The impressive growth in numbers of graduates and countries served demonstrates the Institute's achievement over the past three decades and its enduring contribution to Asia's development.

ASIAN INSTITUTE OF TECHNOLOGY
Asian Institute of Technology

1989 Ramon Magsaysay Award for International Understanding

in recognition of its shaping a new generation of engineers and managers committed to Asia, in an atmosphere of academic excellence and regional camaraderie.

Manila on 31 August 1989

"My pride and pleasure are the greater since you honor not one person, but the many who have made the Institute what it is today."

President J. B.Unused
THIRTY YEARS OF SERVICE TO ASIA'S DEVELOPMENT

"... It may be significant that the Ramon Magsaysay Foundation and the Institute were both conceived at the same point in history: the one to continue in Asia the inspiration of a great leader after his tragic death; the other to halt the flow out of Asia of future leaders in science and technology. While today we remember the vision of the late Ramon Magsaysay, in AIT we remember, too, the foresight of Dr. Pote Sarasin, who, as Secretary General of the South East Asia Treaty Organization, saw as a building brick for peace, the creation of an international post-graduate engineering school..."

Prof. Alastair North
AIT President
Manila
August 31, 1989

In the autumn of 1957 H.E. Mr. Pote Sarasin, Secretary General of the South East Asia Treaty Organization, proposed the idea of a regional graduate school of engineering to be sponsored by SEATO. The principal financial support was to come from Australia, France, New Zealand, Thailand, the United Kingdom and the United States, with additional support from the other regional member countries, Pakistan and the Philippines.

In March 1958 the SEATO Graduate School of Engineering project was approved by the Council of Ministers of the South East Asia Treaty Organization at its meeting in Manila.

Mr. Pote Sarasin (left), with Prof. Bender (below).

Reston: the old campus at Chulalongkorn University.

THE FIRST DECADE
1959-1969

1959
January /February
Prof. Maurice L. Albertson and Prof. Thomas H. Evans, representing Colorado State University, undertook a preliminary survey for the United States International Cooperation Administration.

April
The SEATO Council of Ministers meeting in Wellington approved the plan for the establishment of the School in September 1959.

30 July
His Majesty King Bhumibol Adulyadej of Thailand signed the Royal Decree establishing the SEATO Graduate School of Engineering.

August
Prof. Thomas H. Evans arrived from Colorado State University to become Dean of the SEATO Graduate School of Engineering.

10 September
The SEATO Graduate School of Engineering began its first classes with 18 students from Pakistan, the Philippines and Thailand studying Hydraulic (now Water Resources) Engineering. There were only eight faculty members.

September
The Board of Management of the SEATO Graduate School of Engineering was established by the SEATO Council.

1960

June
Majors in Highway (now Transportation) Engineering and Structural Engineering were introduced.
March
The first graduation ceremony was held to confer the degree of Master of Engineering on eight students. The degrees were conferred jointly by Chulalongkorn University and the SEATO Graduate School of Engineering.

June
Dr. Robert M. Holcomb of Texas A & M University succeeded Prof. Thomas H. Evans as Dean of the SEATO Graduate School of Engineering.

1963
May
Dr. Milton E. Bender, Jr. of Colorado State University succeeded Dr. Holcomb as Dean of the SEATO Graduate School of Engineering.

1964
May
The SEATO Council of Ministers, meeting in Manila, passed a resolution that the SEATO Graduate School of Engineering should remain regional, and engaged an expert study group to make recommendations on the future of the School.

June
A new field of study in Public Health was inaugurated.

December
The expert study group, composed of leading engineers and educators from SEATO member countries, convened to discuss the future of the School. The group recommended eventual independence and control by a Board of Trustees.

1965
May
The SEATO Council of Ministers, meeting in London, agreed that the School should continue as a regional graduate school of engineering and that it should become independent, with SEATO gradually phased out.

June
The Division of Geotechnical and Transportation Engineering was established.

1966
November
The first session of the interim Board of Trustees was held to draft an organizational structure for AIT.

1967
26 October
The Constituent Assembly of Thailand approved legislation for the Charter of the Asian Institute of Technology.

23 November
The Asian Institute of Technology Enabling Act was published in the Royal Thai Government Gazette. The SEATO Graduate School of Engineering ceased to exist.

24 November
The Asian Institute of Technology came into being as an independent, autonomous, international institution of higher learning devoted to instruction and research in engineering, the sciences, and related fields.

1968
January
The Board of Trustees of AIT held its first meeting to formulate and adopt bye-laws, and to elect the officers of the Institute. Dr. Pueng Muengakorn was elected Chairman of the Board and Prof. Milton E. Bender, Jr. as President.

4 May
His Majesty King Bhumibol Adulyadej of Thailand graciously presided over the Eighth Annual Graduation, the first in which AIT conferred its own degrees. 52 students graduated, bringing the total number of alumni since 1961 to 227.

July
The Board of Trustees, at a special meeting, approved a 10-year development program for AIT.
January 1969
The Board of Trustees, at its annual meeting, received a Development Report and Master Plan for the new AIT campus.

July 1969
The Board of Trustees accepted the recommendation that a program leading to the Doctor of Engineering degree, and a program leading to the Diploma of AIT, be introduced starting in 1970.

August 1969
The AIT Alumni Association was established.

1971
January
A new field of study in Systems Engineering and Management was introduced.

The construction contract for the first stage of AIT’s new 400-acre campus was signed, and work began.

1972
The Institute had established the following Academic Divisions: Environmental and Chemical Engineering, Fluid and Energy Engineering, Geotechnical Engineering, Structural Engineering and Mechanics, and Systems Engineering and Management.

January 1973
The Division of Industrial Engineering and Management and the Asian Information Center for Geotechnical Engineering were established. Human Settlements Planning was introduced as a field of study.

14 February 1973
His Majesty King Bhumibol Adulyadej of Thailand opened the new campus in Pathum Thani province.

15 February 1973
Prof. Milton E. Bender, Jr. resigned from office as President after 10 years of service (initially as Dean) and was succeeded by Dr. Harold E. Hoelscher.

Dr. Puay Ungphakorn resigned from the Chairmanship of the Board and was succeeded by Mr. Oscar Mapua.

1974
August
The AIT Center, offering facilities for regional and international conferences, was officially opened.

1975
The Regional Experimental Center, constructed with funds from the Chinese Taipei, was opened.

The Regional Computer Center was founded as the result of a unique five-year partnership with the AIT Foundation, IBM World Trade America, Far East Corp., and USAID.

January 1977
Agricultural and Food Engineering became an independent division. Formerly Agricultural Engineering was a component in the Division of Community and Regional Development.

The Regional Documentation Center, comprising initially the Asian Information Center for Geotechnical Engineering and the International Ferrocement Information Center, was established.

Human Settlements Development, formerly a component in the Division of Community and Regional Development, became an independent division.

January 1977
Prof. Robert B. Banks succeeded Prof. Milton E. Bender Jr., as President of the Institute.
August
The new Regional Computer Center building was officially opened.

1978

July
The establishment of the Division of Computer Applications was approved. Approval was also given for a new Division of Energy Technology.

1979

The English Language Center (renamed Language Center in January 1987) was established.

January
The Division of Computer Applications (renamed Computer Science in 1986) admitted its first students in the Master’s Program. Its first Doctoral students were admitted in August 1980.

April
The Institute celebrated its twentieth anniversary. Student enrollment had increased to 485 students. There were 65 full-time faculty members. Financial support was being provided to 27 governments and more than 20 organizations, foundations and industries.

1980

The Continuing Education Center became operational.

January
The first 19 students began studies in the new Division of Energy Technology, the ninth division at AIT.

The Institute Council was introduced to function as an advisory body to the President.

1981

The Asian Regional Remote Sensing Training Center was established and commenced courses in 1982.

August
The Library and Media Building, constructed from funds donated by the Government of Japan, was officially opened.

The Institute began converting its academic programs to a three-term, three-admission system, in an effort to reduce peak loadings of the Registry, the dorms, the Library, RCC and other academic/administrative units.

1982

The Regional Research and Development Center was established to help promote research projects at the Institute.

April
Energy Technology (ET) Building 1, a gift from the Government of the Federal Republic of Germany, was officially opened. The ET complex is supplemented by the Energy Research Park, which was constructed from funds donated by the Government of France.

1983

January
To strengthen the Institute's long-term planning, the Board of Trustees proposed and approved the establishment of the Institute Policy and Planning Committee.

May
Construction of the Regional Experimental Center extension began, using funds donated by Chinese Taipei.

July
Prof. Robert Banks completed six and a half years as AIT President.

August
Prof. Alastair North assumed office as AIT President.
1984

September
The Institute marked its 25th anniversary with a donors' meeting which unveiled the 1985-1988 Academic Plan, aimed at achieving a reasonable balance between classical engineering and management fields. The Plan also recommended the consolidation of existing academic divisions, along with new ventures in natural resources management and manufacturing technology. The external doctoral program was proposed.

1985

January
ET Building II, a gift from the Government of France, was officially opened.

1986

The Asian Disaster Preparedness Center was established to provide training courses and other assistance to strengthen the disaster management systems of countries in Asia and the Pacific.

May
The Division of Human Settlements Development admitted its first Doctoral students. All nine Academic Divisions now offer Doctoral programs.

1987

Programs related to natural resources, computer-related manufacturing technology, and management underwent further development.

January
The Joint Irrigation and Drainage Program (later renamed Agricultural Land and Water Development) admitted its first students. The program is jointly offered by the AFE and WRE Divisions.

The Education Policy Committee and the Institute Policy and Planning Committee were merged as the Policy and Planning Committee of the Board of Trustees.

May
The Interdisciplinary Natural Resources Development and Management Program admitted its first students in the certificate program. The first Master's students were admitted in May 1988.

July 21
The Institute presented its first Gold Medal Award to His Majesty King Bhumibol Adulyadej of Thailand in recognition of his outstanding leadership in rural development.

1988

CAD/CAM activities in the Industrial Engineering and Management Division, the Computer Science Division and the Regional Computer Center, were integrated.

September
The Ambient Laboratory, a gift from the Royal Thai Government, and the Environmental Research Station, a gift from the Government of the Federal Republic of Germany, were opened.

October
The Agricultural and Food Engineering Building, a gift from the Royal Thai Government, was officially opened by Her Royal Highness Princess Maha Chakri Sirindhorn of Thailand.

December
The Asia-Pacific Forum on Telecommunications was held, under the sponsorship of the Government of Finland, to study the requirements and parameters of the proposed graduate program in telecommunications.

1989

May
The HSD Division admitted its first M. Sc. students in the SPRING Program (Spatial Planning of Regions in Growing Economies), a joint program with the University of Dortmund in the Federal Republic of Germany.

August
The 30th anniversary forum on "Higher Education in Technology for Asia into the 21st Century" was held from August 17 to 19.

On August 17 at the 56th graduation ceremony, the Honorary Degree of Doctor of Technology was conferred on Her Royal Highness Princess Maha Chakri Sirindhorn of Thailand.

On August 31 in Manila, the Institute was honored with the 1989 Ramon Magsaysay Award for International Understanding.

September
The School of Management admitted its first Master's students in the Management of Technology.
1989 IN BRIEF

STUDENT BODY

Enrollment

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<tr>
<td>Sept</td>
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Degrees Awarded

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ALUMNI

Total Alumni
4855 from 34 countries

Total AITAA Members
2689 from 16 AITAA chapters

The five largest groups of alumni are from

DONORS

Total Contributions Received
Bah 326.47 million

Type and Number of Donors and Their Percentage Contribution

- Governments 74.85%
- International Organizations 10.71%
- National Government Agencies 5.49%
- Business 4.39%
- Foundations 3.2%
- Private and others 1.36%
PRESIDENT'S MESSAGE

"1989, the thirtieth birthday year of AIT, was essentially a time of looking back, recognizing the achievements of the Institute, and planning forward to the closing years of this century and beyond."

Events seemed to peak in the month of August. Her Royal Highness Princess Maha Chakri Sirindhorn graciously accepted the Honorary Degree of the Institute at the 50th graduation ceremony, bringing real pleasure to us all and particularly to those who have been privileged to assist in her work and development projects. Coincident with the graduation, the Institute sponsored a high-level international forum entitled "Higher Education in Technology for Asia into the Twenty-First Century". This examined changes in regional needs for human resource development against the background of the Institute's own objectives and capabilities. On August 31 the Institute was honored to receive the prestigious Ramon Magsaysay Award for International Understanding. It gave me great pride to represent the alumni and student body, the trustees, faculty and staff (past as well as present) at the award ceremony, to acknowledge the achievements of everyone associated with AIT, and to pledge our continuing dedication to our purpose.

