Cover:
From a modest beginning in 1959 when the initial student intake was from just three countries - Pakistan, the Philippines and Thailand, AIT's mission has grown to reflect the globalization of learning and encompasses advanced education, research and outreach.

With its current student body drawn from over 50 countries, AIT now reaches out to the whole of Asia and, through Asia, to the world.
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THE YEAR AT AIT

EVENTS

PROMOTING INTERNATIONAL COOPERATION IN SPACE

On 19 December HRH Princess Maha Chakri Sirindhorn, AIT Honorary Faculty Member associated with the Space Technology and Applications Research Program, presided over the inauguration of the Asian Center for Research on Remote Sensing (ACRoRS). Jointly founded by AIT and the Asian Association on Remote Sensing (AARS), the Center paves the way for greater collaboration in remote sensing research throughout the region. ACRoRS is featured on page 17.

HSD 20TH ANNIVERSARY

1973 marked a breakthrough at AIT with the introduction of a program in urban and regional planning, the Institute's first venture in a non-engineering field. It was originally conceptualized as a part of the former Division of Systems Engineering, which was later divided into Engineering and Management and Community and Regional Development. In 1978, the latter split into Agricultural and Food Engineering and Human Settlements Development (HSD).

The HSD 20/2000 conference held on 10-13 December featured HSD's first two decades. The conference reviewed the Program's achievements since its establishment 20 years ago and discussed responses to future challenges. It projected an optimistic future for environmental, management and development studies at AIT.

Former and present HSD faculty members joined the conference, from left: Prof. Shue Tuck Wong (Canadian faculty, 1977-81), Mr. H. D. Kammeyer (German faculty since 1976), Mr. J. H. de Goede (Dutch, first Division Chairman, 1978), Prof. Karl E. Weber (German faculty since 1978), Mr. S. Benjamin (Canadian faculty, 1973-75), and Prof. H. Kaji (Japanese faculty, 1978-81).

LECTURES

Nobel Laureate

Nobel Laureate Prof. Dr. Heinrich Rohrer presented a lecture on 22 May on the topic, "Science and Technology on the Nanometer Scale: Challenges and Chances".

Prof. Rohrer is recognized for inventing the scanning tunneling microscope together with Gerd Binnig. He was co-recipient of the King Faisal Prize and the Hewlett Packard Europhysics Prize in 1984 and the Nobel Prize in Physics in 1986. Prof. Rohrer received the Cresson Medal of the Franklin Institute in Philadelphia, USA, in 1987, and was inducted to the United States National Inventors Hall of Fame in 1994.

Fifth Milton E. Bender Lecture

Prof. Douglas Wright, former President of the University of Waterloo in Canada, delivered the fifth lecture in the annual Milton E. Bender Lecture Series. Prof. Wright spoke at AIT on 6 March on the topic, "Engineering the New Economy". Prof. Wright has nearly five decades of active experience in structural engineering and university administration. He is known for his pioneering research in plastic design of steel structures together with the late Sir John Baker of Cambridge University and Prof. Michael R. Horse. Prof. Wright was educated at the University of Illinois and Cambridge University.

AIT introduced the Milton E. Bender Lecture Series in 1993 in honor of its first President, Dr. Milton E. Bender.
ALUMNI

AITAA SURPASSES FUND-RAISING TARGET

By the end of 1997, the AIT Alumni Association-assisted fund-raising campaign for the Institute yielded US$1.8 million, surpassing its original target of US$1.3 million. On 23 January, Mom Luang Birabhongse Kasemsri, Chairperson of the AIT Board of Trustees, received US$ 630,200 from AITAA President, Mr. Surendra Shrestha. The amount represented AITAA-assisted grants since the campaign’s launch in mid-1996. Looking on is AIT President, Prof. Roger G. H. Downer.

FIVE LARGEST GROUPS OF GRADUATES IN 1997

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<thead>
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<th>Country</th>
<th>Number</th>
</tr>
</thead>
<tbody>
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<td>Bangladesh</td>
<td>31</td>
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FIVE LARGEST GROUPS OF ALUMNI (1961-1997)

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</thead>
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<td>India</td>
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</tbody>
</table>

RESOURCE GENERATION

TOTAL CONTRIBUTIONS RECEIVED IN FY 1996-97:
Baht 927,960,000.-

TOTAL CONTRIBUTIONS RECEIVED BY SECTOR

FY 1996-1997

- Governments 73.14%
- International Organizations 7.45%
- National Government Agencies 11.88%
- Business, Foundations, Private Individuals and Others 7.53%

FY 1959-1997

- Governments 74.54%
- International Organizations 7.45%
- National Government Agencies 7.95%
- Business, Foundations, Private Individuals and Others 10.06%
Lord Ashby, in a splendidly erudite analysis of scientific and technological evolution (E. A. Ashby, “Technology and the Academics”, McMillan & Co Ltd., London, 1959) reminds us that humans are heirs to a dual legacy. Like all life forms, we inherit a rigorously selected genetic heritage and, in addition, we receive a rich cultural inheritance which distinguishes us from all other living things. Universities have played a pivotal role in the preservation of our cultural legacy due, in large part, to a capacity to survive during a millennium of enormous change without any sacrifice of basic values or mission. Such survival requires awareness of changing social, political, economic and technological climates and the ability to make the necessary adjustments to adapt to new operational environments.

These reflections provide solace as AIT undergoes a period of change. As an Institute, we recognize that the paradigm in which we have operated with great success and distinction for most of our 39-year history is changing rapidly. The Institute must respond to this situation by replacing activities that are no longer relevant or sustainable, compensating for the loss of traditional sponsors and ensuring that AIT is favorably positioned to take advantage of new opportunities. Thus, the past year has seen the initiation of a number of changes at AIT and, although each by itself does not appear to be major, the collective effect will be to alter the administrative, financial and academic tenor of the Institute. In spite of Sir Eric Ashby’s assurances, universities tend to be notoriously resistant to change and, in many academic institutions, attempts to effect such changes would be an exercise in futility. Therefore, it is encouraging to report that we have achieved excellent progress in the process of change and a collegial, cooperative spirit has prevailed.

The principal administrative changes have been directed towards decentralization of much of the day-to-day decision making to the level of individual operating units. Some administrative reorganization has also been implemented with the overall objectives of broadening the base of financial support for the Institute and enhancing the efficiency of institutional operations.

Two major initiatives are underway at the academic level. A task force has been asked to examine every facet of the academic program including curricula, pedagogy, evaluation, teacher training/Improvement, language, thesis supervision, use of electronic technologies and “value-added” components in a student’s education. The group will be making recommendations designed to enhance the overall quality of academic programs. The second academic initiative is intended to strengthen the research capacity of AIT by concentrating most of the Institute’s

At its 7th international symposium, the Danube Adria Association for Automation and Manufacturing International Vienna cited AIT for its contributions to the technical sciences and international scientific cooperation. On behalf of the Association, H. E. Dr. Nikolaos Scherker, Austrian Ambassador to Thailand, presented award certificates to President Dowker and faculty members from the School of Advanced Technologies, at a ceremony held on 7 February.

“The glass-ceiling phenomenon is global, but superimposed upon this in much of Asia is a long-standing cultural tradition based largely upon Confucian doctrines of family, hierarchies and social attitudes... AIT can and must play an important role in helping to ensure that the female resource is fully utilized and that women are afforded every opportunity to participate in and contribute to the attainment of societal goals.”

Soroptimist Club of Dusti
Bangkok, Thailand
January 1997
research efforts in a few specific areas. Faculty are currently defining the areas in which AIT's research activities should be focused according to such criteria as financial sustainability, regional relevance, existing core of competence, and competitive advantage. The long-term objective is to develop at AIT a few "centers of excellence" which will compete effectively for major international funding opportunities.

As indicated earlier, the need for and process of change have been accepted by the AIT community and the transition is being effected without any obvious diminution in the volume or quality of normal institutional activities. Thus faculty, staff and students continue to bring distinction to themselves and AIT through winning recognition in various national and international form, students register and graduate, new buildings are opened, agreements are signed and the Institute continues to be honored by visits from eminently distinguished individuals. Details of some of these disparate activities are indicated in other parts of this report but it is important to remember that, although these appear to be routine events in the life of an Institute, each requires individual effort and commitment from many people. AIT, like any university, is much more than a collection of buildings and facilities. It is a community of faculty, staff, students, alumni and friends, all of whom contribute to make the Institute what it is.

During the past year many members of this community have been seriously inconvenienced and threatened by the currency crisis which has plagued many Asian countries. In spite of these difficulties, I have sensed no less of commitment for AIT. It is from the proven resilience and dedication of the AIT community that I derive greatest optimism for the future of the Institute. AIT has made an excellent start along the required path of change and looks forward with confidence to continuing to serve as a primary resource in advanced education, research and outreach for any government, agency or corporation with interests in promoting sustainable technological and economic development in the region.

R.G.H. Downer
President

"Research and education are essential elements in the overall formula for success in promoting economic growth through technological innovation."

Plenary Speech
First Asean Business Summit
Jakarta, Indonesia
March 1997

"It is no coincidence that the Asian countries which have invested most heavily in education are the ones enjoying the greatest economic benefits."

Computers in Education Conference
Phuket, Thailand
October 1997

"The educational experience for our students should include more than lectures and laboratories in technical fields. We must be concerned with value added elements which increase global awareness, enhance communication skills and provide students with some business acumen and a spirit of entrepreneurship. Such graduates could be valued tools in Asia's economic growth and development."

Colloquium on "Engineering and Technology Education for the 21st Century"
Suranaree University of Technology
Thailand
February 1997
ACADEMIC AFFAIRS

ACADEMIC DEVELOPMENTS

Operational Plans

Operational planning exercises, first carried out for FY1996-97, have become standard practice for all Schools and Centers. Along with other management indicators, the plans provide a strong basis for the preparation of the Institute's annual budget and serve as a monitoring tool for the implementation of the Strategic Plan.

The Operational Plans for FY 1998-99 spell out the objectives and targets of individual Schools and Centers, identifying activities to be carried out, resources required and targeted revenues.

Devolution of Authority

During the year considerable authority and responsibility for day-to-day decision-making was devolved from the President and the Vice President for Academic Affairs to the level of unit heads. The devolution provided the basis for the streamlining of administrative processes, encouraging an open, collegial style of management. Much of the reorganization was achieved within existing offices through realignment of responsibilities.

NEW PROGRAMS, NEW OPPORTUNITIES

In 1997 AIT introduced three new programs: Mechatronics, the Executive MBA, and Urban Environmental Management.

Three new programs will admit their first students in January 1998. These are the Pulp and Paper Technology Program, Water Supply, Drainage and Sewerage Engineering Program, and Environmental Toxicology, Technology and Management Program, which is offered jointly with Mahidol University and the Chulabhorn Research Institute.

Implementation of the Postgraduate Technological Studies Program is imminent.

Continuing support to academic activities in Vietnam led to interesting developments in 1997. The Hanoi-based AIT Center Vietnam submitted proposals to establish a program in post harvest and food process engineering and a center for food research. Under study is a plan to introduce an energy program similar to the format of the Industrial Systems Engineering Program, which is offered in collaboration with the School of Advanced Technologies.

The second phase of the Swiss-AIT-Vietnam Management Development Program started in January 1997 with support from the Swiss Development Cooperation.

MECHATRONICS AND MICROELECTRONICS PROGRAMS

The Mechatronics Program in the School of Advanced Technologies welcomed its first group of seven Master's students in the May 1997 term. Six students are supported by scholarships from Siemens AG, Germany, and one by the Royal Thai Government. The students will spend approximately one year of studies at AIT (including the thesis component of the curriculum) and one year at the Technical University of Hamburg-Harburg in Germany.

