr. Christoph
GTZ/GmbH, Eschborn
Baht 240,000

Hydraulic Model Study of Kaeng Krung Dam Spillway, Kaeng Krung Project

Mr. Prida
EGAT
US$35,079

Hydraulic Model Study of Lower Mae Ping Project for Lower Mae Ping Barrage Scheme and Mae Wang Diversion Scheme

Dr. Tawatchai, Mr. Prida
EGAT
US$59,303

Division of Industrial Engineering and Management

Thailand Economic Futures

Dr. Van Frausum
AIT
Baht 60,000

Division of Structural Engineering and Construction

Feasibility Study of Asian Software for Microcomputer Applications in Civil Engineering

Dr. Worsak
AIT
Baht 66,250

Asian Regional Remote Sensing Training Center

Surface Water Evaluation in Northeast Thailand – A Pilot Project Using Satellite Remote Sensing

Dr. Atwell, Dr. Kaew
(undertaken with RRDC)
NESDB, Thailand
US$300,000

English Language Center

Computer-Assisted Language Learning

Mr. Storer
AIT
Baht 66,250

Library and Regional Documentation Center

Broad Based Development Program (Information Dissemination)

Prof. Weber
CIDA
US$150,000

RDC Component of Australian Grant

Mr. Vespry
Australia
US$300,000

Renewable Energy

Mr. Vespry
USAID
US$100,000

Grant for LRDC

Mr. Vespry
France
US$15,000

International Ferrocement Information Center

Mr. Vespry
New Zealand
US$15,000

UNESCO Seminar on Curriculum Development in Information Studies

Mr. Vespry
UNESCO
US$16,000

IDRC Outreach Grant AGE, IFIC

Mr. Vespry
IDRC
US$164,000

Book Grant

Ms. Daruna
Netherlands
US$11,000

British Book Grant

Ms. Daruna
United Kingdom
US$3,000

Regional Computer Center

Thai-German Plant Protection Program (TG-PPP); Plant, Pest and Disease Surveillance and Early Warning System

Mr. Gonzales, Mr. Dias
GTZ
US$85,000

Regional Research and Development Center

Application of Technologies Appropriate for Rural Areas of Indonesia, Phase II

Coordinated by RRDC among the HSD, IEM, CA Divisions and RCC, LRDC
Indonesian Institute of Science (LIPI), UNDP
US$120,000

Abbreviations

ADB	Asian Development Bank
AITF	AIT Foundation, Inc.
AFME	French Agency for Energy Management
AITAA	AIT Alumni Association
ASEAN	Association of Southeast Asian Nations
BAAC	Bank for Agriculture and Agricultural Cooperatives, Thailand
BADC	Bangladesh Agricultural Development Cooperation
BARC	Bangladesh Agricultural Research Council
BBD	Broad Based Development Program, CIDA
BMA	Bangkok Metropolitan Administration
CDG	Carl Duisberg Gesellschaft e.V. Germany
CEFIGRE	Centre de Formation Internationale a la Gestion des Resources en Eau
CIDA	Canadian International Development Agency
DAAD	German Academic Exchange Services
DANIDA	Danish International Development Agency
DTEC	Department of Technical and Economic Cooperation, Thailand
EEC	Commission of the European Communities for South-East Asia
EGAT	Electricity Generating Authority of Thailand
ESCAP	Economic and Social Commission for Asia and the Pacific
FAO	Food and Agriculture Organization
GTZ	German Agency for Technical Cooperation
IBM-AFE	IBM World Trade Americas/Far East Corporation
ICTP	International Center for Theoretical Physics, Italy
IDRC	International Development Research Center, Canada
ISS	Institute of Social Studies, the Netherlands
JICA	Japan International Cooperation Agency
KEIDANREN	Federation of Economic Organizations of Japan
KMIT	King Mongkut's Institute of Technology, Thailand
MCC	Mennonite Central Committee
MUCIA	Midwest Universities Consortium for International Activities, Inc.
NEA	National Energy Administration, Thailand
NESDB	National Economic and Social Development Board, Thailand
NIDA	National Institute of Development Administration, Thailand
ODA	Overseas Development Agency, UK
RID	Royal Irrigation Department, Thailand
RTAF	Royal Thai Air Force
RTG	Royal Thai Government
SIPC	Shell International Petroleum Company
UNDP	United Nations Development Programme
UNDRO	United Nations Disaster Relief Office
UNESCO	United Nations Education, Scientific and Cultural Organization
USAID	United States Aid for International Development
WHO	World Health Organization
WMO	World Meteorological Organization

Academic Divisions and Centers

AFE	Division of Agricultural and Food Engineering
CA	Division of Computer Applications
ET	Division of Energy Technology
GTE	Division of Geotechnical and Transportation Engineering
HSD	Division of Human Settlements Development
IEM	Division of Industrial Engineering and Management
SEC	Division of Structural Engineering and Construction
WRE	Division of Water Resources Engineering
ARRSTC	Asian Regional Remote Sensing Training Center
CEC	Continuing Education Center
ELC	English Language Center
LRDC	Library and Regional Documentation Center
AGE	Asian Information Center for Geotechnical Engineering
ENSIC	Environmental Sanitation Information Center
IFIC	International Ferrocement Information Center
RERIC	Renewable Energy Resources Information Center
PCAD	Programs in Computer Applications Development

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