With the 1989 Ramon Magsaysay Award Winners and Mrs. Luc B. Magsaysay (third from left), widow of Philippine President Ramon Magsaysay. From left: Father James Reuser, Kim Im Soon, Chand Jais, and Dato Zakham Hamid bin Abdul Hamid.

Presenting the Doctor of Technology hood to Her Royal Highness Princess Maha Chakri Sirindhorn (inset).

Presiding at the 30th anniversary forum with Prof. Fumio Nishino, former Vice President for Academic Affairs and leading Japanese economist Dr. Saburo Okita (inset).
The evolution of the academic activities of the Institute was clearly demonstrated in the September term when the new School of Management admitted its first M.B.A. students. At the same time consultant teams have analyzed the means of implementing programs in telecommunications and biotechnology. The first steps in both initiatives will be taken in 1990, signifying the Institute’s wish to expand activities in new high technologies alongside consolidation of the three academic areas: civil or infrastructure engineering, agricultural and natural resources technologies, and management and planning.

Applications for admission and scholarship donations grew over the year so that 1990 commenced with more than 800 students on the Institute’s mainstream programs (excluding short certificate courses). Austria and the People’s Republic of China joined our other scholarship donors in providing the most essential component in bringing students to study in the Institute.

The year saw the close of the 1988-1989 financial period with, again, an excess of income over expenditure. This was transferred to reserves against the imminent equipment and building renewal needs of the Institute. Scientific equipment, of course, becomes obsolete or worn out with a relatively short average half life, but with many buildings now seventeen years old and suffering subsidence damage, expensive maintenance and renovation are necessary. Hopefully the Institute will continue to offer the leadership facilities in both equipment and fabric which have characterized its first thirty years.

The forward look of the Institute also took shape in a new version of the three-year rolling Institute Plan. In this, analysis of the physical infrastructure needs of less developed countries and the science and technology infrastructure requirements of more developed countries is used to set Institute academic strategies for the future, as well as determining the realizable financial, human and physical resources which will be necessary for their achievement.

It was a rewarding year for us all, and in enjoying the plaudits I want particularly to state that these go not to any single person, but to the whole AIT team. Trustees, alumni, former faculty, all have guided and assisted my colleagues on the faculty and staff. I give my warmest thanks particularly to my colleagues, whose support, energy, and dedication have never been more evident.

[Signature]
ACADEMIC AFFAIRS

CURRICULAR DEVELOPMENTS

Fields of Study, Academic Programs and Courses

The establishment of three new fields of study—manufacturing systems engineering, management science, and rational use of energy—has been formally approved.

Thirty-one new courses were introduced, 16 revised and one deleted. A total of 285 regular courses was offered, compared with 256 in 1988.

Interdisciplinarity

The overlay of interdisciplinary programs encouraged by the Board of Trustees at its January 1988 meeting has emerged in various forms.

The updated Institute Plan provides for twelve interdisciplinary fields compared with seven in the previous version. The new Plan also refers for the first time to an interesting proposal from the civil engineering divisions (SEC, GTE, WRE) for the development of a range of interdisciplinary fields, including engineering for coastal zones (on-shore engineering), infrastructure planning and development and engineering for land, water, and environmental conservation. The various mathematical courses will be combined under engineering computation, relevant for all civil engineering divisions.

INRDM, the Institute's most explicitly interdisciplinary initiative, is expected to have its own degree-giving status in future.

New Ventures

The Institute's academic ventures in telecommunications and biotechnology have moved towards implementation. Telecommunications has a program and funding proposal, while biotechnology is developing towards bioprocess technology with an interdivisional orientation in agricultural and environmental engineering.

These two new areas of specialization are expected to attract scholarship support by the second and third years of the triennium.

Joint Ventures

AIT is ideally placed and resourced for joint academic ventures with other universities and continues to pursue effective resource-sharing initiatives.

In 1989 the first group of 29 students from the diploma program of the Bangladesh University of Engineering and Technology successfully completed their one term at AIT.

Eleven students on the joint AIT/University of Dortmund M.Sc. degree program in Spatial Planning for Regions in Growing Economies (SPRING) left for Germany for a year, after their first term here. They will return to AIT for their final two terms of workshop, survey and research activity.

A management plan for the proposed AIT settlements and regional development center at Koomale, Sri Lanka, is under consideration.
ENROLLMENT TRENDS

Full-time student enrollment averaged a record 776 over the three terms in 1989. Enrollment per term in the academic divisions increased by 11% from 643 in 1988 to 726 last year.

Student Enrollment 1989

<table>
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<td>May</td>
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<td>Sept</td>
<td>711</td>
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<td>776</td>
</tr>
<tr>
<td>Average</td>
<td>726</td>
<td>51</td>
<td>776</td>
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</table>

Enrollment in the Doctoral program continued to increase significantly, accounting for 12% of total enrollment in the regular degree programs. It is gradually approaching the 20% target set in the 1988-1991 Institute Plan.

In its first student intake in September 1989, the School of Management admitted 31 students from 12 countries.

The center programs (PCAD, Remote Sensing and Pre-Master's English) accounted for around 7% of the total full-time student enrollment.

AIT's student body remains truly international. Students from Thailand account for 29% of enrollment in the degree program, while those from South Asia represent about one-third. A recent trend is the increased number of students from the People's Republic of China and Vietnam.

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Total                        | 783 | 770 | 776   |
AVERAGE ANNUAL ENROLLMENT 1980 TO 1989

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- PCAD, Remote Sensing, and Pre-Master’s English Programs
- Doctoral Programs
- Master’s, Diploma, Certificate, and Special Programs
## BY DIVISION

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## BY DEGREE

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## BY COUNTRY

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There were four Diploma graduates, 3 from Bangladesh and 1 from Sri Lanka.
Graduation Awards

Hisamatsu Prize, given from funds provided in 1982 by Prof. Yoshihiro Hisamatsu, former Dean of the Faculty of Engineering at the University of Tokyo and now Adviser (Technology) of Niashin Steel Co. Ltd. of Japan.

James A. Linen III Memorial Prize (formerly known as the Institute Prize), established in 1988 in memory of Mr. James Linen, a charter founding and life member of the Board of Trustees from 1967-1988.

Tim Kendall Memorial Prize, established in 1981 from funds provided by the UK-AIT Appeal, in memory of Mr. R.M. Kendall, member of the Board of Trustees from 1971-1981.

ANNUAL AWARDS

Norsk Data Prize, presented by Norsk Data to the most outstanding graduate in the CS Division. Presented in December to Engbue Co Ong of the Philippines. Adviser: Dr. Vitus Wuwongse.

Mahesh Varma Prize, provided by Prof. Mahesh Varma, for the most outstanding graduate in the SEC Division. Presented in April to Tirath Manojya Pallewatta of Sri Lanka. Adviser: Dr. R. Chauhan.

HONORARY DEGREES

TO LIFE TRUSTEES

Dr. Puey Ungphakorn
In recognition of the many facets of his outstanding contribution to the Institute: as the first Chairman of the Board, from November 1966 to February 1973; for his leadership during the period of the SEATO Graduate School of Engineering; for his influential endeavors in the development of the Rangsit campus and the growth of assistance from the Royal Thai Government; and for his unstinting service to the economic, social and educational development of Thailand and the Asian region.

Mr. Oscar Mapua
In recognition of his enduring support and academic contribution to AIT, the key consolidating role he played as Chairman of the Board during a particularly testing phase in the Institute’s history, and his continuing endeavors as an ally and advocate of the Institute in the Philippines and throughout the Southeast Asian region.
FACULTY AND PUBLICATIONS

1989 saw five promotions to the rank of Professor and two to Associate Professorships. Twenty long-term appointments were made in 1989, three as Professors, twelve as Associate Professors, five as Assistant Professors, and one as Instructor. Of the 26 Visiting Faculty appointed, five were for durations of more than a year, and 21 for less.

The number of publications produced during the year was marginally lower than in 1988, with faculty members averaging four publications each.

The Appendix provides a full list of 1989 faculty and details promotions, appointments, and resignations.

---

**SUMMARY OF PUBLICATIONS DURING 1989**

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<th>Department</th>
<th>Journal Papers</th>
<th>Conference Papers/Proceedings</th>
<th>AIT Research Reports</th>
<th>Book/Chapter in a Book</th>
<th>Others*</th>
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**CONTRACT AND GRANT RESEARCH, CONTINUING EDUCATION AND CONTRACT PROGRAMS**

Contract and grant research projects completed over the year totalled 49, while 101 projects are still in progress.

Some 2,000 professionals participated in continuing education programs held during the year.

1989 continuing education activities, contract and grant research projects (completed and on-going), and contract programs are listed in the Appendix.
DONOR RELATIONS

1959-89

In its 30 years, AIT has demonstrated a remarkable capacity to generate funding support and sustain it over the long-term. Contributions received by the Institute during the period 1959-89 totalled some Baht 4.6 billion.

From a small group of funding governments and donor agencies in the Institute’s early years, AIT today is supported by governments, international organizations, national government agencies, business enterprises, foundations, and individuals, from developed and developing countries.

1988-89

In FY 1988-89 total contributions provided the Institute amounted to Baht 326.47 million.

Long-term Programs of Cooperation

The trend toward long-term cooperation programs continued in FY 1988-89. Denmark and Norway, which previously provided one-year programs of support, joined the growing number of donor countries that extend multi-year support to the Institute.

New Donor Countries

Extensive promotional and outreach activities have brought the Institute two new donor countries, Austria and the People’s Republic of China, with each providing three-year cooperation programs for scholarships and faculty secondments.

Public and Private Sector Support

91% of total contributions received in FY 1988-89 was provided by 23 governments, 16 international organizations, and 42 national government agencies.

While the public sector continued to be the major funding source, the Institute achieved new breakthroughs in partnerships with the private sector. In FY 1988-89 some 40 industrial and business enterprises contributed a total of Baht 29.75 million, 30% of which was presented in the form of equipment as well as CAD/CAM related software and training.
General Reserve Fund
This Fund has increased by 11% from Baht 133.81 million last year to Baht 150.86 million.

AIT Endowment Fund
This Fund increased from Baht 50.1 million to Baht 52.48 million, accounting for contributions received from Pakistan and the Education and Public Welfare Foundation of Thailand, as well as interest earned from previous contributions made by Japan and the Republic of Korea.

Faculty Secondment
Donors provided 798 man-months of faculty and staff secondments of which 92% came from 17 governments. France, Japan, and the Federal Republic of Germany provided 54% of all faculty secondments, maintaining the same level as in 1987-88.

Investment in Plant
Investment in plant (referring to the value of physical facilities, equipment and books) is slightly over Baht 1 billion.

TOTAL DONATIONS FY 1988-89
IN CASH AND IN KIND (BAHT '000)

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<td>Equipment/ Books</td>
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<td>38,593</td>
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*Presiding at ceremonies to sign the AIT-Denmark and AIT-Norway MOUs were H. E. Mr. Frederik Kauer, the Ambassador of Denmark to Thailand, and H. E. Mr. Johan Henrik Dahl, the Ambassador of Norway to Thailand (from top photo).*
### FACULTY AND STAFF SECONDMENTS 1988-89

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<td><strong>TOTAL</strong></td>
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AIT President thanking former Pakistani Ambassador to Thailand, H.E. Mr. Abdul Hameed Aliani, and H.E. Mr. Lawrence Smith, the Canadian Ambassador to Thailand.

Far left: Grant presentations by Mr. Michel Doucin, Sub-Director of Scientific Cooperation in the French Ministry of Foreign Affairs, and by Prof. Kornkrit Phuphansawang, University Rector of Thammasat.