The development of a Microelectronics curriculum is underway in collaboration with the National Electronics and Computer Technology Center of the National Science and Technology Development Agency of Thailand. The program is expected to be introduced in the May 1999 term.
EMBA PROGRAM
The 20-month Executive MBA Program, launched by the School of Management in September 1997, admitted its first group of students, consisting of 24 mid-level to senior managers from India, Chinese Taipei, the People's Republic of China, Vietnam, USA, and Thailand. The Program offers a flexible curriculum that allows the participants to create "personalized menus" to support their individual career pursuits and chosen areas of learning. Over 15 courses in the curriculum focus on key managerial issues and challenges faced by managers at the strategic and operational levels of business. They enhance the participants' understanding of globalization and rapid technological change and their impact on business in the Asian region and other parts of the world.

POSTGRADUATE TECHNOLOGICAL STUDIES PROGRAM
The four-year Postgraduate Technological Studies (PTS) Program, signed in September 1997 and funded by the European Commission to the tune of 2.4 million ECU, will support 90 students from the European Union to attend the Master's program at AIT, including a one-term internship at a university or business enterprise in Southeast Asia.

The PTS Program will also allow 90 Asian students to pursue internships in either a university or business enterprise in the European Union. During this period, they will gather data for their Master's degree research.

The EMBA Program provides extensive opportunities to network with executives from companies based in Thailand and other countries.

PULP AND PAPER TECHNOLOGY PROGRAM
The proposed Pulp and Paper Technology (PPT) Program in the School of Environment, Resources and Development, presented its curriculum at a seminar, "Development Prospects for Pulp and Paper Industry in South-East Asia," which was held in March. Major recommendations and significant inputs provided by representatives from industry, government agencies, and academic institutions were subsequently incorporated in the curriculum. The seminar was sponsored by the Government of Finland, which provided some US$3.5 million, in the form of grants for scholarships, equipment and laboratory facilities, faculty secondment and other components. Advance Agro Public Co. Ltd. funded the construction of the Advance Agro Pulp and Paper Technology Building.

URBAN ENVIRONMENTAL MANAGEMENT PROGRAM
The Urban Environmental Management Program in the School of Environment, Resources and Development seeks to equip environment managers with skills and capabilities that will enable them to develop sustainable urban spaces and communities, while enhancing the economy and preserving the natural environment.
Students

Application and Enrolment Trends

Applications for admission to the academic programs reached a total of 3,453 for the 1997 academic year, rising by some 14.3% from the 1996 figure.

<table>
<thead>
<tr>
<th>Applications Received in 1997</th>
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<tbody>
<tr>
<td>January</td>
</tr>
<tr>
<td>May</td>
</tr>
<tr>
<td>September</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

The number of students admitted in the September 1997 term was 363, bringing the September 1997 term enrolment to a total of 1,320, compared with 1,261 for the same period in 1996.

The Diploma and Master's degree enrolments were 13 and 955, respectively. The Doctoral student enrolment was 202. Thirty-one students were enrolled in the certificate of advanced studies or CAS program, which is offered to students seeking admission into the Doctoral program. The combined CAS and Doctoral enrolments accounted for 19.4% of the total enrolment, approaching very closely the 20% target set by the Board. It should be taken into account that many CAS students eventually qualify for admission into the Doctoral degree program.

Of the remaining 119 students, 41 were enrolled in special programs, and 78 in non-degree programs.

The economic crisis in Southeast Asia brought in its wake declining business and employment opportunities. A large number of applications is expected from young professionals who may opt to pursue further studies during this period. AIT study costs are affordable, compared with educational institutions in developed countries, and could attract a good number of student applicants.

Based on previous years' student numbers and taking into account the potential effects of the Asian crisis on student enrolment, it is projected that full fee-paying students in 1998-99 will average 1,339, surpassing by 42.4% the 940 projected in the Institute Strategic Plan.

In line with its commitment to promote technological change and its management, AIT equips laboratories with up-to-date testing facilities and instrumentation to support student research and pilot projects in different areas of specialization.

Top photos show students at work in the new pulp and paper technology laboratory. Above, from left: scenes from the mechatronics laboratory and the environmental engineering laboratory.
1997 STUDENT ENROLMENT

by Program

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<th>Jan</th>
<th>May</th>
<th>Sept</th>
<th>Average</th>
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<td>Doctoral</td>
<td>192</td>
<td>195</td>
<td>202</td>
<td>196</td>
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<tr>
<td>Master's</td>
<td>977</td>
<td>887</td>
<td>955</td>
<td>940</td>
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<td>Diploma</td>
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<td>13</td>
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<td>Total degree enrolment</td>
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<td>1095</td>
<td>1170</td>
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<td>Other programs</td>
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<td>97</td>
<td>150</td>
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<td>Doctoral enrolment</td>
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<td>17.8%</td>
<td>17.2%</td>
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by Country

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by School

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</tr>
<tr>
<td>IB</td>
<td>141</td>
<td>85</td>
<td>165</td>
</tr>
<tr>
<td>MT</td>
<td>81</td>
<td>48</td>
<td>79</td>
</tr>
<tr>
<td>EMBA</td>
<td>27</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>Total</td>
<td>1258</td>
<td>1192</td>
<td>1320</td>
</tr>
</tbody>
</table>

Excluding post-docidal fellows, research fellows, Programs in Computer Applications Development (PCAD) trainees, TALKBASE students.

Abbreviations are listed on page 48.

1997 Women Enrolment (as a percentage of total enrolment)

<table>
<thead>
<tr>
<th>School</th>
<th>Jan</th>
<th>May</th>
<th>Sept</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAT</td>
<td>22.2</td>
<td>26.2</td>
<td>26.6</td>
<td>25.7</td>
</tr>
<tr>
<td>SCE</td>
<td>11.9</td>
<td>10.7</td>
<td>12.3</td>
<td>11.6</td>
</tr>
<tr>
<td>SERD</td>
<td>36.8</td>
<td>35.5</td>
<td>34.0</td>
<td>35.6</td>
</tr>
<tr>
<td>SOM</td>
<td>35.1</td>
<td>32.0</td>
<td>37.4</td>
<td>35.2</td>
</tr>
</tbody>
</table>

Abbreviations are listed on page 48.

SCHOLARSHIP DISTRIBUTION

A noticeable reduction in AIT-proposed scholarships was again observed in 1997, alongside increases in the number of self-supporting students, partial scholarship holders, and students supported by external donors.

The distribution of scholarships in the September 1997 term showed 280 AIT-proposed scholarships, 382 internal donor-nominated scholarships, and 148 students on external scholarships. There were 118 self-supporting students and 144 students on partial scholarships. These figures brought the total number of full-fee paying students to 1,072 out of a total enrolment of 1,320.

Of the 1,320 enrollees, 248 were not fee-paying (168 were on waivers, while 80 were on partial scholarships and no longer paying fees).
## GRADUATES

### 1997 GRADUATE RECORD

<table>
<thead>
<tr>
<th>by Degree</th>
<th>Apr</th>
<th>Aug</th>
<th>Dec</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.Eng.</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>D.Tech. Sc.</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>M.Eng.</td>
<td>109</td>
<td>87</td>
<td>115</td>
<td>311</td>
</tr>
<tr>
<td>M.Sc.</td>
<td>8</td>
<td>119</td>
<td>22</td>
<td>149</td>
</tr>
<tr>
<td>MBA</td>
<td>97</td>
<td>1</td>
<td>5</td>
<td>103</td>
</tr>
<tr>
<td>Dip.AIT</td>
<td>8</td>
<td>13</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>235</td>
<td>216</td>
<td>168</td>
<td>619</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>by Country</th>
<th>Apr</th>
<th>Aug</th>
<th>Dec</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>15</td>
<td>8</td>
<td>8</td>
<td>31</td>
</tr>
<tr>
<td>Bhutan</td>
<td>2</td>
<td>3</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Cambodia</td>
<td>1</td>
<td>15</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>Chinese Taipei</td>
<td>14</td>
<td>4</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>India</td>
<td>3</td>
<td>13</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>Indonesia</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>27</td>
</tr>
<tr>
<td>Japan</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Kenya</td>
<td>1</td>
<td>1</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Korea</td>
<td></td>
<td>2</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Laos</td>
<td>10</td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Mongolia</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Myanmar</td>
<td>8</td>
<td>11</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>Nepal</td>
<td>18</td>
<td>26</td>
<td>22</td>
<td>66</td>
</tr>
<tr>
<td>Pakistan</td>
<td>9</td>
<td>6</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>IRC</td>
<td>22</td>
<td>20</td>
<td>10</td>
<td>52</td>
</tr>
<tr>
<td>Philippines</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>21</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>7</td>
<td>16</td>
<td>6</td>
<td>29</td>
</tr>
<tr>
<td>Thailand</td>
<td>70</td>
<td>44</td>
<td>48</td>
<td>162</td>
</tr>
<tr>
<td>Vietnam</td>
<td>45</td>
<td>22</td>
<td>23</td>
<td>90</td>
</tr>
<tr>
<td>Zambia</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>235</td>
<td>216</td>
<td>168</td>
<td>619</td>
</tr>
</tbody>
</table>

*Abbreviations are listed on page 48.*

### 1997 GRADUATION SPEAKERS

#### 79th Graduation

18 April

Mr. Hubert Flahault, President of the Paris Chamber of Commerce and Industry

#### 86th Graduation

15 August

Dr. Alastair North, former AIT President, was presented the Honorary Degree of Doctor of Technology for his outstanding leadership of the Institute and his contribution to educational and professional development in the region.

#### 81st Graduation

18 December

Mr. Haymo Krusch, AIT Trustee and President of Siemens Thailand Ltd.
GRADUATION Awardees

April

Mr. Mahesh Raj Gautam
(SCE, WEM) Nepal
Sukum Navapan Prize

Mr. Tenzin M. N. Wijayaratna
(SCE, WEM) Sri Lanka
Hodaka Prize

Mr. Rajesh Prasad Dhakal
(SCE, SEC) Nepal
Aoyagi Prize

Mr. Wirat Ratanaewetkasit
(SCE, SEC) Thailand
Aoyagi Prize

Mr. Danai Ruengsorn
(SCE, TE) Thailand
Barbara and John Hughes Prize

Mr. Pripat Laovataanabandit
(SCE, GE) Thailand
Deesawat Prayok Prize

Ms. Tara Nidhi Lehani
(SCE, GE) Nepal
Chin Fung Che Prize

Ms. Li Jun
(SCE, IPM)
People's Republic of China
Hisamatsu Prize

Ms. Do Thi Xuan Lan
(SCE, SEC) Vietnam
Mahesh Varma Prize and
Hiromichi Iwai Prize

Ms. Luc Thi Thu Huong
(SOM, IB) Vietnam
Wilhelm Hill Prize

Mr. Pramuan Bunuanwinichai
(SOM, IB) Thailand
James A. Linen III Memorial Prize

Mr. Shantanu Dutta
(SOM, MT) Bangladesh
Haider Rezvi Prize

August

Ms. May Ann E. Municpic
(SERD, AAS) Philippines
Alastair M. North Prize

Ms. S. K. Balasankari
(SERD, AFE) India
Y. Y. Kashida Prize and
Yoh Kurosawa Prize

Mr. Samiapillai Maxwell
(SERD, BPT) Sri Lanka
Albert Stevens Prize

Ms. N. D. K. Dayawansa
(SERD, STAR) Sri Lanka
Tim Kendall Memorial Prize
and Yoh Kurosawa Prize

Ms. Jiang Yan
(SERD, Energy) People's Republic of China
James A. Linen III Memorial Prize

Mr. Yan Lin
(SERD, Energy) Myanmar
James A. Linen III Memorial Prize

Mr. Widanage Rupananda
(SERD, HSD) Sri Lanka
Sukum Navapan Prize

Mr. Amit Bhargava
(SERD, EE) India
Robert B. Banks Prize

December

Mr. Md. Khaireul Hasan
(SAT, TC) Bangladesh
Telecom-Finland Prize

Ms. Chiratana Pringruksa
(SAT, ISE) Thailand
Shoichiro Toyoda Prize

Mr. V. C. Sarvananathan
(SAT, ISE) Sri Lanka
James A. Linen III Memorial Prize

Mr. Saikai Ray
(SAT, ISE) India
Tim Kendall Memorial Prize

Mr. Chen Lei
(SAT, CSIM) People's Republic of China
Hisamatsu Prize

Mr. Ronnachai Lorjarnmenjongkol
(SAT, CSIM) Thailand
Hisamatsu Prize

N.B. The entries in parentheses indicate the graduates' respective Schools and Programs. Background information on graduation award sponsors is provided on page 46 of the Appendix.
ALUMNI

In addition to the professional benefits offered by their advanced technology education and training, AIT graduates are enriched by the experience of living and working in a multicultural environment. The professional friendships and contacts established during their time at AIT are sustained throughout their subsequent careers. Regional camaraderie and international harmony are further fostered by the AIT Alumni Association and its 22 national chapters.

The election of Dr. Primitivo Cal (GTE '70), Dr. Somchet Thimaphong (WRE '89) and Mr. Yen-Yi Tseng (CRD '73) to Trusteeships brought the number of alumni representatives on the AIT Board of Trustees to four. They join Mr. Surendra Shrestha (CS '80), who has been a Trustee since his election as President of the AIT Alumni Association in 1996.

Dr. Cal is Undersecretary of the Department of Transportation and Communications of the Philippines and incumbent President of AITAA-Philippines.

Dr. Somchet is Governor of the Industrial Estate Authority of Thailand and incumbent President of AITAA-Thailand.

Mr. Tseng is President of Ret-Ser Engineering Agency and former President of AITAA-Chinese Taipei.

ALUMNI DISTRIBUTION

by School

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Technologies</td>
<td>1590</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>3263</td>
</tr>
<tr>
<td>Environment, Resources</td>
<td>3360</td>
</tr>
<tr>
<td>and Development</td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>454</td>
</tr>
<tr>
<td>Total</td>
<td>8667</td>
</tr>
</tbody>
</table>

by Degree

<table>
<thead>
<tr>
<th>Degree</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. Eng.</td>
<td>197</td>
</tr>
<tr>
<td>D. Tech. Sc.</td>
<td>61</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>27</td>
</tr>
<tr>
<td>M. Eng.</td>
<td>5598</td>
</tr>
<tr>
<td>M. Sc.</td>
<td>2113</td>
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<tr>
<td>MBA</td>
<td>449</td>
</tr>
<tr>
<td>Diploma</td>
<td>222</td>
</tr>
<tr>
<td>Total</td>
<td>8667</td>
</tr>
</tbody>
</table>
Ait Alumni Association

Support to AIT

In addition to the AITAA-assisted fund-raising campaign reported on page 3, individual contributions were presented by Thai alumni namely, Dr. Subin Pinkayan (SEC '61), Mr. Chaiwarong na Lamphun (WRE '80), Dr. Niyon Deesawangkhol (GTE '76), and Dr. Kowit Krichang (HSD '96).

The alumni-assisted fund-raising campaign, spearheaded by AITAA, covers grants for scholarships, sponsored research, and training.

Members of the alumni body also provide significant inputs to academic planning exercises, helping to ensure the relevance and excellence of AIT's program offerings.

<table>
<thead>
<tr>
<th>AITAA International Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>The AITANET, a consortium of engineering consultancy firms owned and/or managed by AIT alumni, will be established in 1998. The AITANET core group is composed of AITAA members from Malaysia, Philippines, Chinese Taipei and Thailand. The consortium hopes to secure a substantial share of consultancy projects in the 21st century, particularly those supported by international financing. It will be registered as a limited company in Hong Kong with an estimated initial capital of US$1 million. A liaison office at AIT is proposed.</td>
</tr>
</tbody>
</table>

26th Governing Board Meeting

The 26th AITAA Governing Board Meeting, held from 9-11 April 1997 in Genting Highlands, Malaysia, was attended by some 50 delegates from 18 AITAA national chapters. The 26th GBM re-elected the incumbent AITAA President and Executive Secretary to another term until 1999.

AITAA Honorary Memberships

The AITAA awarded honorary memberships to Prof. Karl E. Weber, AIT Vice President for Academic Affairs, and Mr. John A. Brubaker, AIT Alumni Affairs Coordinator from 1989 to 1992.

<table>
<thead>
<tr>
<th>by Nationality</th>
<th>by Residence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southeast Asia and the Pacific</td>
<td>Southeast Asia, the Pacific and Australia</td>
</tr>
<tr>
<td>Brunei</td>
<td>19</td>
</tr>
<tr>
<td>Cambodia</td>
<td>49</td>
</tr>
<tr>
<td>Fiji</td>
<td>1</td>
</tr>
<tr>
<td>Indonesia</td>
<td>434</td>
</tr>
<tr>
<td>Laos</td>
<td>34</td>
</tr>
<tr>
<td>Malaysia</td>
<td>275</td>
</tr>
<tr>
<td>Maldives</td>
<td>3</td>
</tr>
<tr>
<td>Myanmar</td>
<td>175</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>9</td>
</tr>
<tr>
<td>Philippines</td>
<td>765</td>
</tr>
<tr>
<td>Singapore</td>
<td>28</td>
</tr>
<tr>
<td>Thailand</td>
<td>2011</td>
</tr>
<tr>
<td>Tonga</td>
<td>1</td>
</tr>
<tr>
<td>Vietnam</td>
<td>493</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>4288</strong></td>
</tr>
<tr>
<td>South Asia and West Asia</td>
<td><strong>Sub-total</strong></td>
</tr>
<tr>
<td>Afghanistan</td>
<td>19</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>13</td>
</tr>
<tr>
<td>Bhutan</td>
<td>13</td>
</tr>
<tr>
<td>India</td>
<td>580</td>
</tr>
<tr>
<td>Iran</td>
<td>98</td>
</tr>
<tr>
<td>Nepal</td>
<td>564</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>595</td>
</tr>
<tr>
<td>Turkey</td>
<td>6</td>
</tr>
<tr>
<td>East Asia</td>
<td><strong>16.83%</strong></td>
</tr>
<tr>
<td>Hong Kong</td>
<td>87</td>
</tr>
<tr>
<td>Japan</td>
<td>55</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>5</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>117</td>
</tr>
<tr>
<td>Macau</td>
<td>7</td>
</tr>
<tr>
<td>Mongolia</td>
<td>10</td>
</tr>
<tr>
<td>PRC</td>
<td>383</td>
</tr>
<tr>
<td>Chinese Taipei</td>
<td>795</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>1459</strong></td>
</tr>
<tr>
<td>North America, Europe and Africa</td>
<td><strong>Sub-total</strong></td>
</tr>
<tr>
<td>Belgium</td>
<td>1</td>
</tr>
<tr>
<td>Bolivia</td>
<td>1</td>
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<tr>
<td>Canada</td>
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<td>Egypt</td>
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<td>Ethiopia</td>
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<td>Finland</td>
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<td>France</td>
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<td>Germany</td>
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<td>Ghana</td>
<td>2</td>
</tr>
<tr>
<td>Honduras</td>
<td>1</td>
</tr>
<tr>
<td>Kenya</td>
<td>4</td>
</tr>
<tr>
<td>Malawi</td>
<td>3</td>
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<tr>
<td>Netherlands</td>
<td>2</td>
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<td>Nigeria</td>
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<td>Sweden</td>
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<td>Tanzania</td>
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<td>UK</td>
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</tr>
<tr>
<td>USA</td>
<td>11</td>
</tr>
<tr>
<td>Zambia</td>
<td>1</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>54</strong></td>
</tr>
<tr>
<td>Total</td>
<td><strong>8667</strong></td>
</tr>
</tbody>
</table>

Others* (5.46%)

* North America, South America and Europe (5.71%); Middle East and Africa (0.759%)

Address unknown and deceased alumni (10.96%)
FACULTY

ACADEMIC QUALITY

There are many criteria by which the academic quality of an educational institution may be assessed and debates surrounding university ratings in many countries demonstrate the uncertainty and imprecision of any set of determinants. By most recognized criteria, the academic quality of AIT is eminently acceptable. AIT faculty are recipients of prestigious awards and invitations to serve on distinguished national and international bodies. The admission standards for students are generally high and, upon graduation, AIT graduates are in great demand by prospective employers. Many of them readily gain admission into respected international graduate schools.

Nevertheless, AIT recognizes the need for increased effort and investment to further ensure the quality of both faculty and students. The revitalized Educational Development Working Group, in collaboration with the Center for Language and Educational Technology, is coordinating the academic quality audit process, promoting best teaching practices among faculty, diversifying teaching and learning methods and techniques, and proposing improvements in the use of the English language for academic writing and oral communication.

1997 PROFESSORIAL LECTURES

In July, Her Royal Highness Princess Maha Chakri Sirindhorn graciously presided over the professorial lecture of Prof. Robert D. Stueart, who spoke on "The Virtual Library and the Future of Scholarly Communications." Prof. Stueart is former Executive Director of the Center for Library and Information Resources and a faculty member of the Computer Science and Information Management Program, School of Advanced Technologies.

Prof. Marty

Prof. V.V.N. Marty, a faculty member of the School of Environment, Resources and Development, delivered his professorial lecture entitled, "Perspectives in Land and Water Development in an Avian Context," in January.

Prof. Chongrak

In September, Prof. Chongrak Polprasert, Dean of the School of Environment, Resources and Development, delivered his professorial lecture entitled, "Natural Systems for Pollution Control and Waste Recycling."
STUDENT-TO-FACULTY RATIO

The total student enrolment and full-time faculty equivalent in the September 1997 term yielded an overall student-to-faculty ratio of 9.99. This value compared well with the optimum ratio of 9:1 set by the Board of Trustees.

ACADEMIC ACTIVITIES

The 1997 report on academic activities demonstrates the importance given by AIT faculty to publishing, research and outreach activities. In 1997 the AIT faculty were engaged in 683 publishing activities, 229 research projects, and 248 outreach programs.

1997 Student-to-Faculty Ratio

<table>
<thead>
<tr>
<th>School</th>
<th>Jan</th>
<th>May</th>
<th>Sept</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Technologies</td>
<td>6.87</td>
<td>12.84</td>
<td>12.17</td>
<td>10.17</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>9.51</td>
<td>5.81</td>
<td>10.79</td>
<td>8.74</td>
</tr>
<tr>
<td>Environment, Resources and Development</td>
<td>9.50</td>
<td>9.05</td>
<td>6.73</td>
<td>8.22</td>
</tr>
<tr>
<td>Management</td>
<td>14.73</td>
<td>9.65</td>
<td>18.26</td>
<td>13.94</td>
</tr>
<tr>
<td><strong>All Schools</strong></td>
<td><strong>9.45</strong></td>
<td><strong>9.41</strong></td>
<td><strong>9.99</strong></td>
<td><strong>9.37</strong></td>
</tr>
</tbody>
</table>

1997 Faculty Headcount

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>May</th>
<th>Sept</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>138.32</td>
<td>136.32</td>
<td>133.82</td>
<td>136.15</td>
</tr>
<tr>
<td>Direct-hire</td>
<td>(97.49)</td>
<td>(95.49)</td>
<td>(99.99)</td>
<td></td>
</tr>
<tr>
<td>Seconded</td>
<td>(40.83)</td>
<td>(40.83)</td>
<td>(43.83)</td>
<td></td>
</tr>
<tr>
<td>Short-term Visiting</td>
<td>10</td>
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1997 Report on Academic Activities

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** Retracts, Training Projects, etc.
Abbreviations are listed on page 48.
RESEARCH

Sponsored research is vital to the Institute’s mission. Major developments leading to the further expansion of research activities are summarized in this section.