Left: Mr. Helio Guigulino da Souza, Rector of the United Nations University, signing an AIT/UNU MOU. Scholarship presentation by H.E. Mr. Bernd Oldenkott, the Ambassador of the Federal Republic of Germany to Thailand.
### DONORS’ CUMULATIVE CONTRIBUTIONS
FY 1959-60 TO FY 1988-89 (%)

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#### Business, Foundations, Private and Others

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#### Total

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### SUMMARY OF DONATIONS RECEIVED FY 1988-89

#### IN CASH AND IN KIND (%)

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<td>Sri Lanka Survey Department 0.07</td>
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<tr>
<td></td>
<td></td>
<td>Scholarship presentations by H. E. Mr. Richard Butler A.M., the Ambassador of Australia to Thailand (above), and Mr. Robert T. Diakan, Deputy USAID Representative to ASEAN (right).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>International Organizations</th>
<th>ALRO 0.08</th>
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</thead>
<tbody>
<tr>
<td>ADB</td>
<td>BMA 0.02</td>
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<tr>
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<td>Dept. of Forest Management, KU 0.01</td>
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<tr>
<td>EC</td>
<td>DTEC 0.09</td>
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<td>ECAT 0.42</td>
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<td>FAO</td>
<td>FMO 0.06</td>
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<td>ICIMOD</td>
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<td>ONCIR 0.03</td>
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<tr>
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<td>Support Project 0.04</td>
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<td>Royal Forest Department 0.04</td>
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<td>UNESCO</td>
<td>United States 0.06</td>
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<tr>
<td>UNJ</td>
<td>Academy for Educational Development 0.17</td>
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<td>UNO-Genova</td>
<td>Institute 0.00</td>
</tr>
<tr>
<td>World Bank</td>
<td>Sri Lanka 0.04</td>
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</tbody>
</table>

Scholarship presentations by H. E. Mr. Richard Butler A.M., the Ambassador of Australia to Thailand (above), and Mr. Robert T. Diakan, Deputy USAID Representative to ASEAN (right).
<table>
<thead>
<tr>
<th>Business</th>
<th>Amount</th>
<th>Foundations</th>
<th>Amount</th>
<th>Private and Others</th>
<th>Amount</th>
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<tr>
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<tr>
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<td></td>
<td>Thai/German Highland Development Program</td>
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<td>Lutheran World Federation</td>
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<td>Royal Brunei Airlines</td>
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<td>San Miguel Corp., Philippines</td>
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<td>Shell International Petroleum Corp.</td>
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<td>Siam Cement Co., Ltd.</td>
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<td>Taiwan Cement Corp.</td>
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<td>T.M. Thompson and Associates Ltd.</td>
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<td>TMX (Thailand) Ltd.</td>
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</table>

Visits and joint projects. From top: Prof. Helmut Eggers with Dr. M. N. B. Ayiku, Project Coordinator of the Technology Transfer Center in Ghana; Dr. Panom Ponpaithal, MIT Trustee and Secretary General of the National Education Commission of Thailand; and Mr. T. Kozuka and Mr. K. Kawaiji of the Japanese Ministry of Foreign Affairs.
CENTRAL ADMINISTRATION

FINANCIAL PERFORMANCE OF THE INSTITUTE

The Unrestricted Fund's overall outcome was similar to that of last year. With both income and expenditures exceeding last year's level by 11%, the Institute recorded a surplus of about Baht 10 million, before transfers to reserves. The most significant feature was the rise in income, the highest since FY 1984-85 (not accounting for inflation). This income performance allowed AIT to replenish its stock of library books and periodicals, and to begin a major upgrading of equipment in the Physical Plant.

REORGANIZATION AND MANAGEMENT CHANGES IN PERSONNEL SECTION

Major changes were implemented in the management and staffing of the Personnel Section of Administrative Services.

Under a new management strategy, the Personnel Section was reorganized into three basic functions: recruitment, evaluation and compensation, and training and orientation.

To upgrade the quality of AIT staff, the Personnel Section adopted more rigorous recruitment procedures, new training policies, and comprehensive orientation programs. Procedures for employee evaluation were revised.

COST OF CENTRAL ADMINISTRATION OPERATIONS

BAHT MILLION

83/84 84/85 85/86 86/87 87/88 88/89
DEVELOPMENTS IN PHYSICAL PLANT OPERATIONS

Although the fully developed area of the AIT campus increased by 7%, expenditures incurred by the Physical Plant in providing a wider scope of services were lower than in previous years.

The Instrumentation Unit in the Physical Plant took over the task of repairing non-RCC and Computer Science Division micro-computers. The unit, which is again fully staffed after suffering a complete loss of its former staff, is liaising well with the academic sector of the Institute.

CAMPUS DEVELOPMENT

New Dormitory Project
The project provides for three dormitory blocks to house 180 students. The first block of 68 units was completed in November 1989, while the two others are expected to be ready by January 1990. One of the dormitory blocks will be converted to much needed married student accommodation, another one will temporarily house certain categories of short-term students. The third will be used for regular student accommodation immediately.

Staff Housing 1 (ST-1)
The earthwork and piling for the project have been completed. Underway is work on the flood control system, the installation of electrical transformers and the water supply system, and construction of an elevated tank. The project is expected to be completed by July 1990.

AIT Center Extension
A study was carried out for additional hotel accommodation and training facilities, as well as the upgrading of existing facilities.

Outreach Building
The proposed building which covers 2,000 sq. m. will house offices and research facilities. Work on the project is scheduled as follows: December 1989 (site clearing, relocation of roads and some utility lines, construction of a tarmac for a car park); January 1990 (call for tender and contract awarding, start of construction); September-October 1990 (completion of construction).

Subsidence Repairs
Remedial work on the ground floor of the Academic Building North will be carried out in stages.
Towards a stronger AITAA

Prof. Sriskul Charmonnan, AITAA President, urged graduating students to sign up for membership at the time of graduation and called on all AITAA chapter members to double their efforts in recruiting graduates to join AITAA.

Of the current alumni body of 4,855 graduates, only 2,689 or slightly over 55% are life members of AITAA. Only 15 to 20% of graduating students sign up for membership at the time of graduation. "We need to take some action to ensure that a higher percentage of graduates do so," said Prof. Sriskul, stressing that membership should remain voluntary.

Of the 16 AITAA local chapters, the three largest are those in Thailand, Chinese Taipei and the Philippines. Initial discussions on the establishment of alumni chapters in the People's Republic of China and Vietnam have been made.

Prof. Sriskul announced fund-raising activities to support AITAA projects, including the research grant to support AIT students doing thesis research in their home countries, publication of the "AITAA Who's Who", and a hymn contest.

The Baht 50,000 raised through the AITAA Homecoming Golf Tournament in December 1989 will go to a fund in support of AIT.
AIT 30th Anniversary
Celebration in Hong Kong

Mr. P.W. Pao (HSD '80), President of the AITAA-Hong Kong/Macau Chapter, led chapter members in a celebration of AIT's 30th anniversary, held on October 2 at the Furama Hotel.

Commending AIT graduates for their involvement in various development projects in Hong Kong and Macau, the Hon. H. K. Chang, JP (Member of the Executive and Legislative Councils) said, "The expertise of AIT and its graduates can contribute a lot to the future of Hong Kong in the different fields of planning, management and engineering."

AIT President North and AITAA Hong Kong/Macau Chapter President, Mr. P.W. Pao, proposing a 30th birthday toast.

Members of AITAA-Philippines Witness Magsaysay Award Presentation

"We applaud AIT..."

Mr. Ildefonso Santos (HSD '82), President of AITAA-Philippine Chapter, together with chapter members were on hand to congratulate AIT President Alastair North and party at the Ramon Magsaysay Award presentation ceremonies held on August 31 in Manila. With President North were Prof. Ricardo Pama, Vice President for Development; Prof. Helmut Eggert, Vice President for Academic Affairs; and Prof. Srisakdi Charmonman, AITAA President.
ALUMNI DISTRIBUTION
BY COUNTRY
1961-1989

TOTAL 4,855

10 LARGEST ALUMNI GROUPS

EAST ASIA

TOTAL

27
227
90
3
1
37
1,231
505
8
234
5

SOUTH EAST ASIA
AND THE PACIFIC

Bangladesh 374
Sri Lanka 372
Nepal 172
India 331
Pakistan 327
Afghanistan 18
Iran 12
Turkey 6

SOUTH
AND WEST ASIA

NOT SHOWN

Canada 3
Ethiopia 1
Ghana 2
Honduras 1
Malawi 1
Tanzania 6
UK 2
USA 4
Kenya 1
APPENDICES

Balance Sheet as at June 30, 1988, 1989 31
Changes in Fund Balances for the year ended 30th June 1989 32
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Membership of the Board of Trustees 54
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# ASIAN INSTITUTE OF TECHNOLOGY

## BALANCE SHEET AS AT 30th JUNE, 1989 and 1988

<table>
<thead>
<tr>
<th>Note</th>
<th>Unrestricted Current Fund</th>
<th>Restricted Funds</th>
<th>Capital Funds</th>
<th>Sponsored Program Fund</th>
<th>Agency Fund</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BAHT</td>
<td>BAHT</td>
<td>BAHT</td>
<td>BAHT</td>
<td>BAHT</td>
<td>BAHT</td>
</tr>
<tr>
<td><strong>ASSETS</strong></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Cash at banks</td>
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<td>1,727.908</td>
<td>6,861.406</td>
<td>8,154.704</td>
<td>13,418.834</td>
<td>18,026.958</td>
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<td>32,266.706</td>
<td>238,754.201</td>
<td>229,313.280</td>
<td>27,320.192</td>
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<td>Advance duties and taxes</td>
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<td>23,123.612</td>
<td>14,358.402</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Accounts receivable and accrued income</td>
<td>2,940.915</td>
<td>2,228.085</td>
<td>6,502.629</td>
<td>5,218.522</td>
<td>49,240</td>
<td>180,415</td>
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<td>Deposits</td>
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<td>282,793</td>
<td>941,181</td>
<td>602,081</td>
<td>-</td>
<td>148,298</td>
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<tr>
<td>Inventories</td>
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<td>-</td>
<td>654,080</td>
<td>629,313</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Due from other fund</td>
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<td>-</td>
<td>3,156,400</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fixed assets</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td><strong>TOTAL ASSETS</strong></td>
<td>52,186.061</td>
<td>50,884.061</td>
<td>276,872,851</td>
<td>249,913,200</td>
<td>1,052,626,340</td>
<td>1,041,027,539</td>
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</tbody>
</table>

## LIABILITIES AND FUND BALANCES

### LIABILITIES

- Accounts payable and accrued expenses | 1,751,341 | 535,941 | 2,069,715 | 2,788,107 | 2,518,748 | - | 865,351 | 34,238 | 1,869,799 | 996,401 | 9,973,079 | 3,258,697 |
- Deposits | 498,460 | 411,800 | 510,657 | 476,647 | - | - | - | - | - | - | 1,000,037 | 888,447 |
- Due to other funds | - | - | 1,264 | 97,871 | - | - | - | - | - | - | 1,169,929 | 97,871 |

**TOTAL LIABILITIES** | 2,249,741 | 947,741 | 3,481,836 | 3,360,625 | 2,518,748 | - | 865,351 | 34,238 | 13,760,551 | 996,401 | 22,883,392 | 6,237,015 |

### FUND BALANCES

- 6 | 49,436,320 | 49,436,320 | 273,391,215 | 240,552,357 | 1,050,107,592 | 1,049,027,539 | 30,166,953 | 29,630,574 | 29,393,573 | 68,514,111 | 1,422,997,857 | 1,465,458,875 |

**TOTAL LIABILITIES AND FUND BALANCES** | 52,186,061 | 50,884,061 | 276,872,851 | 249,913,200 | 1,052,626,340 | 1,041,027,539 | 31,032,469 | 29,654,572 | 43,183,128 | 68,908,532 | 1,455,880,849 | 1,448,187,894 |

The accompanying notes are an integral part of the financial statements.