In 1997 the Thailand Research Fund made its first-ever grant to AIT, amounting to Baht 2 million, to support a three-year research on the foundations of deductive object-oriented database system.

The Appendix provides a list of on-going sponsored and contract research and research projects signed in 1997.

REVENUE SUMMARY OF RESEARCH PROJECTS
FY 1992-93 to FY 1996-97 (Baht ’000)

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COLLABORATIVE RESEARCH

Research facilities and expertise are available for contractual or collaborative research arrangements with clients from the public and private sectors. Many of the Institute’s fully-equipped research centers and laboratories provide special services, including standard commercial test certification of new products, field site investigations, instrumentation and measurement. Their fluency in local languages and awareness of cultural sensitivities make AIT research personnel ideal for studies that focus on new business opportunities and the penetration of new markets.

Below are examples of collaborative research undertaken by AIT faculty and staff.

- **Satellite connectivity**
  AIT’s new satellite ground station is now linked with the information infrastructure network of the Asian Internet Interconnection Initiatives (AI’) Project, thus allowing the expansion of academic and research activities on the Internet. A satellite has been made available by the Japan Satellite Systems, Inc. (JCSAT) for this purpose. The JCSAT and AP Project seek to develop an international information infrastructure in Asian countries by improving intra-Asia Internet connectivity and the Asia-Pacific Information Infrastructure.

  The newly acquired satellite connectivity is a useful facility for the Internetworking Research Laboratory (IRL), established within the Computer Science and Information Management Program. The IRL supports research, training and consultancy services related to the advancement of Internet technology.

- **Flood management of Chao Phraya river basin**
  Findings from this 1.7 million Baht study will be used in identifying high priority flood management projects and designing a conceptual program for basin-wide flood management. The study, a part of the Chao Phraya Water Resources Management Strategy funded by the Japanese Government and administered by the World Bank, is jointly carried out by AIT’s Water Engineering and Management Program and the Danish Hydraulic Institute.

- **Septage treatment**
  Signed in July 1997 with the Swiss Federal Institute for Environmental Science and Technology in Dübendorf, Switzerland, this collaborative research in low cost sanitation technologies seeks to create and disseminate design and operational guidelines for sustainable fecal sludge treatment options, based on field evaluations of promising treatment options in pilot and full-scale treatment works.
ASIAN CENTER FOR RESEARCH ON REMOTE SENSING

The Asian Center for Research on Remote Sensing (ACRoRS) plays a key role in research collaborations, two of which are Japanese institution-based, namely the University of Tokyo's Global Energy and Water Cycle Experiment Project and Keio University’s Heat Island Project.

ACRoRS works closely with the National Space Development Agency of Japan and the National Research Council of Thailand.

Advances in technology are constantly evolving, and it is crucial to stay informed about the latest developments. The Advanced Technology Forum (ATF) is a collaborative initiative between the School of Advanced Technologies and the private sector. It was officially opened in December 1997 and has since provided valuable insights into the latest technologies and their applications.


UNDER DEVELOPMENT

The proposed establishment of the Center for Information Technology for Sustainable Settlements Development is expected to promote HSD research and outreach activities in Cambodia, Laos and Vietnam.

Under study are a proposed collaboration between the Bioprocess Technology Program and French industry in the field of genetic engineering, and the provision at AIT of a base for the Southeast Asia operations of the International Center for Research in Developing Countries (CIRAD).

A transportation research center is being proposed in the School of Civil Engineering.

Above left: The environmental engineering laboratory has a wide inventory of advanced instruments used in the analysis of water and wastewater.

Above right: Septage (fiscal sludge) from Bangkok is transferred and fed into a vertical-flow constructed wetland unit at the environmental research station.

For left: Stocking fish fingerlings in a rice field in Lao PDR.

Left: A student gathers data for complex research in geotechnical engineering.
OUTREACH

AIT operates a large outreach program which includes short courses workshops, seminars and conferences.

Outreach activities can take the form of executive training courses which are a valuable resource for organizations committed to the continual improvement and career development of employees. They can also serve as familiarization and marketing tools to introduce and show case specific technologies and products to decision-makers and potential buyers.

AIT’s outreach staff are experienced in customizing training courses to suit market demands and clients’ specifications.

RURAL AND URBAN DEVELOPMENT OUTREACH

In October 1997, AIT signed a three-year agreement with the United Nations Capital Development Fund (UNCDF) to strengthen collaboration in decentralization and rural development. A team from the Human Settlements Development Program is providing technical backstopping and monitoring to UNCDF activities in Cambodia, Vietnam and Bhutan. A pilot program will be launched soon in Nepal.

Based on an agreement signed in 1997, the Regional Office of the United Nations Urban Management Program (UMP-Asia) will relocate from Kuala Lumpur to AIT in January 1998. Launched in 1986, the UMP is focused on urban poverty eradication, urban environmental management and participatory urban governance. UMP-Asia will work closely with the HSD Program. UMP-Asia carries out activities in Tianjin, China; Bangalore and Surat, India; Palangka Raya and Semarang, Indonesia; Bangkok and Phuket, Thailand; and Hanoi and Ho Chi Minh City, Vietnam.

DISTRIBUTED EDUCATION

The Institute’s commitment to develop distributed education was further strengthened in 1997 with the installation of a satellite station on campus, complemented by the introduction of a capability in Internet-based course delivery. AIT seeks to play dual roles in distributed education: as distributor and as recipient.

The implementation of proposed distributed education activities in 1998 has been placed under the responsibility of the Distance Education Task Force and its proposed working group on academic administration, working in collaboration with the Educational Development Working Group. The proposed courses include one in robotics or product design for remote delivery to AITCV in Hanoi, an on-campus course in information management that will supplement classroom activities with Web-based teaching and learning, and an aquaculture training program in Laos that will utilize CD-ROM technology.

The laying of fiber optic connections for the campus network is expected to be completed next year.

Left: HSD faculty on a field visit to a target village under the UNCDF program.
Through outreach activities, the Schools and Centers help to ensure the continued career development of professionals in employment. The following listing is illustrative of the Institute’s 1997 portfolio of outreach activities.

**School of Environment, Resources and Development**
- Gender Studies Curriculum Development
- Solar Refrigerator Repair and Maintenance
- Aquatic Farm Management
- PC-Based Geographic Information Systems
- Energy Environmental Modeling
- Wood Energy Planning
- Hatchery Techniques
- Maintenance Management and Condition Monitoring of Power Systems
- Power System Dynamics, Control and Operation
- Maintenance/Management of Electric Power Utilities
- Pond Water Quality Management for Commercial Fish and Shrimp Production
- Catfish Production: Strategies, the Thai Experience
- Theory and Application of Solar and Biomass Energy
- Shrimp Industry in Thailand and its Environmental Impacts
- Nile Tilapia: Techniques for Mass Fry Production and Grow-out

**School of Management**
- (Management of Technology Information Center)
  - Technological Leadership
  - Innovations in Corporate Financing
  - Total Quality Management
  - Project Management
  - Business to Business Marketing
  - Corporate Strategy
  - Marketing Management
  - Human Resource Management
  - Project Management
  - How to Profit from Product and Process Innovation

**School of Advanced Technologies (Skills Center)**
- Reverse Engineering
- Telecommunications
- Database Design and Management
- CAD/CAM/Computer Numerical Control
- Automation and PLC Programming
- CNC/CAM (3 axis milling and turning)
- Multi-Criteria Decision-Making Approach for Industrial Managers
- Manufacturing Resource Planning Applications in Industries

**Regional Computer Center**
- IT Management and Applications Development in a LAN Environment
- Computer Applications Development - Tools and Techniques
- Computer-Aided Financial Management
- Data Communication and Computer Networking
- Repair and Maintenance of Micro-Computers
- Information Systems Analysis using CASE Tools
- Unix Fundamental and Administration Management of Information Technology Database Design and Applications Development in a LAN Environment using FoxPro

**Continuing Education Center**
- Industrial Production Management
- HRD Skills for Functional Managers
- International Marketing Management
- Strategic Extension Campaign Development
- Information Technology and Management
- Industrial Ergonomics
- Tourism Development and Management
- Rural Poverty Alleviation
- Human Resource Management
- Urban Poverty Alleviation and Management
- Project Management
- Integrated Watershed Management
- Industrial Wastes Audit and Reduction
- Integrated Solid Waste Management
- Management of Training Centers
- Project Monitoring and Evaluation
- Environmental Planning and Management
- Planning for Integrated Area Development
- Biodiversity Conservation
- Just-In-Time Manufacturing Assessment
- Environmental Risk Assessment
- Advanced Management Program for Asia-Pacific Managers
- Horticultural Crop Production and Marketing
- Livestock Production and Extension Techniques
- Computerized Database Security and Integrity
- Tissue Culture Technology for Commercial Applications
- Environmental Impact Assessment and Review
- Development and Production of Training Materials
- Quality Management in the Food Industry
- Development and Production of Computer-Assisted Instruction
- Rural Development Planning and Mobilization
- Industrial Infrastructure Development and Management
- Agribusiness Development, Management and Extension Techniques

**Asian Disaster Preparedness Center**
- Health Emergencies in Large Populations
- Disaster Management
- Training of Trainers in Disaster Management
- Urban Disaster Mitigation
RESOURCES AND ADMINISTRATION

RESOURCE GENERATION

OVERVIEW

The far-reaching effects of Asia’s economic downturn on the Institute’s present and future well-being are further compounded by the withdrawal of support from some traditional donor governments. Direct collaboration with the Belgian Government, which began in the early 1970's, ended in December 1997. The UK-ODA support to the AFE and Aquaculture Programs was phased out in line with the UK Government’s goal of ensuring the sustainability of the programs without ODA funding. Germany will phase out support within four to six years. Funds to be allocated for the next phase of its collaboration with AIT will not exceed the present budget. As part of its austerity measures, the Thai Government cancelled AIT’s duty free privilege for alcoholic drinks and household goods starting in October 1997.

Overall, the prevailing situation warrants prudence in the utilization of Institute resources and points to a crucial need for intensified efforts to establish new partnerships to support the Institute’s activities and, to identify new markets for its academic, research and outreach offerings. Proposals for continued collaboration are also under consideration by eight donor governments.


ACHIEVEMENTS

Fifteen donor governments renewed their cooperation programs in 1997. The largest was Sweden’s extension, which was signed in February for the period July 1996-December 1999. Phase II of the Sida-AIT Development Cooperation Program (value: US$ 5,037,500) provides support for 90 Master’s scholarships, the Aquaculture Program, EPSM faculty and project operations, and program administration. Phase I ended in June 1996.

The second largest renewal was with Thailand (US$4,386,060), followed by Canada (US$4,014,597), and Japan (US$3,058,600).

For the most part, private sector support in 1997 came from the telecommunications sector, including Nokia Telecommunications (Thailand), Jasmine International, Telecom Asia, and other Thai companies. Support was also provided by Nortel (Canada), Telecom Finland and Siemens AG Germany.

Institutional collaborations were signed with the Indian Institute of Technology, New Delhi, Ecole Superieur de Commerce de Nantes Atlantique, and Hannam University in the Republic of Korea.

In Thailand, AIT is poised to play a greater role in national development following the signing in December 1997 of memoranda of understanding with the National Science and Technology Development Agency, to strengthen and promote cooperation in knowledge-intensive, high technology areas.
### Collaborations Renewed in FY 1996-97

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* Including a wide range of cash and in-kind support, such as exchange programs, grants-in-aid, etc.

### PROSPECTS

Eight major proposals were submitted in 1997. The three largest were those submitted to Japan (US$5,065,960), the Netherlands (US$4,190,540.35), and the People's Republic of China (US$806,400). Proposals were also submitted to Italy, France, Philippines, Spain, Switzerland, and Thailand.

In Thailand, partnership renewals with the Communications Authority of Thailand, the Telephone Organization of Thailand, and the Royal Thai Navy are under consideration.

### Proposals Submitted in FY 1996-97

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<td>BC</td>
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</tbody>
</table>
RESOURCES
AND ADMINISTRATION

### SUMMARY OF CONTRIBUTIONS (CASH AND KIND) FY 1996-97

#### GOVERNMENTS
- Australia: 1.34
- Austria: 1.75
- Brunei: 0.16
- Canada: 0.08
- People's Republic of China: 0.97
- Chinese Taipei: 1.65
- Finland: 2.05
- India: 0.17
- Japan: 8.70
- Republic of Korea: 0.22
- New Zealand: 0.32
- Norway: 2.87
- Sri Lanka: 0.38
- Sweden: 5.47
- Switzerland: 3.79
- Thailand: 13.43
- United States of America: 1.88

#### European Community
- CEC: 3.52
- Belgium: 2.28
- Denmark: 5.77
- France: 3.96
- Germany: 6.69
- Netherlands: 1.78
- United Kingdom: 4.51

**Sub-total**: 73.14

#### INTERNATIONAL ORGANIZATIONS
- ADB: 1.83
- ASEAN-HRD Networks Project: 0.36
- CIF: 0.31
- Commonwealth Secretariat: 0.97
- ESA: 0.18
- ESCAP: 0.45
- EU: 0.97
- FAO: 0.23
- ILO: 0.96
- IUCN: 0.45
- Mekong River Commission: 0.26
- Rotary Foundation: 0.02
- UN: 0.04
- UNDP: 0.02
- UNHCR: 0.18
- UNESCO: 0.64
- UNICEF: 0.01
- UNIDO: 0.01
- UN University: 0.02
- WHO: 0.45
- World Bank: 0.18
- WWF: 0.28

**Sub-total**: 7.45

#### NATIONAL GOVERNMENT AGENCIES
- Australia: 0.02
- Metcalf University: 0.02
- Metropolitan Fire Brigades Board: 0.01
- Austria: 0.01
- International Atomic Energy Agency: 0.01
- Bangladesh: 0.01
- Academy for Planning and Development: 0.01
- Industrial Development Board: 0.01
- Ministry of Agriculture and Forestry: 0.04
- Ministry of Education: 0.05
- Ministry of Education: 0.05
- Ministry of Health and Education: 0.32
- National Budget & Aid Coordination Division: 0.10
- Royal Civil Services Commission: 0.11
- Tourism Authority of Bhutan: 0.01
- Cambodia: 0.06
- Ministry of Economics and Finance: 0.02
- Canada: 0.02
- CUC: 0.03
- University of British Columbia: 0.01
- Denmark: 0.18
- Danish Hydraulic Institute: 0.19
- Danish Technical University: 0.01
- Finland: 0.03
- Helsinki School of Economics and Business Administration: 0.03
- France: 0.01
- OECD: 0.04
- Germany: 0.04
- KAAD: 0.01
- Technical University Munich: 0.01
- Ghana: 0.02
- Ministry of Food and Agriculture: 0.09
- Ministry of Mines and Energy: 0.01
- Ministry of Mines and Energy: 0.01
- National Research Council: 0.01
- Pakistan: 0.02
- Ministry of Education: 0.01
- Ministry of Science and Technology: 0.02
- Fund for Assistance to Private Education: 0.03
- Santiago: 0.06
- Ministry of Foreign Affairs: 0.01
- Ministry of Housing and Development: 0.01
- Sri Lanka: 0.06
- Ministry of Education and Higher Education: 0.17
- Ministry of Planning Implementation: 0.02
- Sri Lanka Customs: 0.03
- Sri Lanka Energy Managers Association: 0.03
- Tanzania: 0.01
- River Basin Management and Smallholder Irrigation Improvement Project: 0.01
- Thailand: 0.06
- Bank of Thailand: 0.04
- Chulalongkorn University: 0.03
- Communications Authority of Thailand: 0.02
- Department of Industrial Promotion: 0.02
- Department of Mineral Resources: 0.05
- Remote Sensing Technology Center of Japan: 1.17
- University of Tokyo: 0.11
- Korea: 0.01
- Ministry of Government Administration: 0.01
- Malaysia: 0.02
- Department of Civil Defense: 0.05
- Information Department: 0.02
- Ministry of Agriculture: 0.04
- Ministry of Education: 0.01
- MUDA Agricultural Development Authority: 0.01
- Sarawak Housing and Development Commission: 0.02
- Nepal: 0.08
- Basic and Primary Education Program: 0.05
- Department of Mines and Geology: 0.01
- Ministry of Education: 0.06
- Nepal Telecommunications Corporation: 0.01
- Tribhuvan University: 0.05
- Netherlands: 0.02
- Consultants for Management of Development Programs: 0.02
- Institute of Social Studies: 0.16
- ITQ/WTU: 0.03
- Norway: 0.02
- Norwegian School of Management: 0.02
- Pakistan: 0.02
- Ministry of Education: 0.02
- Planning and Development Department: 0.03
- Punjab College of Business Administration: 0.04
- Papua New Guinea: 0.01
- PNG Electricity Authority: 0.01
- Philippines: 0.01
- Department of Health: 0.01
- Department of Science and Technology: 0.02
- Public Assistance to Private Education: 0.03
- Singapore: 0.01
- Ministry of Foreign Affairs: 0.01
- Sri Lanka: 0.05
- Ministry of Agriculture: 0.06
- Ministry of Education and Higher Education: 0.05
- Ministry of Planning Implementation: 0.02
- Sri Lanka Customs: 0.01
- Sri Lanka Energy Managers Association: 0.03
- Tanzania: 0.01
- River Basin Management and Smallholder Irrigation Improvement Project: 0.01
- Thailand: 0.06
- Bangkok Metropolitan Administration: 0.04
- Bank of Thailand: 0.04
- Chulalongkorn University: 0.03
- Communications Authority of Thailand: 0.02
- Department of Industrial Promotion: 0.02
- Department of Mineral Resources: 0.02
DT EC 0.11
EGAT 0.71
ETA 0.11
Government Housing Bank 0.11
IPST 0.01
Mahidol University 0.07
Metropolitan Waterworks Authority 0.14
Ministry of Agriculture and Cooperatives 0.04
Ministry of Finance 0.15
Ministry of Industry 0.04
Ministry of Interior 0.22
Ministry of University Affairs 0.52
Nakhon Pathom Hospital 0.02
Naresuan University 0.10
National Housing Authority 0.10
NAI Inst. of Development Administration 0.07
Naof Science & Technology Dev. Agency 0.03
Office of Agriculture Economics 0.07
Office of Atomic Energy for Peace 0.01
Petroleum Authority of Thailand 0.23
Public Works Department 0.56
Rajamangala Institute of Technology 0.18
Royal Thai Air Force 0.12
Royal Thai Navy 0.04
Trat Province 0.02
Telecommunication Organization of Thailand 0.31
Tourism Authority of Thailand 0.08
United Kingdom
IAOR-Rothamsted 0.03
Regent College 0.01
UCLES 0.57
United States of America
University of Michigan 0.10
University of Minnesota 0.02
Vietnam
Can Tho University 0.05
Ministry of Planning and Investment 0.01
NAI Inst. for Agricultural Planning andProjection 0.02
Vientiesopito 0.01
Zambia
Ministry of Finance 0.04

Sub-total 11.00

BUSINESS, FOUNDATIONS, PRIVATE INDIVIDUALS AND OTHERS
Asilo Research Laboratory, Japan 0.01
Adidas Asia Pacific 0.01
Advance Info Service Plc. Co. Ltd. 0.03
AEDC Vietnam Ltd. 0.03
Aeronautical Radio of Thailand Co. Ltd. 0.01
Asia Cement Plc. Co. Ltd. 0.01
Asia Pacific Telecommunity 0.12
B. B. Trading Shd. Bhd. Malaysia 0.03
Bank of Ayudha Plc. Co. Ltd. 0.03
Bangkok Mass Transit System Plc. Co. Ltd. 0.01
Bangkok Rubber Plc. Co. Ltd. 0.02
Burinruse Border Consortium 0.01
Carl Bro International A/S 0.08
Chulalongkorn Medical Foundation Plc. Ltd. 0.04
Chemistronics Inc., USA 0.04
Chunho Mappin Co. Ltd., Japan 0.01
CIPAC, France 0.04

Consultants for Management of Development Programs, Ev. 0.07
Diakonisches Werk Der Ekd 0.05
Direkti P. T. (Persis) Petahitian 0.01
Du Pont Thailand Ltd. 0.01
Eastern Power Development Co. Ltd. 0.04
Exenmuniclal Scholarship Program 0.04
Electricité de France 0.33
Educational Consultants Ltd., India 0.11
ERASA Corp., Japan 0.09
Gekotechnics Thailand Ltd. 0.03
Ghana Coltons Co. Ltd. 0.02
Golden Poultry Industry Co. Ltd. 0.03
Grand Engineering Consultant Co. Ltd. 0.02
Hitachi Ltd. 0.02
Hongsa Laos Enterprise Co. Ltd. 0.03
Index International Group Co. Ltd. 0.06
Innovation Nukum Love Co. Ltd. 0.04
Intermediate Technology Development Group 0.04
International Engineering Plc. Co. Ltd. 0.01
Italian-Thai Development Plc. Co. Ltd. 0.01
Jibathan Peraniam Sarawak 0.01
Jasmine Telegraph Systems Co. Ltd. 0.05
Kao University 0.01
Konca Co. Ltd. 0.01
MDX Powers Co. Ltd. 0.01
Marine Research Assessment Group 0.01
MI International 0.05
Multiform Chemicals Ltd. 0.01
Nari Technology Co. Ltd. 0.02
Nathan Association Inc. 0.01
National Finance and Securities Plc. Co. Ltd. 0.01
Nepal Telecom Corp. 0.01
Nikon Telegraph International Co. Ltd. 0.03
NIPFA International 0.02
Nokia Telecommunications, Finland 0.24
Nokia Telecommunications (Thailand) Co. Ltd. 0.05
Noriel Technology, Canada 0.01
Norton Networks Scholarship Co. Ltd. 0.01
Nyflex (Malaysia) Bhd. 0.01
Okumurasechueovenkredin, E.V. 0.11
OCAJ 0.02
P. A. Consulting Group, New Zealand 0.10
Paris Chamber of Commerce and Industry 0.18
P. T. Atun Ngl. Co. Ltd. 0.01
P. T. Finland Ltd. 0.13
P. T. Intermuti Platino 0.07
P. T. Watatua Karya 0.01
SEACCO Co. Ltd. 0.01
Shanawat Computer and Communication Plc. Co. Ltd. 0.01
Siam Agro Industry Pineapple andOthers Plc. Co. Ltd. 0.02
Siam Cement Co. Ltd. 0.15
Siam Daysale Co. Ltd. 0.01
Siam Navimura Laundry Co. Ltd. 0.02
Siam Yama Steel Co. Ltd. 0.03
Siemens Ltd. 0.05
Silm MacDonald Ltd. 0.01
Sogreah, France 0.01
South East Asia Technology Co. Ltd. 0.01
Sikbro Samutabaya 0.02
Stonehenge Design & Consultants Co. Ltd. 0.02
Suphan Footwear Co. Ltd. 0.01

Systems Dynamics Society 0.01
Tankan Products Co. Ltd. 0.03
Team Consulting Engineering Co. Ltd. 0.02
Telecom Asia Corp. Pte. Ltd. 0.01
Tida Co. Ltd., Japan 0.06
Total E. P. Thailand 0.14
Transfield Project (Malaysia) Sdn. Bhd. 0.03
Ubol Sahathay Transport (1993) Co. Ltd. 0.03
Union Shoes Co. Ltd. 0.01
Uniocidence Ltd., Finland 0.07
United Communications Industry Plc. Co. Ltd. 0.08
Watchandwagonarias Industries Co. Ltd., India 0.02