[Signature]

PRESIDENT
# ASIAN INSTITUTE OF TECHNOLOGY

## STATEMENTS OF CHANGES IN FUND BALANCES

FOR THE YEAR ENDED 30th JUNE 1989 (WITH COMPARATIVE TOTAL FOR 1988)

<table>
<thead>
<tr>
<th>Capital Funds</th>
<th>Unrestricted</th>
<th>Restricted Funds</th>
<th>Liquid Assets</th>
<th>Liquid Assets</th>
<th>Maintenance and Construction</th>
<th>Total</th>
</tr>
</thead>
<tbody>
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<td></td>
<td>BAHT</td>
<td>BAHT</td>
<td>BAHT</td>
<td>BAHT</td>
<td>BAHT</td>
<td>BAHT</td>
</tr>
<tr>
<td>Balance, 1st July, 1988 (Note 6)</td>
<td>49,936,320</td>
<td>62,525,437</td>
<td>50,100,776</td>
<td>153,026,362</td>
<td>1,185,160,133</td>
<td>2,185,215</td>
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<tr>
<td>Adjustment: Disposal of assets</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Additions: Excess of revenues over expenditures (expenditures over revenues)</td>
<td>10,153,000</td>
<td>7,210,905</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>Investment income</td>
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<td>13,295,844</td>
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<td>Government grants and appropriations</td>
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<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
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<td>Gains (losses) on exchange</td>
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<td>240,000</td>
<td>299,289</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>Miscellaneous income and contributions</td>
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<td>-</td>
<td>992,436</td>
<td>24,889,564</td>
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<td>Contributions in kind Fixed Assets</td>
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<td>846,751</td>
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<td>3,384,333</td>
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<td>-</td>
<td>3,384,333</td>
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<td>- Unrestricted current Fund</td>
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<td>-</td>
</tr>
<tr>
<td>- Restricted current Fund</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>- General Reserve</td>
<td>(3,384,333)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>- Liquid Assets Capital Fund</td>
<td>(3,384,334)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>- Allocated</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>- Maintenance and Construction Reserve</td>
<td>(3,384,333)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Expenditures for plant facilities</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>- Cash</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>- Kind</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other costs</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(10,153,000)</td>
<td>-</td>
<td>-</td>
<td>3,384,333</td>
<td>61,950,679</td>
<td>(908,866)</td>
<td>(46,222,012)</td>
</tr>
<tr>
<td>Balance, 30th June 1989 (Note 6)</td>
<td>49,936,320</td>
<td>62,525,437</td>
<td>50,100,776</td>
<td>153,026,362</td>
<td>1,185,160,133</td>
<td>2,185,215</td>
</tr>
</tbody>
</table>

The accompanying notes are an integral part of the financial statements.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REVENUES:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuition and fees</td>
<td>143,820,154</td>
<td>127,996,287</td>
<td>143,820,154</td>
<td>127,996,287</td>
</tr>
<tr>
<td>Cash contributions</td>
<td>22,988,763</td>
<td>29,659,765</td>
<td>6,497,000</td>
<td>7,254,805</td>
</tr>
<tr>
<td>Contributions in kind</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>— services (Note 5)</td>
<td>64,175,456</td>
<td>72,612,571</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries and services</td>
<td>73,560,103</td>
<td>72,528,101</td>
<td>1,016,000</td>
<td>519,000</td>
</tr>
<tr>
<td>Contract and grant research</td>
<td>9,334,211</td>
<td>15,148,155</td>
<td>4,648,735</td>
<td>7,877,091</td>
</tr>
<tr>
<td>Sponsored programs</td>
<td>8,413,306</td>
<td>4,045,824</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other revenues</td>
<td>50,033,973</td>
<td>35,497,973</td>
<td>26,775,730</td>
<td>19,470,542</td>
</tr>
<tr>
<td><strong>TOTAL REVENUES</strong></td>
<td>371,850,286</td>
<td>357,488,773</td>
<td>176,606,647</td>
<td>150,738,214</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXPENDITURES:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries and associated costs (Note 5)</td>
<td>167,278,649</td>
<td>167,251,919</td>
<td>96,027,012</td>
<td>96,102,491</td>
</tr>
<tr>
<td>Academic related costs</td>
<td>70,171,181</td>
<td>77,890,644</td>
<td>29,599,281</td>
<td>19,720,540</td>
</tr>
<tr>
<td>Student related costs</td>
<td>9,865,259</td>
<td>6,226,282</td>
<td>1,384,666</td>
<td>1,440,951</td>
</tr>
<tr>
<td>Administrative costs</td>
<td>2,734,736</td>
<td>2,822,848</td>
<td>2,529,169</td>
<td>2,765,810</td>
</tr>
<tr>
<td>Capital expenditure purchases</td>
<td>14,968,218</td>
<td>6,259,481</td>
<td>9,278,738</td>
<td>6,220,841</td>
</tr>
<tr>
<td>Other costs</td>
<td>36,964,777</td>
<td>34,247,380</td>
<td>30,549,777</td>
<td>23,958,640</td>
</tr>
<tr>
<td>Sponsored programs</td>
<td>1,229,052</td>
<td>3,847,104</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other services</td>
<td>26,990,071</td>
<td>17,061,270</td>
<td>20,000,000</td>
<td>17,061,270</td>
</tr>
<tr>
<td>Enterprise expenses</td>
<td>20,403,619</td>
<td>28,384,310</td>
<td>20,403,619</td>
<td>28,384,310</td>
</tr>
<tr>
<td><strong>TOTAL EXPENDITURES</strong></td>
<td>354,185,383</td>
<td>345,510,512</td>
<td>106,485,647</td>
<td>149,978,473</td>
</tr>
<tr>
<td><strong>EXCESS OF REVENUES OVER EXPENDITURES</strong></td>
<td>17,664,903</td>
<td>11,978,261</td>
<td>10,110,900</td>
<td>9,761,741</td>
</tr>
</tbody>
</table>

The accompanying notes are an integral part of the financial statements.
NOTES TO FINANCIAL STATEMENTS

NOTE 1
SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

1.1 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 which are in accordance with activities or objects specified. Within each fund group, fund balances which are restricted by outside sources are so indicated and are distinguished from unrestricted fund allocated to specific purposes by action of the governing board. As for unrestricted fund, the governing board retains full control to use in achieving any of its institutional purposes.

Investment income are recognized as income in the unrestricted current fund except for endowments, general reserve and capital funds which are accounted for in the fund to which it is restricted.

Other unrestricted resources are recognized as income in the unrestricted current fund.

Restricted contributions, grants, appropriations and other restricted resources are accounted for in the appropriate restricted funds.

1.2 Accrual basis
The financial statements have been prepared on an accrual basis except for depreciation of fixed assets and contributions.

Depreciation of fixed assets is not recorded in accordance with the fund accounting concept.

Contributions are recognized on a cash basis due to the uncertainty in receiving contributions which are at the discretion of the donors.

The statement of revenues and expenditures of unrestricted current fund and restricted general fund is a statement of financial activities of current fund related to the current reporting period. It does not purport to present the results of operations for the period as would an earnings statement.

1.3 Contributions in-kind
Contributions in-kind are reflected in the financial statements on a fair value basis at the time of receipt.

1.4 Inventories
Inventories are valued at the lower of cost (first-in, first-out basis) and net realizable value.

NOTE 2
INVESTMENTS

<table>
<thead>
<tr>
<th></th>
<th>1989</th>
<th>1988</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time deposits with banks</td>
<td>213,810,212</td>
<td>190,731,976</td>
</tr>
<tr>
<td>Deposits with finance companies</td>
<td>146,835,620</td>
<td>188,472,569</td>
</tr>
<tr>
<td></td>
<td>360,645,832</td>
<td>379,204,545</td>
</tr>
</tbody>
</table>

The investments of each fund as at 30th June, 1989 and 1988 are as follows:

Unrestricted current fund

<table>
<thead>
<tr>
<th>Restricted fund</th>
<th>1989</th>
<th>1988</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>62,216,034</td>
<td>57,231,662</td>
</tr>
<tr>
<td>Endowment</td>
<td>52,377,897</td>
<td>49,944,081</td>
</tr>
<tr>
<td>General reserve</td>
<td>144,160,350</td>
<td>132,137,537</td>
</tr>
<tr>
<td></td>
<td>258,754,291</td>
<td>239,313,280</td>
</tr>
</tbody>
</table>

Capital fund

| Liquid assets       | 23,341,639 | 23,674,982 |
| Maintenance and construction reserve | 3,987,553 | 3,831,534 |
| Sponsored program fund | 27,329,192 | 27,506,516 |
| Agency fund         | 16,155,824 | 17,680,092 |
|                      | 40,504,096 | 62,417,957 |
|                      | 360,645,832 | 379,204,545 |

1.5 Fixed assets
Fixed assets are stated at cost at the time of acquisition or fair value at the time of donation in the case of contributions in kind.

1.6 Foreign currencies
Exchange rates adopted:
Foreign currency transactions during the year - at the rates ruling on the transaction date.

Assets and liabilities in foreign currency outstanding on the balance sheet date - at the rates ruling on balance sheet date.

Exchange gains and losses are recognized as revenue and expenditure and taken up in the statement of changes in fund balances.
NOTE 3
ADVANCE DUTIES AND TAXES

This represents advance duties and taxes payments to the Government of Thailand which will be subsequently refunded to the Institute in accordance with the letter of the Office of the Secretary-General to the Cabinet dated 14th May, 1968. The refund of the advance is however subject to the annual government budget of the Government of Thailand.

NOTE 4
FIXED ASSETS

This represents services donated to the Institute in the form of seconded faculty or staff of which the value is estimated on a basis in accordance with the approved Institute professional salary scale. The amounts are recognized as revenues and expenditures in the restricted general fund.

NOTE 5
CONTRIBUTIONS IN KIND - SERVICES

Campus development
Buildings
Furniture and equipment
Library acquisitions
Construction in progress

18,936,290
444,668,104
471,165,288
57,059,661
20,003,731

15,533,132
428,443,333
494,620,064
51,195,098
15,368,525

1,011,831,074
1,005,160,152

NOTE 6
FUND BALANCES

Restricted fund
General
Endowment
General reserve

70,045,342
52,485,045
150,860,828

62,525,437
50,100,776
133,926,362

273,391,215
246,552,575

Capital fund
Fixed assets
Liquid assets - Unallocated
Liquid assets - Allocated
Maintenance and construction reserve

1,011,831,074
2,269,385
32,019,580
3,987,553

1,005,160,153
2,185,815
37,850,037
3,831,534

1,050,107,592
1,049,027,539

NOTE 7
CAPITAL COMMITMENTS

As at 30th June, 1989, the Institute had capital commitments in respect of building construction amounting to approximately Baht 17.1 million (1988 : Baht 12.9 million).

NOTE 8
BANK GUARANTEES

As at 30th June, 1989, there were outstanding bank guarantees of approximately Baht 0.9 million (1988 : Baht 4.8 million) issued by a bank on behalf of the Institute in respect of certain performance bonds as required in the normal course of business of the Institute.

The details of advance duties and taxes as at 30th June, 1989 and 1988 are as follows:

<table>
<thead>
<tr>
<th></th>
<th>1989</th>
<th>1988</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees personal income tax</td>
<td>15,940,082</td>
<td>10,034,145</td>
</tr>
<tr>
<td>Import duty and business tax</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Automobile</td>
<td>5,011,528</td>
<td>1,841,842</td>
</tr>
<tr>
<td>- Wine and spirit</td>
<td>2,125,005</td>
<td>2,356,525</td>
</tr>
<tr>
<td>- Other</td>
<td>46,997</td>
<td>125,983</td>
</tr>
<tr>
<td></td>
<td>23,123,612</td>
<td>14,358,495</td>
</tr>
</tbody>
</table>

Accountants' Report to the Board of Trustees of Asian Institute of Technology

We have examined the balance sheets of Asian Institute of Technology as at 30th June, 1989 and 1988, the statements of revenues and expenditures of unrestricted current fund and restricted fund-general and the related statements of changes in fund balances for the years then ended. Our examinations were 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 Asian Institute of Technology as at 30th June, 1989 and 1988, the revenues and expenditures of unrestricted current fund and restricted fund-general and changes in fund balances for the years then ended, in conformity with generally accepted accounting principles appropriate for non-profit organizations as set out in Note 1 to the financial statements, applied on a consistent basis.