AITAA-Thailand 0.02
AIT Foundation Inc. 0.12
A. Serenio Foundation, Philippines 0.07
Assumption University, Thailand 0.04
Bangladesh Red Cross and Crescent 0.01
Board of Propost, Burma 0.03
British Red Cross Society 0.02
Care Bangladesh 0.15
Care Indonesia 0.01
C & P Education Foundation 0.01
Chulalongkorn Research Institute, Thailand 0.03
Diseasorgung Foundation, Thailand 0.01
Education and Public Welfare Foundation 0.01
Ford Foundation 0.04
France Catholic Committee 0.02
Helvetas, Bhutan 0.02
IflF Foundation, Library Associations andInstitutes 0.03
Irrit Federation of the Red Cross, Bangladesh 0.03
Irrit Federation of the Red Cross, Hanoi 0.05
Irrit Federation of the Red Cross, Malaysia 0.02
John F. Kennedy Foundation 0.16
Lao-Devonian Forestry Program 0.04
Liangxiong Office of Denmark-Bhutan 0.04
Koldkosten 0.09
Korndat Adhauer Foundation 0.03
Mahasornk Univ. of Technology, Thailand 0.01
Polytechnic Development Unit-Indo-GermanCooperation Project 0.01
Prasino 3 EC-Cambodia 0.04
Pled Firma, Nepal 0.01
Save the Children Fund 0.02
Sithapram University, Thailand 0.03
Swiss Foundation for Technical Cooperation 0.01
Mr. Yoshio Takasaki 1.38
Thai Tapco Development Institute 0.28
United Mission to Nepal 0.01
Wat Pra Prathom Chedi 0.04
Wat Yim songsawaram 0.14
World Vision International 0.04
World Wildlife Fund, USA 0.06
Others 0.18

Sub-total 0.53

TOTAL 100.00

Total Contributions Received in
FY 1996-97: Baht 927, 960, 000.-
CENTRAL ADMINISTRATION FUNCTIONS

■ INSTITUTIONAL REORGANIZATION

Three senior management positions namely, Associate Provost for Non-Academic Services, Institute Secretary, and Treasurer, were established in 1997 to pave the way for a more open and consultative administration that best serves the needs of AIT and embodies the principles of empowerment and delegation of responsibility.

Prof. Prinya Natalaya, who is on leave from the Deanship of the School of Civil Engineering, assumed his appointment as Associate Provost for Non-Academic Services on a temporary basis on 28 July 1997. He is mandated to ensure effective and mutually supportive liaison between the academic community and those members of the community who contribute to institutional goals through non-academic support services, and to recommend appropriate structural and organizational changes to enhance the quality of services provided.

As Institute Secretary, Dr. Roger Hawkey is responsible for evaluating and publishing all policies and procedures, providing support services to the new Institute committee structure, and serving as Secretary to the Board of Trustees. He is former Academic Secretary.

As Treasurer, Mr. Edward M. Mayer, former Bursar, is in charge of the Institute's financial, investment, treasury administrative computing, management information and operational analysis functions. Mr. Mayer also serves as Budget Officer and Chair of the employees' provident fund.

■ CAMPUS DEVELOPMENT

Campus Counsellors

The President has designated three senior colleagues to serve as Campus Counsellors to whom campus residents may turn for advice or assistance on non-routine problems that may arise, particularly outside normal working hours. In such matters, the emphasis is on advice, moral support and assistance rather than on mechanistic tasks (such as rendering of Physical Plant services in response to the needs of campus residents).

The current team is composed of Dr. Anila Sadaranda, Dean of Student and Community Affairs, Dr. D. N. Batanov of the School of Advanced Technologies, and Dr. Hoang Le Tien of the Regional Computer Center.

Construction

Proposed SOM building

The large September 1997 intake for the School of Management has further aggravated space shortage, calling attention to the critical need for the planned SOM building.

Additional on-campus housing

Four new dormitory blocks (T, U, V and W) are expected to be ready for occupancy by the end of July 1998. The dormitories will provide a total of 208 single units (or 104 single units and 52 married units) and will be built at a cost of Bhat 80.5 million.

The urgent need for additional campus accommodation has come as a result of overall increases in full time student enrolment and in the number of participants in the Institute's expanding training and outreach programs.

Training

An intensive training program was conducted for campus security guards, covering fire fighting techniques, rescue operation, and safety management. The training complemented the arrival of a fire-fighting vehicle presented by the Metropolitan Fire Brigades Board of Melbourne, Australia. The vehicle is housed at the security fire station by the front gate.
## COMMUNITY EVENTS

### AIT Fair '97

Through the Institute's annual fair, all members of the community and their guests enjoy unique opportunities to broaden their knowledge of the music, art, culture, crafts and cuisine of the different countries that make up the AIT family.

The Student Union, closely collaborating with the Office of the Dean of Student and Community Affairs, plays a key role in organizing these annual events.

The 1997 AIT Fair was held on 7 March, highlighted by a grand cultural show. Dressed in their traditional costumes, the students welcomed guests to the nationality stalls. The day's first prize for the best nationality stall was awarded to the Indonesian students.

### SERD Research Bazaar and Job Fair

The School of Environment, Resources and Development together with the Office of the Dean of Student and Community Affairs and the AIT Student Union organized the SERD Research Bazaar and Job Fair on 5 August. The twin event saw students displaying and demonstrating their research work. Employment and career opportunities were presented by representatives from business, industry, and international agencies. They also conducted preliminary interviews with potential job applicants.
FINANCIAL STATEMENTS AND AUDITOR'S REPORT

To The Board of Trustees of the Asian Institute of Technology

We have examined the balance sheets of the Asian Institute of Technology as at June 30, 1997 and 1996, the statements of revenues and expenditures of unrestricted current fund and restricted general fund, and the related statements of changes in fund balance 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 financial statements referred to above present fairly the financial position of the Asian Institute of Technology as at June 30, 1997 and 1996, the revenue and expenditures of unrestricted current fund and restricted general fund and the changes in fund balance 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.

Sonboon Supasiripinyo
Certified Public Accountant
PricewaterhouseCoopers Limited
Bangkok, 25 November 1997

ASIAN INSTITUTE OF TECHNOLOGY
NOTES TO FINANCIAL STATEMENTS

NOTE 1 - BASIS OF PRESENTATION
FINANCIAL STATEMENTS

■ Fund Accounting

To ensure observance of the 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 specified activities or objectives. Within each fund group, fund balances which are restricted by outside sources are so indicated and are distinguished from the unrestricted fund allocated to specific purposes by action of the governing board. As for the unrestricted fund, the governing board retains full control to use to achieve its institutional purposes.

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

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

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

Incomes and expenses of the restricted fund and the sponsored program fund operated at the Asian Institute of Technology Center in Vietnam, totalling Baht 10.75 million (for incomes) and Baht 20.48 million (for expenses), were recorded based on detailed documents received. Corresponding documents are normally retained at the Asian Institute of Technology Center in Vietnam.

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

■ Accrual Basis

The financial statements have been prepared on an accrual basis except for the 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 the unrestricted current fund and the 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.

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

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

Investments
Investment in debentures and warrants are stated at total lower of cost or market value.

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.

Foreign Currencies
Exchange rates adopted:
Foreign currency transactions during the year
- at the rates ruling on transaction dates.

Assets and liabilities in foreign currency outstanding on the balance sheet date
- at the rates ruling on the balance sheet date
Exchange gains and losses are included in determining income.

NOTE 3 - INVESTMENTS
Investments as at June 30, consisted of:

<table>
<thead>
<tr>
<th></th>
<th>1997</th>
<th>1996</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time deposits with banks</td>
<td>237,580,039</td>
<td>198,072,961</td>
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<tr>
<td>Deposits with finance companies</td>
<td>233,518,293</td>
<td>195,180,130</td>
</tr>
<tr>
<td>Debenture</td>
<td>12,500,000</td>
<td>12,500,000</td>
</tr>
<tr>
<td>Warrant</td>
<td>331,500</td>
<td>4,040,000</td>
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<tr>
<td>Total</td>
<td>483,929,832</td>
<td>409,793,091</td>
</tr>
</tbody>
</table>

The investments of each fund as at June 30, are as follows:

<table>
<thead>
<tr>
<th></th>
<th>1997</th>
<th>1996</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unrestricted current fund</td>
<td>16,068,694</td>
<td>8,236,898</td>
</tr>
<tr>
<td>Restricted fund</td>
<td>General</td>
<td>113,816,275</td>
</tr>
<tr>
<td></td>
<td>Endowment</td>
<td>82,059,396</td>
</tr>
<tr>
<td></td>
<td>General reserve</td>
<td>155,770,682</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>351,646,353</td>
</tr>
</tbody>
</table>

Capital fund
Liquid assets | 3,068,500 | 2,255,162 |
Repairs and maintenance reserve | 2,119,523 | 1,729,351 |
|                | 5,188,023 | 3,984,513 |
Sponsored program fund | 49,156,364 | 33,410,049 |
Agency fund | 61,870,398 | 59,735,536 |
Total | 483,929,832 | 409,793,091 |

Time deposits with banks amounting to Baht 34.45 million (1996: Baht 33.45 million) of the restricted general reserve fund have been pledged with a bank as a collateral against outstanding letters of guarantee issued by the bank (see Note 10).

At June 30, 1997, there were deposits with finance companies whose operations were suspended temporarily as announced by the Ministry of Finance on June 27, 1997 and August 8, 1997, respectively, from which an amount of Baht 1.62 million was converted as a deposit with Kungthai Thanakit Public Company Limited. The total deposit in the amount of Baht 41.53 million was redeemed in September 1997.

NOTE 4 - ADVANCE DUTIES AND TAXES
These represent advance duties and tax 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 July 16, 1985. The refund of the advance is for non-Thai faculty and staff and is subject to the annual budget of the Government of Thailand.

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

<table>
<thead>
<tr>
<th></th>
<th>1997</th>
<th>1996</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees personal income tax</td>
<td>3,246,846</td>
<td>24,673,733</td>
</tr>
<tr>
<td>Import and tax duty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Automobile</td>
<td>368,734</td>
<td>1,299,895</td>
</tr>
<tr>
<td>- Wine and spirits</td>
<td>101,837</td>
<td>230,094</td>
</tr>
<tr>
<td>Total</td>
<td>3,717,417</td>
<td>26,205,722</td>
</tr>
</tbody>
</table>
NOTE 5 - FIXED ASSETS

Fixed assets as at June 30, are as follows:

<table>
<thead>
<tr>
<th></th>
<th>1997</th>
<th>1996</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus development</td>
<td>34,113,706</td>
<td>32,930,552</td>
</tr>
<tr>
<td>Buildings</td>
<td>753,173,368</td>
<td>744,245,706</td>
</tr>
<tr>
<td>Furniture and equipment</td>
<td>707,122,791</td>
<td>736,627,913</td>
</tr>
<tr>
<td>Library acquisitions</td>
<td>116,040,194</td>
<td>107,347,930</td>
</tr>
<tr>
<td>Construction in progress</td>
<td>51,796,472</td>
<td>41,730,627</td>
</tr>
<tr>
<td></td>
<td><strong>1,662,248,531</strong></td>
<td><strong>1,682,882,528</strong></td>
</tr>
</tbody>
</table>

The Institute entered an agreement with the Ministry of Finance to lease land for 30 years from January 19, 1971 to January 18, 2001, with an option to renew the lease. Depreciation for the year amounting to Baht 82,542,713 (1996: Baht 74,690,016) has not been recorded in accordance with the fund accounting concept.