Ernst & Whinney
Bangkok, Thailand
September 29, 1989

35
AGRICULTURAL AND FOOD ENGINEERING

Completed

Development of a Crop/Livestock/Fish Integrated Farming System for Small-Scale Farmers
Principal Investigator: Peter Edwards
Sponsor: ODA, UK (£67,490)

In Progress

AIT Aquaculture Outreach: Interactive Field Trials with Farmers in Northeast Thailand
Principal Investigator: Peter Edwards
Sponsor: ODA, UK (£541,521)

Assessment of a Low-Cost Fertilization/Supplementary Feeding System for Small-Scale Farmers
Principal Investigator: Peter Edwards
Sponsor: ODA, UK (£60,133)

Human Excreta Reuse in Aquaculture
Principal Investigator: Peter Edwards
Sponsor: ODA, UK (£59,716)

Improving the Performance of Agricultural Vehicles and Implements in Wet Paddy Fields
Principal Investigator: David Gee-Clough
Co-Investigator: V.M. Salokhe
Sponsor: EC (US$128,000)

Improvement of Irrigation System Management and Irrigation Efficiency in the Southeastern Region of Asia
Principal Investigator: Akira Goto
Sponsor: JICA, Japan (US$25,000)

Farmer Driven Electrostatic Low Volume Sprayer
Principal Investigators: C.P. Gupta and G. Singh
Co-Investigator: G. Manor, ILT, Haifa, Israel
Sponsor: USAID (US$200,000)

Development of a Decision Model for Planning Agro-Industrial Projects in Developing Countries Phase I
Principal Investigator: Sarah G. Llamanitieke
Sponsor: CIDA, Canada (US$2,750)

Pond Dynamics/Aquaculture Collaborative Research Supportive Program
Principal Investigators: C. Kwei Lin, P. Edwards
Sponsor: USAID (US$108,800)

Introduction and Development of Channel Catfish Culture in the Tropics
Principal Investigator: C. Kwei Lin
Sponsor: Charoen Pokphand Inc., Thailand (Bath2,836,513)

Development of Fry Production and Nursing Strategies for the Nile Tilapia
Principal Investigator: David Little
Sponsor: ODA, UK (£50,676)

Muscovy Ducks
Principal Investigators: David Little, Peter Edwards
Sponsor: IDRC, Canada (CAD$111,700)

Study of Selected Environmental Parameters in Large Irrigation Projects Using Geographical Information Systems
Principal Investigator: V.V.N. Murty
Sponsor: CIDA (Bath 75,000)

Farm Irrigation System Design Constraints and Improvements in Major Irrigation Projects
Principal Investigator: V.V.N. Murty
Sponsor: CIDA (Bath 75,000)

Agroforestry
Principal Investigator: Jens Møller Nielsen
Sponsor: DANIDA (US$5,600)

Integrated Fruit/Paddy Cultivation
Principal Investigator: Jens Møller Nielsen
Sponsor: DANIDA (US$5,600)

Pest Control Alternatives
Principal Investigator: Jens Møller Nielsen
Sponsor: DANIDA (US$5,600)

Development of Agricultural Experimentation Station
Principal Investigator: Jens Møller Nielsen
Sponsor: DANIDA (US$11,000)

Fertilization System on Computer
Principal Investigator: Jens Møller Nielsen
Sponsor: DANIDA (US$2,800)

Application of Enamel to Improve the Performance of Some Agricultural Implements
Principal Investigator: V.M. Salokhe
Sponsor: AIT (Bath 44,000)

Testing and Manufacturing of AIT Jab Seeder in Nepal
Principal Investigators: Gajendra Singh, Madan P. Pariyar
Sponsor: RCIMOD (US$6,000)

Promotion of Jab Seeder (Thailand)
Principal Investigators: Gajendra Singh, David Gee-Clough
Sponsor: IDRC (CAD$18,694)
Agricultural Equipment (Rice Transplanters) Testing
Principal Investigator: Gajendra Singh
Sponsor: Siama Ltd. (Baht 101,000)

Study of Rainfed Agriculture in Nakon Nayok Province
Principal Investigator: Hermann Waibel
Sponsor: AIT (Baht 44,000)

Economics of Agriculture/Aquaculture Systems in Asia
Principal Investigator: Hermann Waibel
Co-Investigator: Peter Edwards
Sponsor: GTZ (Baht 1,130,000)

Environmental and Social Costs of Pesticide Use in Asian Vegetable Production Systems
Principal Investigator: Hermann Waibel
Co-Investigators: S.H. Upasena, Jens Møller Nielsen
Sponsor: GTZ (Baht 1,202,000)

COMPUTER SCIENCE
In Progress
Performance Evaluation of Computer Systems Through Peter Net Tools
Principal Investigator: N.K. Nanda
Sponsor: AIT (Baht 27,000)

Development of an Expert System for Banknote Production Control
Principal Investigator: Vilas Wawonsen
Sponsor: Bank of Thailand (Baht 191,793)

Implementation of an Inventory Status Reporting System
Principal Investigator: Vilas Wawonsen
Sponsor: Bureau of Budget, Thailand (Baht 390,390)

Microcomputer-Based Medical Expert Systems
Principal Investigator: Vilas Wawonsen
Sponsor: UNU (US$28,800)

ENVIRONMENTAL ENGINEERING
Completed
Hydrosization and Stabilization of Night-Soil and Septic Tank Sludge by Aerobic-Thermophile Treatment
Principal Investigators: H.M. Orth, J. Verink, F. Tran
Sponsor: GTZ (DM 70,000)

Environmental Impact Study for Bang Pa-kong Power Plant Extension
Principal Investigators: Samorn Muttamara and RRDC
Sponsor: EGAT, Thailand (Baht 1,966,000)

Integrated Development of Nong Song Hong, Khon Kaen and Na Po, Buriram, Thailand (An inter-disciplinary project involving EE, WRE, HSD, INRDM, RRDC)
Overall Coordinator: Prida Thimakorn, RRDC
Sponsor: NESDB (Baht 3,584,500)

Integrated Socio-Ecosystem Model of Pru To Daeng, Narathiwat, Thailand
Principal Investigators: Chongkrak Polprasert and RRDC
Sponsor: RIT, Thailand (Baht 1,297,500)

Wastewater Treatment Using Membrane Bioreactor: Its Application to Urban Areas in South East Asia
Principal Investigator: K. Yamamoto
Sponsor: JICA (Baht 220,000)

Saba Yoi Power Plant Project: Seawater Quality Study
Principal Investigators: Samorn Muttamara and RRDC
Sponsor: EGAT, Thailand (Baht 150,000)

In Progress
Integrated Socio-Ecosystem Model of Pru To Daeng, Narathiwat, Thailand
Principal Investigators: Chongkrak Polprasert and RRDC
Sponsor: RIT, Thailand (Baht 1,297,500)

Total Treatment and Recovery System for Agro-Based Industrial Wastewater-Phase I: Technical and Economic Feasibility
Principal Investigator: Chongkrak Polprasert
Sponsor: IDRC (CAD$120,570)

Upgrading and Management of Sludge Treatment Facility at North Bangkok Water Treatment Plant
Principal Investigators: Chongkrak Polprasert, S. Vigneswaran and Prida Thimakorn
Sponsor: MWA, Thailand (Baht 1,200,000)

Simple Sand-Gravel Filtration System for Rural Communities Water Supply
Principal Investigator: S. Vigneswaran
Sponsor: CIDA (Baht 150,000)

Applicability of Mobile Bed Filtration for Reuse of Domestic Wastewater in Bangkok
Principal Investigator: S. Vigneswaran
Sponsor: CIDA (Baht 75,000)

Sewage Purification through Aquatic Plants
Principal Investigators: H.M. Orth and J. Verink
Sponsor: GTZ (DM 233,750)
Domestic Sewage Treatment Using Multi-Stage Reversing-Flow Bioreactor (MRB)
Principal Investigators: Takashi Mino
Sponsor: JICA (Bath 200,000)

Detoxification of Municipal Sludge of Bangkok by Highly Active Bacterial Strains (heavy metals removal)
Principal Investigators: Francis Tran, R.D. Tyagi,
Chongrak Polprasert
Sponsor: CIDA (Bath 75,000)

Rotating Poreous Biomass Support System for Treating High-Strength Organic Wastes
Principal Investigator: Francis Tran
Sponsor: AIT (Bath 35,000)

Air-lift Biological Contactor for the Removal of Heavy Metals by Thiobacillus ferrooxidans
Principal Investigators: Francis Tran, D. Couillard,
R.D. Tyagi
Sponsor: CQVB, Canada (CAD$ 90,000)

High Rate Anaerobic Treatment of Wastewaters by UASB Process
Principal Investigator: Hideki Harada
Sponsor: JICA (Bath 150,000)

Krabi Thermal Plant
Principal Investigators: Samorn Muttamara and RRDC
Sponsor: EGAT, Thailand (Bath 2,114,780)

Experimentation on Solar Pond
Principal Investigators: B.E. Cubizolles, P. Bouix,
S. Jumpa
Sponsor: AFME (US$ 30,000)

Sectoral Energy Demand Analysis
Principal Investigators: B. Lapillonne,
D. Bosselbreuf
Sponsor: AFME (US$ 45,000)

Testing and Construction of the Testing Facility for Refrigerators and Freezers
Principal Investigators: F. Lamier, P. Bouix
Sponsor: AFME (US$ 16,000)

Pumping Survey in Thailand
Principal Investigator: F. Lamier
Sponsor: BP (US$ 15,000)

Suan-Som Photovoltaic Project, Thailand
Principal Investigator: F. Lamier
Sponsor: Systems A.M.I. (US$ 2,000)

Regional Animation in Photovoltaic
Principal Investigator: F. Lamier
Sponsor: AFME (US$ 25,000)

Training in the Pacific Islands in Photovoltaics for Rural Electrification
Principal Investigators: F. Lamier
Sponsor: ESCAP (US$ 5,000)

Phra Yum Photovoltaics Pumping Project
Principal Investigator: F. Lamier
Sponsor: Thai/Australia Team (US$ 2,500)

AIT-ESCAP Photovoltaic Project in Pakistan
Principal Investigator: F. Lamier
Sponsor: ESCAP (US$ 35,000)

Energy Demand Analysis and Forecasting in Thailand
Principal Investigators: G.V. Dang, P. Pongsa
Sponsor: EC (US$ 257,600)

Characterization of Rural Energy Uses
Principal Investigators: G.V. Dang, H. D. Jose,
W. Voravisit, and M.L. Corder
Sponsor: EC (US$ 63,800)

Asian and Pacific Energy Planning Network (APENPLAN) Second Year
Principal Investigators: N.J.D. Lucas,
R. Codoni, G.V. Dang
Sponsor: EC (US$ 33,000)

ENERGY TECHNOLOGY

Completed
Biocool Project, Phase 1
Principal Investigators: S.C. Bhattacharya,
K.M. Shroshua
Sponsor: GTZ (DM 315,000)

Testing of Equipment for Adaptation to Tropical Climate
Principal Investigators: P. Bouix, B. Mohanty
Sponsor: AFME (US$ 100,000)

Technical Advice for Energy Conservation in an Industrial Building
Principal Investigators: B. Mohanty, J.P. Traimel
Sponsor: ETA Co. (Bath 155,000)
In Progress

Biofuel Project, Phase 2
Principal Investigators: S.C. Bhattacharya, R.M. Shrestha
Sponsor: GTZ (Baht 1.3 million)

Rational Use of Energy in Buildings
Principal Investigators: B. Mohanty, J.P. Traindel
Sponsor: AFME (US$ 10,000)

Digestion of Rice Straw/Cow Manure and Water
Hyacinth with the Leach Bed and Hybrid System
Principal Investigator: W. Tentscher
Sponsor: GTZ (DM 94,600)

Aging Test with Locally Available Plastic Films as Gasholders
Principal Investigator: W. Tentscher
Sponsor: GTZ (DM 1,000)

Energy and Environment: Membrane Technology
Principal Investigators: J.C. Mora, S. Vigneswaran
Sponsor: CNRS (Phase I - US$ 10,000),
(Phase II - US$ 90,000)

Development of Regional Energy Data Base, Phase 2
COPED Energy Research Project
Energy Diagnosis and Demand Forecasting of Casa, Provinces, Philippines
Principal Investigator: G.V. Dang
Sponsor: EC (US$ 8,800)

Design and Construction of a Low Cost Fully Automated Data Acquisition System Controlled
IBM-Personal Computer
Principal Investigator: B. Indraratna
Sponsor: AIT (Baht 67,500)

Investigation and Recommendation on the Stability of Man-made Lake Slopes at Nakhon Pathom
Principal Investigators: Noppadol Phien-wej, D.T. Bergado
Sponsor: Anichata Co. Ltd. (Baht 230,160)

Stability of Natural Deposits
Principal Investigator: J. Kurose
Sponsor: JICA (Baht 320,000)

Role of Chao Phraya Express Boat as Public Transportation in the Bangkok Metropolitan Area
Principal Investigators: Y. Tanaboriboon, H. Inamura
Sponsor: IDRC (Baht 297,000)

In Progress

Principal Investigators: A.S. Balasubramanian, D.T. Bergado
Sponsor: UNDP through UNCHS, Kenya (US$ 30,000)

Welded Wire Reinforced Earth (Mechanically Stabilized) Embankments with Cohesive Backfill on Soft Clays
Principal Investigators: D.T. Bergado, A.S. Balasubramanian
Sponsor: USAID (US$ 150,000)

Feasibility Studies on Transportation Projects in Southeast Asian Regions
Principal Investigator: H. Inamura
Sponsor: JICA (Baht 425,000)

Traffic Operation and Management
Principal Investigator: K. Kurose
Sponsor: JICA (Baht 356,984)