NOTE 6 - CONTRIBUTIONS IN-KIND

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

NOTE 7 - FUND BALANCES

Fund balances as at June 30, are as follows:

<table>
<thead>
<tr>
<th></th>
<th>1997</th>
<th>1996</th>
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<tbody>
<tr>
<td>Restricted fund</td>
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<tr>
<td>General</td>
<td>116,483,040</td>
<td>56,496,379</td>
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<td>Endowment</td>
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<td>General reserve</td>
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<tr>
<td>Fixed assets</td>
<td>1,662,248,531</td>
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<tr>
<td>Liquid assets - Unallocated</td>
<td>4,891,213</td>
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<td>(41,559,206)</td>
<td>(15,014,433)</td>
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<td>Repairs and maintenance reserve</td>
<td>2,119,523</td>
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<td><strong>1,627,700,001</strong></td>
<td><strong>1,692,882,585</strong></td>
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NOTE 8 - AIT INSURED SAVINGS FUND

The Institute and the staff have jointly set up an Insured Savings Fund scheme, to which the staff and the Institute contribute at the rate of 3% and 10% of basic salary, respectively. This fund is managed by Aon Consulting (Thailand) Ltd. Withdrawal and refund of contributions and related earnings by staff should comply with the rules of the Insured Savings Fund.

NOTE 9 - CAPITAL COMMITMENTS

As at June 30, 1997, the Institute had capital commitments in respect of building construction amounting to approximately Baht 1.44 million (1996: Baht 6.22 million).

NOTE 10 - BANK GUARANTEES

As at June 30, 1997, there were outstanding bank guarantees of approximately Baht 34.45 million (1996: Baht 33.45 million) issued by a bank on behalf of the Institute in respect of certain performance bonds as required in the normal course of activities of the Institute.

NOTE 11 - SUBSEQUENT EVENTS

The Institute transferred cash at banks from the restricted fund to the capital fund for construction in October and December 1997, in the amount of Baht 33.53 million and Baht 35 million, respectively.

Notification by the Ministry of Finance regarding the adjusted foreign exchange system

As at July 2, 1997, the Ministry of Finance adjusted the system of foreign exchange to a managed float system. As at June 30, 1997, the Institute has net assets in foreign currency equivalent to US dollars 2.75 million. The Institute gained from the adjusted exchange rate an estimated amount of Baht 35.87 million, using the exchange rate of 39.20 Baht per US dollar.
### ASIAN INSTITUTE OF TECHNOLOGY

**BALANCE SHEETS**

**AS AT JUNE 30, 1997 AND 1996**

<table>
<thead>
<tr>
<th></th>
<th>Unrestricted Current Fund</th>
<th>Restricted Fund</th>
<th>Capital Fund</th>
<th>Sponsored Program Fund</th>
<th>Agency Fund</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td><strong>ASSETS</strong></td>
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<td>8,250,808</td>
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<td>30,426,605</td>
<td>5,184,023</td>
<td>5,204,313</td>
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<td>Advance duties and taxes (Note 3)</td>
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<td>26,723,772</td>
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<tr>
<td>Accounts receivable and accrued income</td>
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<td>5,073,738</td>
<td>6,361,734</td>
<td>5,467,597</td>
<td>83,953</td>
<td>71,217</td>
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<td>9,604,222</td>
<td>65,861</td>
<td>63,362</td>
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<td>Inventories</td>
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<td></td>
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<td>98,000,000</td>
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<tr>
<td>Fixed assets (Note 5)</td>
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<td><strong>Total Assets</strong></td>
<td>44,911,090</td>
<td>43,216,421</td>
<td>553,226,729</td>
<td>481,591,033</td>
<td>1,625,298,553</td>
<td>1,696,196,096</td>
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</table>

### LIABILITIES AND FUND BALANCES

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<th>Restricted Fund</th>
<th>Capital Fund</th>
<th>Sponsored Program Fund</th>
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<td>Accounts payable and accrued expenses</td>
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<td>1,554,080</td>
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<td>Due to other funds</td>
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<td>98,000,000</td>
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<td>100,041,581</td>
<td>107,548,480</td>
<td>1,596,482</td>
<td>5,375,905</td>
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<tr>
<td><strong>Total Liabilities and Fund Balances</strong></td>
<td>44,911,090</td>
<td>43,216,421</td>
<td>553,226,729</td>
<td>481,591,033</td>
<td>1,625,298,553</td>
<td>1,696,196,096</td>
</tr>
</tbody>
</table>

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

**SIGNATURE**

PRESIDENT

1997
### ASIAN INSTITUTE OF TECHNOLOGY
### STATEMENTS OF REVENUES AND EXPENDITURES – UNRESTRICTED CURRENT FUND AND RESTRICTED FUND – GENERAL
### FOR THE YEARS ENDED JUNE 30, 1997 AND 1996

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<tr>
<th></th>
<th>Unrestricted Current Fund</th>
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<th>Restricted Fund – General</th>
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<td>223,572,220</td>
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<td>6,830,350</td>
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<td>6,830,350</td>
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<tr>
<td>Cash</td>
<td>33,748,582</td>
<td>19,777,212</td>
<td>126,044,409</td>
<td>67,931,938</td>
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<tr>
<td>10 - kind</td>
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<tr>
<td></td>
<td>33,748,582</td>
<td>19,777,212</td>
<td>126,044,409</td>
<td>67,931,938</td>
<td>160,773,071</td>
</tr>
<tr>
<td>Grants and contracts:</td>
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<td></td>
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<td>Sales and services:</td>
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<td>33,736</td>
<td>30,394</td>
<td>33,736</td>
<td>60,788</td>
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<tr>
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<td>33,736</td>
<td>30,394</td>
<td>33,736</td>
<td>60,788</td>
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<tr>
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<td>131,099,905</td>
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<td>53,982,545</td>
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<td>109,304,015</td>
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<td>34,486,399</td>
<td>16,287,761</td>
<td>34,486,399</td>
<td>16,287,761</td>
<td>68,973,788</td>
</tr>
<tr>
<td><strong>Total Revenues</strong></td>
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<td>317,247,681</td>
<td>369,301,414</td>
<td>317,247,681</td>
<td>738,602,925</td>
</tr>
</tbody>
</table>

| **EXPENDITURES:**    |                           |          |                           |          |               |               |
| Salary and associated costs: |         |          |                           |          |               |               |
| Cash                 | 255,919,498               | 221,344,324 | 255,919,498               | 221,344,324 | 501,263,822  | 442,663,748  |
| 10 - kind           |                           |          |                           |          |               |               |
|                      | 255,919,498               | 221,344,324 | 255,919,498               | 221,344,324 | 501,263,822  | 442,663,748  |
| Academic units operating costs: |     |          |                           |          |               |               |
| Student related costs | 32,695,171                | 26,078,014 | 32,695,171                | 26,078,014 | 64,390,282   | 52,156,028   |
| Administrative support costs: |   |          |                           |          |               |               |
| 6,043,818            | 4,833,818                 |          | 10,877,636               |          | 21,841,454   | 17,667,434   |
| 6,043,818            | 4,833,818                 |          | 10,877,636               |          | 21,841,454   | 17,667,434   |
| Campuswide services: | 57,024,476                | 45,871,542 | 57,024,476                | 45,871,542 | 114,049,012  | 91,733,076   |
| 37,421,480           | 45,476,480                |          | 82,897,960               |          | 160,318,440  | 126,350,462  |
| 16,531,210           | 15,315,310                |          | 31,846,520               |          | 63,377,730   | 51,765,792   |
| 88,183,194           | 94,409,587                |          | 182,592,781              |          | 365,185,978  | 278,176,378  |
| Exchange stabilization: |                      |          |                           |          |               |               |
| 3,186,955            | 5,947,749                 |          | 8,333,704                |          | 16,510,660   | 12,885,494   |
| 2,349,500            | 2,069,272                 |          | 4,418,772                |          | 8,768,272    | 6,517,766    |
| **Total Expenditures** | 369,021,068               | 316,222,583 | 369,021,068               | 316,222,583 | 738,042,651  | 634,445,160  |

| Excess of Revenues Over Expenditures | 780,346 | 1,019,188 | 780,346 | 1,019,188 | 1,560,534 | 1,548,376 |

The accompanying notes are an integral part of the financial statements.
<table>
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<tr>
<th></th>
<th>RESTRICTED FUND</th>
<th></th>
<th>CAPITAL FUND</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Unrestricted</td>
<td>Restricted</td>
<td>Liquid Assets</td>
<td>Repairs and</td>
<td>Sponsored Program</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Current Fund</td>
<td>General Reserve</td>
<td>Capital Fund</td>
<td>Maintenance Reserve</td>
<td>Fund</td>
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<tr>
<td></td>
<td>BAHT</td>
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</tr>
<tr>
<td><strong>Balances July 1, 1996 (Note 7)</strong></td>
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<td>36,466,799</td>
<td>67,101,783</td>
<td>350,134,269</td>
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<td>21,225,140</td>
<td>15,014,413</td>
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<tr>
<td><strong>Adjustments:</strong></td>
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<td>Disposal of assets</td>
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<tr>
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<td>(100,993,289)</td>
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<td>and appropriations</td>
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<tr>
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<tr>
<td>Repairs and</td>
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<tr>
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<td>Expenditures for</td>
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<td><strong>Total</strong></td>
<td>(780,360)</td>
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<tr>
<td><strong>Balances June 30, 1997 (Note 7)</strong></td>
<td>38,514,715</td>
<td>116,480,380</td>
<td>82,102,946</td>
<td>245,596,482</td>
<td>1,662,248,531</td>
<td>4,881,213</td>
<td>41,559,206</td>
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</tbody>
</table>

The accompanying notes are an integral part of the financial statements.
# ON-GOING SPONSORED AND CONTRACT RESEARCH

**Abbreviations are listed on page 48.**

## School of Advanced Technologies

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Investigator(s)</th>
<th>Sponsor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAD/CAM Application for the Design and Manufacture of Sheet Metal Parts with Numerically Controlled Machines</td>
<td>E.L. Bohez, H. Pasiijn, J.R. Duflou, M. Duchateaulet</td>
<td>LVD Co., Ltd.</td>
</tr>
<tr>
<td>Development of a PLC-Based Ball-Catching Machine</td>
<td>N. Afdalpurkar, M. Parmichikun</td>
<td>Siemens Ltd. (Thailand)</td>
</tr>
<tr>
<td>Development of 3-D Range Sensor for Mobile Robot</td>
<td>M. Parmichikun</td>
<td>AIT Research Initiation Grant</td>
</tr>
<tr>
<td>Public E-Mail Services for Lao PDR (People's Democratic Republic)</td>
<td>K. Kanchanasut</td>
<td>Tourism Authority of Thailand</td>
</tr>
<tr>
<td>Rural Net: Preliminary Study for an Agricultural Information Service</td>
<td>K. Kanchanasut</td>
<td>Industrial Estate Internet Project</td>
</tr>
<tr>
<td>Distance Education</td>
<td>R. Sadananda</td>
<td>Siemens AG</td>
</tr>
<tr>
<td>Interference Potential between Non-Geostationary Mobile Satellite</td>
<td>R. Sadananda</td>
<td>IFIP</td>
</tr>
<tr>
<td>Services and Terrestrial Radio Relays</td>
<td>K.M. Ahmed</td>
<td>IFIP</td>
</tr>
</tbody>
</table>