Impact of Quaternary Geology on Urban Development and Land Use in Central Thailand
Principal Investigators: Prinya Nataksaya, R.N. Yong
Sponsor: IDRC (Baht 1,900,260)

Granular Piles for Foundation Treatment of Approach Embankments for Bridges and Viaducts on Soft Ground
Principal Investigator: D.T. Bergado
Sponsor: CIDA/AIT-CUC/PP (Baht 75,000)

GEOTECHNICAL AND TRANSPORTATION ENGINEERING

Completed

Investigation of Integrity of Concrete Piles Damaged by Soil Sliding at Lad Phrao Pump Station
Principal Investigators: Noppadol Phien-wej, Worasak Kanok Nukulchai
Sponsor: CISA-Slot Joint Venture Thailand (Baht 73,335)

Investigation of Mining or Excavation Induced Instability and the Development of a Methodology for Optimum Ground Control
Principal Investigator: B. Indraratna
Sponsor: AIT (Baht 50,000)

Disaster Areas in Developing Countries
Principal Investigator: K. Kurose
Sponsor: AIT (Baht 44,000)
Study Tour to Japan
Principal Investigator: K. Kuroda
Sponsor: Express Highway Research Foundation of Japan (Bhaht 640,000)

Investigation and Improvement of Dispersive Soils in Thailand
Principal Investigator: B. Indraratna
Sponsor: CID/AIT-CUC/PP (Bhaht 75,000)

Finding Water for Laem Talumpuk Village
Principal Investigator: Prinya Nutalaya
Sponsor: CID/AIT-CUC/PP (Bhaht 75,000)

A Comprehensive Water Transportation Study in the Bangkok Metropolitan Area
Principal Investigator: Y. Tanaboriboon
Sponsor: IDRC (Bhaht 590,000)

Geotechnical Problems Concerning Soft Ground in South East Asia
Principal Investigator: Y. Honjo
Sponsor: JICA (Bhaht 212,040)

Test Embankment on Improved Ground by Deep Mixing Method
Principal Investigator: Y. Honjo
Sponsor: Takehara Civil Eng. Co. (Bhaht 355,160)

Managerial Policies and Techniques for Public Bus Transit System
Principal Investigators: D.L. van Oudheusden, Y. Tanaboriboon, E. Bohez
Sponsor: Government of Belgium (Bhaht 4,000,000)

In Progress

Microcomputer Software Development: "SILP 2"
(Services Identification and Location Package, Version 2)
Principal Investigator: H.D. Kummerer
Sponsor: UNCHS (Habitat), Kenya (US$ 18,000)

LOK BILD Self-Contained Housing Delivery System and Demonstration Core House
Principal Investigators: B.G. Lefebvre, A.B. Etherington
Sponsor: CID/AIT-CUC/PP (Bhaht 168,000)

Human Settlements Through Medium-Scale Construction Material Production
Principal Investigators: B.G. Lefebvre, Yap Kioe-Sheng
Sponsor: CID/AIT-CUC/PP (US$ 5,000)

Regional Analysis of an Emerging Metropolitan Cuttack-Bhubaneswar City Region in Eastern India, A Case Study
Principal Investigator: J.K. Routray
Sponsor: AIT (Bhaht 44,000)

Developing Agro-Enterprises in Rice-Based Farming Systems Among Rural Women in Asian and Pacific Countries, Phase 1
Principal Investigator: E.D. Setty
Sponsor: CID/AIT-CUC/PP (US$ 5,910)

People’s Image of Development: A Cultural Case Study in Asia and the Pacific Basin, Phase I
Principal Investigator: E.D. Setty
Sponsor: CID/AIT-CUC/PP (US$ 4,334)

Low-Income Rental Housing in Bangkok
Principal Investigator: Yap Kioe-Sheng
Sponsor: AIT and CID/AIT-CUC/PP (Bhaht 175,000)

HUMAN SETTLEMENTS DEVELOPMENT

Completed

Training Course Manual for Labour Administration in Urban Informal Sector
Principal Investigator: A.T.M. Nural Amin
Sponsor: CID/AIT-CUC/PP (Bhaht 82,100)

Evaluation of Pak Chong ADP, Lao PDR
Principal Investigators: H. Demain, Sirilak Suriap, Prida Thimkorn
Sponsor: Mekong Secretariat (US$ 7,000)

INDUSTRIAL ENGINEERING AND MANAGEMENT

Completed

Optimal Design of Water Distribution Network
Principal Investigator: O. Fujiwara
Sponsor: JICA (Bhaht 120,000)

In Progress

Production Planning and Kaishan System
Principal Investigator: O. Fujiwara
Sponsor: JICA (Bhaht 120,000)
Reliability Analysis of Flexible Manufacturing Systems
Principal Investigator: N.N. Nagure
Sponsor: AIT (Baht 50,000)

Managerial Policies and Techniques for Public Bus Transit Systems in the Asian Region
Principal Investigator: D.I. van Oudheusden
Sponsor: RUCA (Baht 4,342,200)

Inventory of Scientific and Technological Research Institutions in ASEAN Countries
Principal Investigator: J.C.S. Tang
Sponsor: EC (Baht 506,600)

INTERDISCIPLINARY NATURAL RESOURCES DEVELOPMENT AND MANAGEMENT PROGRAM

Completed

Geomorphic Units Appearing on Remote Sensing Imagery in Thailand
Principal Investigator: Apiat Eiumnoh
Sponsor: National Research Council, Thailand (Baht 83,500)

Environmental Impact Study for Pru To Daeng Development, Narathiwat Province (Agriculture, Soil and Land Use)
Principal Investigator: Apiat Eiumnoh
Sponsors: TEAM Consulting Engineering/RID, Thailand (Baht 1,597,500)

A Study of Land Use/Land Cover Map Accuracy Using Digital High Resolution Satellite Imagery for Narathiwat Province
Leader: HRH Princess Maha Chakri Sirindhorn
Consultant: Apiat Eiumnoh
Grant: (Baht 184,500)

In Progress

Survey of Narcotic-growing Areas Using SPOT Imagery, Phase 2
Principal Investigator: Bertrand Galhier
Sponsors: French Government (FF 620,000) and ONCB

Growth of Middle Income Group in Asian Cities: Environmental Implications
Principal Investigator: Douglas R. Webster
Sponsor: CIDA (CAD 5,000)

Principal Investigator: Kaew Nualchawee
Sponsor: NESDB (Baht 7,000,000)

STRUCTURAL ENGINEERING AND CONSTRUCTION

Completed

Investigation of Integrity of Concrete Piles Damaged by Soil Sliding at Lardprao Pump Station
Principal Investigators: Woraks Kanok-Nukulkai, Noppadol Phien-wej
Sponsor: CISA International, Italy (Baht 73,653)

Properties of Concrete Using Z/10A and Z/12C Additives
Principal Investigators: Pichai Nimiyangskul, Chaith Choeyputt
Sponsor: General Engineering Ltd., Thailand (Baht 100,000)

Load Test of Roof Slabs
Principal Investigators: Pichai Nimiyangskul, Chaith Choeyputt
Sponsor: Kamthorn Panich Co., Ltd., Thailand (Baht 70,000)

Finite Element Analysis of Rail Tank Wagon Structures
Principal Investigators: Woraks Kanok-Nukulkai, Somphon Thanesangwong
Sponsor: Thai Shell Exploration and Production Co. Ltd., Thailand (Baht 99,118)

Nondestructive Test of Bangkok Metropolitan Waterworks Authority's Concrete Transmission Tunnel
Principal Investigators: Woraks Kanok-Nukulkai, T. Ueda, and Chaith Choeyputt
Sponsor: Metropolitan Waterworks Authority of Thailand, (Baht 178,888)

Effects of Floods of November 18-23, 1988 in Southern Thailand on Highway Bridges and Large Dams
Principal Investigator: M. Wieland
Sponsor: Swiss Disaster Relief Unit
In Progress

MICRO-ACE Software Development Project
Principal Investigators: Worrak Kanok-Numkot, Sompong Attasaaranonwong
Sponsor: Supported by income generated through software distribution and from the Microcomputer Workshops for Structural Engineering Applications and Practice (MSEAEP) for practicing structural engineers in the region (Baht 200,000 annually)

Quantitative Classification of Tunneling Conditions
Principal Investigators: R. Chauhan and R. Singh
Sponsor: Central Board of Irrigation and Power, India (Indian Rs 84,000)

Fracture Mechanics and NDE for Infrastructures in ASEAN Countries
Principal Investigator: H. Horii
Sponsor: JICA (Baht 480,000)

Upgrading and Management of Sludge Treatment Facility at North Bangkok Water Treatment Plant
Principal Investigators: Thimakorn, Chongtrak Polprasert, S. Vigneswaran, Preecha Kaewprapakorn
Sponsor: MWA, Thailand (US$ 48,554)

Monitoring of Shoreline and Seabed of Map Ta Phut Port
Principal Investigator: Suphat Vongvisessomjai
Sponsor: NSR Consulting Group, Thailand (US$ 91,417)

Improved Operation and Management of Large Scale Irrigation Systems
Principal Investigators: Rainer Loof, G.N. Paudyal
Sponsor: GTZ (US$ 136,252)

Low Pa Mong Project - Reservoir Sedimentation, River Degradation and Water Level Fluctuations at Downstream
Principal Investigator: Suphat Vongvisessomjai
Sponsor: Interim Committee for Coordination of Investigation of the Lower Mekong Basin (US$ 21,312)

Methods for Short Term Forecast of Streamflow from Ungauged Catchments
Principal Investigator: N.E. Jensen
Sponsor: Danish Hydraulic Institute (US$ 4,877)

Comparison Study: Comparing the NWS and the MIKE 11 Dam Break Model
Principal Investigator: N.E. Jensen
Sponsor: Danish Hydraulic Institute (US$ 1,760)

Stochastic Hydrological Modelling of Ungauged Catchments
Principal Investigator: N.E. Jensen
Sponsor: Danish Hydraulic Institute (US$ 4,877)

Investigation and Research on Aquatic Environment in ASEAN Countries
Principal Investigator: J. Akiyama
Sponsor: JICA (US$ 28,000)

WATER RESOURCES ENGINEERING

Completed

Power Production Improvement for the Selabam Mini-Hydropower Station, Laos-PDR
Principal Investigators: Suphat Vongvisessomjai, Prada Thimakorn, Preecha Kaewprapakorn
Sponsor: Tata Consulting Engineers, India (US$ 65,418)

Hydraulic Model Study of Pak Mun Hydropower Project
Principal Investigators: Prada Thimakorn, Preecha Kaewprapakorn
Sponsor: EGAT, Thailand (US$ 79,994)

Environmental Impact Study for Bang Pakong Power Plant Extension (Bang Pakong Phase 3)
Principal Investigators: Prada Thimakorn, Preecha Kaewprapakorn, Prawit Surunantar, Samorn Mutamara
Sponsor: EGAT, Thailand (US$ 78,015)

In Progress

Improved Large Scale Water Resources Development Planning
Principal Investigators: J.J. Bogardi, R. Harboe
Sponsor: GTZ (US$ 100,000)

A Study on Impacts of Thermal Discharge and Ash Pond Effluent on the Receiving Water Environment from 75 MW Lignite Kraft Thermal Power Plant
Principal Investigators: Prada Thimakorn, Preecha Kaewprapakorn, Samorn Mutamara, Prawit Surunantar
Sponsor: EGAT, Thailand (US$ 83,260)

SCHOOL OF MANAGEMENT

In Progress

Barriers Faced by Executive Women
Principal Investigators: F. W. Swierczek, Umi Rost
Sponsor: CIDA/AIT/PP (Baht 75,000)

Comparative Entrepreneurial Style
Principal Investigator: F. W. Swierczek
Sponsor: AIT (Baht 50,000)

Impact of Industrial Estates on Small Business Development and Technology Transfer
Principal Investigator: F.W. Swierczek
Sponsor: AIT/PP (Baht 75,000)
LANGUAGE CENTER

Completed

Development and Implementation of Extended Pre-masters Program for Hydropower Engineers from Laos
Principal Investigators: M. Laszewski, J. Shaw, W. Savage, B. Kenny
Sponsor: SIDA/EDL (US$ 18,000)

Development and Implementation of Training Course for Hydropower Technicians in Vientiane. Phase I
Principal Investigators: S. Govindasamy, D. Hall, B. Kenny, M. Laszewski, G. Storer
Sponsor: SIDA/EDL (Baht 643,620)

In Progress

Needs Analysis and Program Development for Canada/ASEAN Forest Tree Seed Center, Muak Lek
Principal Investigators: D. Hall, W. Savage
Sponsor: CIDA (Baht 59,442).

LIBRARY AND REGIONAL DOCUMENTATION CENTER

In Progress

Strengthening Information Systems for Environmental Sanitation in Selected Developing Member Countries
Principal Investigators: H.A. Vespry, K. Bhattarai, Sein Mya
Sponsor: ADB (US$ 350,000)

Ferrocement Information Network Activities for Rural Development
Principal Investigators: H.A. Vespry, L.R. Austriaco
Sponsor: IDRC (US$ 148,200)

REGIONAL COMPUTER CENTER

In Progress

Mahaweli Downstream Development Projects Monitoring System
Principal Investigator: D.P.A. Dias
Sponsor: Mahaweli Authority, Sri Lanka (US$ 52,000)

IMO Ship Pollutant Database Project:
Maritime Incident Reporting System
Principal Investigator: D.P.A. Dias
Sponsor: International Maritime Organization (US$ 14,500)

CAD Assisted Facilities Planning
Principal Investigator: H. Le Tien
Sponsor: Rice Engineering Supply Co., Ltd., Bangkok (Baht 90,000)

CONTRACT PROGRAMS

ASIAN DISASTER PREPAREDNESS CENTER

Completed

Seismic Hazard Mitigation in the Philippines
Principal Investigator: S.P. Gupta
Sponsor: ASEAN/Canada (CADS 50,000)

Seminar on Socio-Economic Aspects of Disaster in the Asian-Pacific Region
Principal Investigator: Everett Reesler
Sponsor: US National Science Foundation (US$ 12,950)

In Progress

Core Shelter Project in the Philippines
Principal Investigator: S.P. Gupta
Sponsor: UNDP/UNDRRO (US$ 24,584)

Disaster Management Program in the Philippines
Principal Investigator: Brian Ward
Sponsor: UNDP/UNDRRO (US$ 50,000)
**CONTINUING EDUCATION ACTIVITIES DURING 1989**

<table>
<thead>
<tr>
<th>Date</th>
<th>Academic Unit at AIT</th>
<th>Title of Short-term Training Course, Seminar or Workshop</th>
<th>Sponsor/Co-organizer</th>
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<tbody>
<tr>
<td>9-20 Jan</td>
<td>CS/CEC</td>
<td>Information Systems Management</td>
<td>UNDP</td>
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<td>11-13 Jan</td>
<td>SEC</td>
<td>BASIC 2</td>
<td>AIT/CMU/IOJY/EIT</td>
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<td>16 Jan-3 Feb</td>
<td>RCC/RRDC</td>
<td>Microcomputers for Oceanographic Data Management</td>
<td>IOC-UNESCO</td>
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<td>16 Jan-7 Apr</td>
<td>Library</td>
<td>Management of Library and Information Services</td>
<td>UNESCO</td>
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<td>30 Jan-10 Feb</td>
<td>HSD</td>
<td>NUDC Staff Training 1: Urban Action Area Planning, Bhutan</td>
<td>UN Habitat</td>
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<tr>
<td>30 Jan-10 Feb</td>
<td>CS/EM/CEC</td>
<td>Managing Computer Centers</td>
<td>UNDP</td>
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<tr>
<td>5 Feb-19 Mar</td>
<td>ENSIC</td>
<td>Repackaging/Information Handling: Water Supply and Sanitation</td>
<td>IDRC</td>
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<td>6-24 Feb</td>
<td>CEC</td>
<td>Quality Control in Food Industry</td>
<td>US-ASEAN/EM</td>
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<td>9 Feb</td>
<td>ET</td>
<td>Computer Software for Designing and Retrofitting of Buildings for Energy Conservation</td>
<td>ESCAP/REDP/EIT</td>
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<tr>
<td>21 Feb-31 Mar</td>
<td>RCC</td>
<td>Farming Systems Data Collection and Analysis</td>
<td>FAO</td>
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<td>24 Feb-12 May</td>
<td>CEC/WRE</td>
<td>Flood Control and Reservoir Operation</td>
<td>Netherlands/DSO</td>
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<tr>
<td>27-28 Feb</td>
<td>CIE/CES</td>
<td>Expert Systems</td>
<td>RONAST</td>
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<td>27 Feb-3 Mar</td>
<td>ET/CIEC</td>
<td>Energy Policy</td>
<td>CIFOP-II</td>
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<td>26 Feb-8 Apr</td>
<td>CEC</td>
<td>Flood Control and Reservoir Operation</td>
<td>Netherlands/WRE/CS/EM/ALWDP</td>
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<tr>
<td>1-3 Mar</td>
<td>CIE/CIEC</td>
<td>Expert Systems for Development</td>
<td>RONAST</td>
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<td>6-17 Mar</td>
<td>SOM</td>
<td>Management of Technology</td>
<td>French Government</td>
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<td>6-17 Mar</td>
<td>LRDC/RE/DIC</td>
<td>Newsletter Preparation</td>
<td>IDRC</td>
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<tr>
<td>20 Mar</td>
<td>CEC</td>
<td>Rural Infrastructure Development: Planning and Management</td>
<td>AdS/ISD/TEM/EE/</td>
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<td>12 May</td>
<td>SOM</td>
<td>Conflict Management</td>
<td>LRDC/CAFE/ET/ALWDP</td>
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<td>30 Mar</td>
<td>ET</td>
<td>Transportation and Energy Consumption</td>
<td>SOM</td>
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<td>4 Apr</td>
<td>ET</td>
<td>Stakes on Urban Transportation Policies; Transportation and Energy Consumption</td>
<td>ECCT/ET</td>
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<td>5 Apr</td>
<td>ET</td>
<td>Stakes on Urban Transportation Policies; Transportation and Energy Consumption</td>
<td>HSD/ET</td>
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<td>6-20 Apr</td>
<td>HSD</td>
<td>NUDC Staff Training 2: Housing, Bhutan</td>
<td>UN Habitat</td>
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<tr>
<td>10-21 Apr</td>
<td>LRDC/RE/DIC</td>
<td>Micro CDS/ISS and Database Development</td>
<td>USAID</td>
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<tr>
<td>14 Apr</td>
<td>ET</td>
<td>French Policies for New Cities: Stakes of Urban Transportation Policies</td>
<td>Sihanouk University /</td>
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<td>17 Apr</td>
<td>HSD</td>
<td>Regional Development Planning: Past, Present and Future, held at the Centre of Geography and Natural Resources, Hanoi</td>
<td>ET</td>
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<td>17 Apr-26 May</td>
<td>ADPC</td>
<td>Disaster Management Course No. 1</td>
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<td>17 Apr-26 May</td>
<td>CEC</td>
<td>Project Management</td>
<td>ADI/EM/HSN</td>
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<td>21 Apr-2 May</td>
<td>HSD</td>
<td>NUDC Staff Training 3: Plan Implementation and Land Management, Bhutan</td>
<td>UN Habitat</td>
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<tr>
<td>24-28 Apr</td>
<td>ET</td>
<td>REDP: Sectoral Energy Demand Studies</td>
<td>ESCAP/UNDP/EIT</td>
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<td>24 Apr-12 May</td>
<td>CEC/WRE/CTB</td>
<td>Dam Engineering</td>
<td>OEAF</td>
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<tr>
<td>Date</td>
<td>Academic Unit at AIT</td>
<td>Title of Short-term Training Course, Seminar or Workshop</td>
<td>Sponsor/Co-organizers</td>
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<td>25 Apr</td>
<td>GTE</td>
<td>Earth Reinforcement</td>
<td>EIT, CEC</td>
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<td>8 May</td>
<td>HSD</td>
<td>Appropriate Technology and Rural Regional Development</td>
<td>US Peace Corps</td>
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<tr>
<td>8 May-16 June</td>
<td>EE</td>
<td>Industrial Air Pollution Control</td>
<td>GTZ</td>
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<td>8 May-23 June</td>
<td>CEC</td>
<td>Irrigation Project Rehabilitation and Management</td>
<td>WR/USAID/ALWDP/CS</td>
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<td>8 May-29 July</td>
<td>LRDC/IIBM</td>
<td>New Information Technology and Computerized Library Services</td>
<td>IDRC/USAID/French Govt/CFTC/ADIR/NORAD</td>
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<tr>
<td>8 May-11 Aug</td>
<td>INRDM</td>
<td>Natural Resources Information Management</td>
<td>USAID/ASIAN/Swiss Govt</td>
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<td>22 May-2 June</td>
<td>CEC/CIEC</td>
<td>Scientific Computation and Software Packages</td>
<td>UNDP</td>
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<td>24-26 May</td>
<td>SOM</td>
<td>Marketing in Technology-based Business</td>
<td>EC</td>
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<td>29 May-8 June</td>
<td>CS</td>
<td>Computer Network Management</td>
<td>Adv/CEG</td>
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<td>29 May-21 July</td>
<td>CEC</td>
<td>Small Scale Flood Control, Drainage and Irrigation Projects</td>
<td>CIDA/WRI/CSI/ALWDP</td>
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<tr>
<td>1 June</td>
<td>ET</td>
<td>Research Policy on Energy Management: The Case for France</td>
<td>AFME</td>
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<td>4-16 June</td>
<td>HSD</td>
<td>Urban Area Planning and Plan Implementation, Kathmandu</td>
<td>GTZ</td>
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<td>12 June-7 July</td>
<td>INRDM</td>
<td>Workshop on Satellite Crop Monitoring</td>
<td>UNDP/USAID</td>
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<td>14-21 June</td>
<td>CS</td>
<td>Local Area Networks Design and Application</td>
<td>Norwegian Govt.</td>
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<td>18-22 June</td>
<td>APE</td>
<td>Aquaculture in Northeast Thailand: Management and Siting</td>
<td>BAAC, Thailand</td>
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<td>19-20 June</td>
<td>CEC</td>
<td>Job Efficiency</td>
<td>Lao/SIDA</td>
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<td>22-23 June</td>
<td>GTE</td>
<td>Bangkok Land Subsidence — What's Next?</td>
<td>IDRC</td>
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<td>26 June-5 July</td>
<td>CEC</td>
<td>Privatization and Management of Public Enterprises</td>
<td>Govt. of Sri Lanka</td>
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<td>26 June-22 Sept</td>
<td>CEC/ERIC</td>
<td>Management of On-Farm Water and Rainfed Agriculture</td>
<td>ADB/WRI/AFE</td>
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<td>3-28 July</td>
<td>CEC</td>
<td>Managing Rural Development</td>
<td>Adv/HSD/IIBM</td>
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<td>3-28 July</td>
<td>CEC</td>
<td>Planning and Management of Engineering Education in Thailand</td>
<td>UNESCO/UNDP</td>
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<td>16-27 July</td>
<td>INRDM</td>
<td>Geology, Image Processing, Coastal Zone Development, Jakarta</td>
<td>French Govt./NPPT</td>
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<td>17 July-25 Aug</td>
<td>CEC</td>
<td>Management of Training Centers</td>
<td>Adv/IRCC</td>
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<td>19 July-1 Sept</td>
<td>LRDC</td>
<td>CDS/ISIS</td>
<td>PakMar</td>
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<td>24 July-6 Aug</td>
<td>CEC</td>
<td>ATTC-UC Berkeley Advanced Management Program</td>
<td>Adv/IIBM</td>
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<td>30 July-4 Aug</td>
<td>EB/RINSIC</td>
<td>Water Supply and Sanitation</td>
<td>ADB</td>
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<td>31 July</td>
<td>IEM</td>
<td>System Dynamics for Reflective Practice</td>
<td>ORSI (Japan)</td>
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<td>31 July-4 Aug</td>
<td>ENSIC/EE</td>
<td>Water and Sanitation Awareness</td>
<td>ADB</td>
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<td>7-25 Aug</td>
<td>INRDM</td>
<td>Microcomputer for GIS</td>
<td>USAID/IRRI/AIFM/ADB/USM</td>
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<tr>
<td>20 Aug-4 Sept</td>
<td>CIDC</td>
<td>Study Visit of Nepalese Officials on Rural Development</td>
<td>MBCHI</td>
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<td>4-5 Sept</td>
<td>CEC</td>
<td>Industrial Applications of Solid-Liquid Separation Technology</td>
<td>Adv/EIE/INRDM</td>
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<td>17-30 Sept</td>
<td>CEC</td>
<td>Study Visit of Sri Lankan Officials on School Clusters</td>
<td>GTZ</td>
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<tr>
<td>Date</td>
<td>Academic Unit at AIT</td>
<td>Title of Short-term Training Course, Seminar or Workshop</td>
<td>Sponsor/Co-organizers</td>
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<tr>
<td>25 Apr</td>
<td>GTE</td>
<td>Earth Reinforcement</td>
<td>EIT, CEC</td>
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<td>8 May</td>
<td>HSD</td>
<td>Appropriate Technology and Rural Regional Development</td>
<td>US Peace Corps</td>
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<tr>
<td>8 May-16 June</td>
<td>EE</td>
<td>Industrial Air Pollution Control</td>
<td>GTZ</td>
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<td>8 May-23 June</td>
<td>CEC</td>
<td>Irrigation Project Rehabilitation and Management</td>
<td>WB/USAID/ALWD/PCS</td>
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<tr>
<td>8 May-29 July</td>
<td>LRDC/IEEM</td>
<td>New Information Technology and Computerized Library Services</td>
<td>IDRIG/USAID/ French Govt/CPTCI/ADB/NORAD</td>
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<td>8 May-11 Aug</td>
<td>INRDM</td>
<td>Natural Resources Information Management</td>
<td>USAID/ASEAN/Swiss Govt.</td>
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<td>22 May-2 June</td>
<td>CSE/CEC</td>
<td>Scientific Computation and Software Packages</td>
<td>UNDP</td>
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<tr>
<td>24-26 May</td>
<td>SOM</td>
<td>Marketing in Technology-based Business</td>
<td>EC</td>
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<tr>
<td>29 May-8 June</td>
<td>CS</td>
<td>Computer Network Management</td>
<td>Adv/CEC</td>
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<td>29 May-21 July</td>
<td>CEC</td>
<td>Small Scale Flood Control, Drainage and Irrigation Projects</td>
<td>CTD/WRD/CS/ALWD/USAID</td>
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<td>1 June</td>
<td>ET</td>
<td>Research Policy on Energy Management: The Case for France</td>
<td>AFME</td>
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<td>4-16 June</td>
<td>HSD</td>
<td>Urban Area Planning and Plan Implementation, Kathmandu</td>
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<td>12 June-7 July</td>
<td>INRDM</td>
<td>Workshop on Satellite Crop Monitoring</td>
<td>UNDP/USAID</td>
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<tr>
<td>14-21 June</td>
<td>CS</td>
<td>Local Area Networks Design and Application</td>
<td>Norwegian Govt.</td>
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<tr>
<td>18-22 June</td>
<td>AFE</td>
<td>Aquaculture in Northeast Thailand: Management and Siting</td>
<td>BAAC, Thailand</td>
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<td>19-20 June</td>
<td>CEC</td>
<td>Job Efficiency</td>
<td>Laos/IDA</td>
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<td>22-23 June</td>
<td>GTE</td>
<td>Bangkok Land Subsidence — What's Next ?</td>
<td>JDCD</td>
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<tr>
<td>26 June-5 July</td>
<td>CEC</td>
<td>Privatization and Management of Public Enterprises</td>
<td>Govt. of Sri Lanka</td>
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<tr>
<td>26 June-22 Sept</td>
<td>CEC/ERRC</td>
<td>Management of On-Farm Water and Rainfed Agriculture</td>
<td>ADB/WE/RAFE</td>
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<td>3-28 July</td>
<td>CEC</td>
<td>Managing Rural Development</td>
<td>Adv/HSD/IEEM</td>
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<td>3-28 July</td>
<td>CEC</td>
<td>Planning and Management of Engineering Education in Thailand</td>
<td>UNESCO/UNDP</td>
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<td>16-27 July</td>
<td>INRDM</td>
<td>Geology, Image Processing, Coastal Zone Development, Jakarta</td>
<td>French Govt./BPPT</td>
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<tr>
<td>17 July-25 Aug</td>
<td>CEC</td>
<td>Management of Training Centers</td>
<td>Adv/RCC</td>
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<td>19 July-1 Sept</td>
<td>LRDC</td>
<td>CDS/ISIS</td>
<td>PacMar</td>
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<td>24 July-6 Aug</td>
<td>CEC</td>
<td>ATT-UC Berkeley Advanced Management Program</td>
<td>Adv/EM</td>
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<td>30 July-4 Aug</td>
<td>EE/NSIC</td>
<td>Water Supply and Sanitation</td>
<td>ADB</td>
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<td>31 July</td>
<td>IEM</td>
<td>System Dynamics for Reflective Practice</td>
<td>ORSI (Japan)</td>
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<td>31 July-4 Aug</td>
<td>ENSIC/EE</td>
<td>Water and Sanitation Awareness</td>
<td>ADB</td>
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</tr>
</tbody>
</table>
### Promotions

**Full Professor**
- V.K. Jindal: 1 July
- D. Goe-Chuah: 1 July
- Chongrak Polprasert: 1 July
- Worskak Kanok-Nukulchai: 1 July
- J.C. Mora: 1 July

**Associate Professor**
- K. Yamamoto: 1 July
- T. Ueda: 1 July

### Appointments

**Chairman**

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
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<tbody>
<tr>
<td>S. Vigneswaran</td>
<td>1 Aug</td>
</tr>
<tr>
<td>Prem Vrat</td>
<td>30 Aug</td>
</tr>
<tr>
<td>Y. Honjo</td>
<td>4 Dec</td>
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</tbody>
</table>

**Professor**

- R. Harboe: 15 Mar
- D.R. Webster: 2 Jan
- J.M. Robinson: 1 Aug

**Associate Professor**

- S.H. Upasena: 10 Jan
- Surapong Chirarattananon: 1 Apr
- D.J. Macintosh: 1 Mar
- T. Mino: 9 May
- Y. Honjo: 1 May
- Yordphol Tanaboriboon: 16 Nov
- Yap Koo-Sheng: 1 July
- B.G. Lefebvre: 1 May
- K. Yamamoto: 1 July
- H. Horii: 21 Apr
- F.W. Swierczek: 11 May
- K. Ramananathan: 23 May
- R. Sogoarda: 1 Aug
- H. Harada: 24 Aug
- H. Schroder: 7 Oct

**Assistant Professor**

- R.M. Shrestha: 1 Apr
- I. Verink: 11 Jan
- A. Yakupjyage: 1 June
- T.Y. Giai: 17 May
- W.E. Savage, Jr.: 1 Aug
- A. Fukuda: 15 Aug
- J.J. Shaw: 15 June

### Resignations

**Associate Professor**

- H. Inamura: 4 Aug
- K. Yamamoto: 11 Sept
- H.M. Ord: 30 Sept
- Kanish Malaivengs: 31 Oct
- F. Lamsier: 1 Sept
- B. Chateau: 30 Sept

**Assistant Professors**

- V.M. Malhotra: 8 Aug
- J. Kawan: 11 May
- C. Peacock: 21 Jan

### Visiting Faculty Members

**Over One Year**

- R.W. Archer: 1 Jan
- E.A. Mcrirtiz: 1 Jan
- J. Rand: 12 Jan
- S.K. Jain: 8 Jan
- G.A. Varis: 3 Jan
- V.E.J. Kettunen: 7 Feb
- S.A. Nielsen: 5 Jan
- G.A. Ross: 3 Jan
- K. Harigopal: 9 Jan
- P.M. Ong: 1 May
- S.T. Tong: 1 May
- T. Panda: 5 May
- Yudhir: 8 May
- A. Harle: 10 May
- A.B. Eberington: 15 May
- G.K.E. Janssens: 15 May
- B.J. Hosking: 23 Aug
- G.S. Hira: 1 Sept
- R.H. de Ridder: 1 Oct
- C.R. Pathak: 8 Sept
- J.R.C. Hau: 13 Sept
- T. Azaeda: 4 Sept
- T.P. Bagchi: 4 Sept

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<th>Name</th>
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<tr>
<td>Zong-Tae Bae</td>
<td>1 May</td>
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<td>M.G. Kerghosker</td>
<td>1 Sept</td>
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<td>H. Inamura</td>
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<td>K. Yamamoto</td>
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<td>H.M. Ord</td>
<td>30 Sept</td>
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<td>Kanish Malaivengs</td>
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<td>F. Lamsier</td>
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<td>B. Chateau</td>
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<td>J. Kawan</td>
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<td>3 Nov</td>
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</table>
LIST OF FACULTY MEMBERS

FULL TIME FACULTY

Juichiro Akiyama
B.E., Kyushu; M.S.C.E., Ph.D., Minnesota.
Assistant Professor, WRE

A.T.M. Nurul Amin
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Associate Professor, HSD

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

Dennis T. Bergado
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Surapong Chirarattananon
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Rene Codoni
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Bertrand Galtier
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Chandra P. Gupta
Professor, AFE

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Hideki Harada
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Assistant Professor, GTE

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Professor, EE

K. Ramanathan  
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in Applied Stats., Colombo; M.Eng., D.Eng., AIT.  
Associate Professor, SOM

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

Ira M. Robinson  
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Professor, HSD

J.K. Routray  
B.Sc., M.Sc., Ph.D., Utkal.  
Assistant Professor, HSD

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

William Savage, Jr.  
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E.D. Setty  
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Associate Professor, HSD

Jonathan Shaw  
Assistant Professor, LC

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ABBREVIATIONS

ADB Asian Development Bank
AFME French Agency for Energy Management
AIFM ASEAN Institute of Forest Management
ALRO Agricultural Land Reform Office, Thailand
APT Asian Pacific Telecommunity
ASEAN Association of Southeast Asian Nations
ARFLA Asian and Pacific Regional Centre for Labour Administration
BARC Bangladesh Agricultural Research Council
BMA Bangkok Metropolitan Administration
BPPT Office for Assessment of Technology, Indonesia
CFCT Commonwealth Fund for Technical Cooperation
CIDA Canadian International Development Agency
CIPEF Energy Development in South East Asia and Cooperation with the European Community
CMU Chiang Mai University, Thailand
CNES Centre National D'Études Spatiales
CNRS Centre National pour La Recherche Scientifique
CQVR Center Quebec Valorisation Biomass
CUCEP Canadian University Consortium/Partnership Project
DAAD German Academic Exchange Service
DANIDA Danish International Development Agency
DHII Danish Hydraulic Institute
Netherlands/DOSO Netherlands/Direct Aid to Educational Establishments in Developing Countries
DTIEC Department of Technical and Economic Cooperation, Thailand
EASIC Second East-Asia Pacific Conference on Structural Engineering and Construction
EC European Community
EDL Elektriziteitsdienst Louvain
EGAT Electricity Generating Authority of Thailand
EIT Engineering Institute of Thailand
ERTAT Expressway and Rapid Transit Authority of Thailand
ESCAP Economic and Social Commission for Asia and the Pacific, UN
FAO Food and Agriculture Organisation, UN
FIAM Forum for Integrated Agricultural Management
FMO Fish Marketing Organization, Thailand
GTZ German Agency for Technical Cooperation
IGCIMOD International Centre for Integrated Mountain Development
ICLARM International Center for Living Aquatic Resources Management
ICTP International Centre for Theoretical Physics
IDRC International Development and Research Center, Canada
ILD International Labor Organization, UN
IOCC Inter-Governmental Oceanographic Commission
IRRI International Rice Research Institute
ISS Institute of Social Studies, Netherlands
ITU International Telecommunications Union
JICA Japan International Cooperation Agency
KEIDANREN Federation of Economic Organizations, Japan
KMIT King Mongkut's Institute of Technology, Thailand
KU Kasetsart University, Thailand
MILR Hill Irrigation and Related Development Programme (MPLD/MOASNV)
MOU Memorandum of Understanding
NESDB National Economic and Social Development Board, Thailand
NORAD Norwegian Agency for International Development
OECD Overseas Development Administration, UK
OECD Economic Cooperation Fund
ONCB Office of the Narcotics Control Board, Thailand
ORSI Operation Research Society of Japan
REDP Regional Energy Development Program
RONAST Royal Nepal Academy of Science and Technology
RUCA State of University Anwarp
SEAMEO Southeast Asian Ministers of Education Organization
SIDA Swedish International Development Authority
UNDP United Nations Development Program
UNDO United Nations Disaster Relief Organisation
UNEP United Nations Environment Programme
UNESCO United Nations Educational, Scientific and Cultural Organization
UNHCR United Nations High Commissioner for Refugees
UNICEF United Nations Children’s Fund
UNO United Nations
USAID United States Agency for International Development
UNM University State Malaysia
WHO World Health Organization

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