## New Coding and Modulation Techniques for Digital Communication with Special Emphasis on Wireless Communication

**Investigator:** R.M.A.P. Rajatheva  
**Sponsor:** AIT Research Initiation Grant

## Hybrid Fiber/Coax Communication Networks: Performance Analysis and Hardware Design

**Investigator:** J.G. Zhang  
**Sponsor:** AIT Research Initiation Grant

## Systems Analysis and Feasibility Study of MRF II in Siemens Ltd.

**Investigator:** M.A.A. Hasin, E.L.J. Bohez  
**Sponsor:** Siemens Ltd. (Thailand)

## Abrasive Waterjet Cutting of Pre-Formed Sheet Metal Parts with 3-Axis Control

**Investigator:** E.L. Bohez  
**Sponsor:** Siemens Ltd.  
**Equipment grant:** Belgian Cooperation Ministry (BADC)

## Tourism Information on the Internet

**Investigator:** K. Kanchanasut  
**Sponsor:** Tourism Authority of Thailand

## Video Conferencing for Industrial Estates on the Internet

**Investigator:** K. Kanchanasut  
**Sponsor:** Industrial Estate Internet Project

## GAIA - A Multimedia Tool for Natural Resources Management and Environmental Education

**Investigator:** R. Sadananda  
**Sponsor:** EU

## Telemedicine

**Investigator:** R. Sadananda  
**Sponsor:** Siemens AG

## International Federation for Information Processing (IFIP)

**Investigator:** R. Sadananda  
**Sponsor:** IFIP

## School of Civil Engineering

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Investigator(s)</th>
<th>Sponsor(s)</th>
</tr>
</thead>
</table>
| **Line/Cement Columns of Soft Bangkok Clay. Investigator:** A.S. Balasubramaniam, D.T. Bergado  
**Sponsor:** Bilfinger and Berger (Thai) Co., Ltd. |
| Monitoring and Evaluation of Vacuum Consolidation with PVD for the 2nd Bangkok International Airport at Nong Ngu Hao  
**Investigator:** D.T. Bergado  
**Sponsor:** Geotechnics (Thailand) Co., Ltd. |
| **Amplification of Earthquake Ground Motions by Soft Bangkok Clay**  
**Investigator:** S.A. Ashford  
**Sponsor:** Chulalongkorn University |
| **Investigation and Design for Improvement of Flood Protection System of Thammasat University, Rangsit Campus**  
**Investigator:** T. Tingsanchali, N. Phien-Wej  
**Sponsor:** Ministry of Finance |
| **Geotechnical Services for Engineering Construction Supervision of Underground Powerhouse Caverns and Associated Tunnels and Shafts of the Lam Ta Khong Pumped Storage Project,**  
**Investigator:** N. Rachasima Province, Thailand  
**Investigator:** N. Phien-Wej  
**Sponsor:** Electric Power Development Co./EGAT |
| **Geotechnical Investigation of Rock Properties for the Design of Hongsa Open-Pit Mine,**  
**Investigator:** N. Phien-Wej  
**Sponsor:** Thai-Laos Lignite Co., Ltd. |
| **Investigation on Stability of Structures in Ayutthaya**  
**Investigator:** W. Kanok-Nukulchai, N. Phien-wej, P. Warnitchai  
**Sponsor:** Dept. of Fine Arts |
| **Study on Integrity and Stability for Renovation of Ancient Structures in Ayutthaya**  
**Investigator:** W. Kanok-Nukulchai, N. Phien-wej  
**Sponsor:** Dept. of Fine Arts |
| **Flood Protection Master Plan for Thailand**  
**Investigator:** S. Vongvisessomjai, P. Nutalaya, A. Das Gupta, R. Loo, N. Phien-wej, S. Weesakul  
**Sponsor:** Public Works Dept. |


Study of Traffic-Induced Vibration and Fatigue in 12 Steel Overpass Bridges in Bangkok. Investigator: P. Wannitchai. Sponsor: BMA.


Size Effect Prediction of Concrete Structures. Investigator: T. Kishit. Sponsor: JICA.

Construction Management in Asia. Investigator: T. Minato. Sponsor: JICA.

CM Bhutan II Project. Investigator: S.O. Ogunsola. Sponsor: Royal Govt. of Bhutan.


School of Environment Resources and Development


Gender and Telework. Investigator: G. Kelkar. Sponsor: NORAD.


Gender, Disasters and Development. Investigator: J. D'Cunha. Sponsor: NORAD.


Lactic Acid-Based Chemicals. Investigator: A. P. Annachhatre. Sponsor: AIT Research Initiation Grant.


APPENDIX

Wastewater Nitrogen Removal
(AIT-Denmark Technical
University Twining)
Investigators: A.P. Annachhatre,
C. Polprasert; Sponsor: Danida

Feasibility Study: Agricultural Use
and Land Application of Sewage
Sludge and Nightsoil Sludge for BMA
Investigators: H. Eckhardt, C. Polprasert,
P. Parkpian, R. Tinsley; Sponsor: BMA

Advancement of Activated Sludge
Process by Applying Pre-treatment
Investigator: H. Eckhardt; Sponsor:
Industrial Estate Authority of Thailand

Integrated Approach to Industrial Estate
Wastewater Treatment and Management
Investigator: H. Eckhardt; Sponsor: GTZ

Development of Water Renovation
Technology Using Bio-Eco Engineering
System: Investigators: S. Takizawa,
C. Polprasert, A.P. Annachhatre,
Y. Inamori; Sponsor: National Institute
of Environmental Studies, Japan

Septage Treatment in Constructed
Wetlands and in Attached-Growth
Waste Stabilization Ponds
Investigator: C. Polprasert
Sponsor: Swiss Federal Institute for
Environmental Science and Technology

Membrane Separation for
Drinking Water Treatment
Investigator: S. Takizawa; Sponsor: JICA

Toxic Sludge Management
Plan for Thailand
Investigators: C. Visvanathan,
C. Polprasert, S. Muttimara;
Sponsor: Thailand

Investoriisation of Hazardous Wastes
Investigator: C. Visvanathan
Sponsor: MAE(F)

Biofilter Development for
Advanced Wastewater Treatment
Investigator: S. Takizawa; Sponsor: JICA

Developing Environmental Sustainability
through Solid Waste Management
Investigators: C. Visvanathan, S.A. Ashford
Sponsor: Royal Netherlands Govt.

Assessment of Conservation Potential in
Commercial Buildings in Sri Lanka
Investigator: R.A. Attalage
Sponsor: ADEME

Study of Biomass as Energy Source
and Technical Option for Greenhouse
Gas Emission Reduction
Investigators: S.C. Bhattacharya,
R.M. Shrestha, S. Kumar, S. Pinit
Sponsor: Sida

Renewable Energy Technologies in Asia
Investigators: S.C. Bhattacharya,
S. Kumar; Sponsor: SAREC

Asian-Regional Post-Doctoral and
Research Fellowship Program
Investigator: S. C. Bhattacharya
Sponsor: Sida

Interfuel Substitution Analysis and
Modeling in Asian Developing Countries
Investigators: X. Chen, T. Lefevre,
B. Baerle, N.D. Dam
Sponsors: MAE(F)/AIT

Environmental Monitoring and Analysis
of Toxic Wastes in the Gulf of Thailand
Investigator: J. Hambrey
Sponsor: TOTAL - Thailand

Solar Air Dryer for Value Added
Food Products. Investigator: S. Kumar
Sponsor: AIT Research Initiation Grant

Solar Thermal Energy for
Sustainable Development in Rural Asia
Investigator: S. Kumar
Sponsors: Royal Netherlands Govt./AIT

Chemical Heat Pumps
Investigators: S. Kumar, R. A. Attalage
Sponsors: MAE(F)

Energy Planning and Environmental
DataBase. Investigators: T. Lefevre, X. Chen,
G.R. Timisina, S.K. Acharya
Sponsors: UNDP, ESCAP, MAE(F)

Sectoral Energy Demand Forecast Model
for Africa and Pacific Countries
Investigators: T. Lefevre, S.K. Acharya
Sponsor: MAE(F)

Energy-Environment Modeling
Investigators: T. Lefevre, S.K. Acharya
Sponsor: UNDP, ESCAP, MAE(F)

Sectoral Energy Demand Forecast Model:
Energy Saving and Fuel Switching
Potentials Study. Investigators: T. Lefevre,
X. Chen, N.D. Dam, N.H. Dong
Sponsors: AIT/DEME, ADEME, GTF

Asian Cooperation on Energy and the
Environment: Sub-activities of the Energy
Environmental Planning (EEP) Project:
1, 2, 3, 5 and 6
Investigators: T. Lefevre, R.R. Pacudan,
S.K. Acharya; Sponsors: UNDP, MAE(F)

Energy Saving Analysis and Modeling in
Asian Developing Countries. Investigators:
T. Lefevre, X. Chen, B. Baerle, N.D. Dam
Sponsor: MAE(F)

Macro-Economic and Financial Database
Investigators: T. Lefevre, L. Schwab
Sponsor: MAE(F), AIT

Market and Technical Study of Solar Water
Heaters in Thailand. Investigators:
T. Lefevre, M. Chauvin, N.T. Kim
Sponsors: Thainox Steel Ltd., EEIC Co. Ltd.

Least-cost Greenhouse Gas Abatement
Strategy for Asia
Investigators: T. Lefevre, R. Pacudan,
S.K. Acharya; Sponsors: ADB, ESCAP, UNDP

Power Sector Study: Investment Prospects
and Business Opportunities - Vietnam,
Phillippines and Thailand. Investigators:
T. Lefevre, G.R. Timisina, J. Todoc
Sponsor: MAE(F)

Wood Energy Today for Tomorrow (Phase II)
Investigators: T. Lefevre, R. Pacudan,
J. Todoc, G.R. Timisina; Sponsor: FAO

Power Sector Study - Investment Prospects
and Business Opportunities: Philippines
Investigators: T. Lefevre, R. Pacudan, J. Todoc
Sponsor: Financial Times

Power Sector Study - Investment Prospects
and Business Opportunities: Thailand
Investigators: T. Lefevre, R. Pacudan, J. Todoc
Sponsor: Financial Times

Power Sector Study - Investment Prospects
and Business Opportunities: Vietnam
Investigators: T. Lefevre, R. Pacudan,
G. R. Timisina, J. Todoc
Sponsor: Financial Times
Gas Sector Study - Investment Prospects and Business Opportunities - India
Investigators: T. Lefevre, S. Bhattacharya, R. Pacudan, J. Todoc; Sponsor: MAF(E)

Thailand Energy Strategy and Policy Study
Investigators: Energy Research Inst. Thailand/Chulalongkorn Univ., Environment Safety and Energy Services (USA), Energy Planning Center Consultancy Team, AIT; Sponsor: NEPO

ALGAS Project: Thailand Least-Cost Greenhouse Gas Abatement Strategies Study
Investigators: T. Lefevre, Bui Duy Thanh, T. M. Jinlong; Sponsor: Thailand Environment Inst./EEEC Co., Ltd.

Valuation of Externalities in Developing Countries
Investigators: T. Lefevre, Bui Duy Thanh; Sponsor: EC, Riso-UNEP, NEPO, DANCED, EGAT, AIT

Cenmbrane Climate Change Socio-Economic, Energy and Technology, and Scientific Research
Investigators: T. Lefevre, G.R. Timilsina; Sponsor: Coherence S.P.R.L. (Belgium)

Energy Prices Data in Selected Asian Countries
Investigators: T. Lefevre, G.R. Timilsina; Sponsor: Petroleum Economics Ltd. (UK)

Environmental and Social Implications of Electric Power Sector Restructuring
Investigators: T. Lefevre, R. Pacudan, J. Todoc; Sponsor: Riso-UNEP, NEPO, EGAT, DANCED, AIT

Environmental and Social Implications of Electric Power Sector Restructuring
Investigators: T. Lefevre, R. Pacudan; Sponsor: ADB, Global Environment Facility (USA), World Bank

Investigation of Incentives in Relation to a Renewable Energy Strategy
Investigators: Ministry of Environment and Energy, Danish Energy Agency, RAMBOLL, Energy Planning Center Consultancy Team, AIT; Sponsor: DANCED, NEPO, AIT

Promoting Energy Security in APEC Member Economies through Improved Operation of International Fuel Market
Investigators: T. Lefevre, R. Pacudan; Sponsor: Asia-Pacific Economic Comission

Simulation of Demand Site Management Resources as Generating Units in Probabilistic Production Costing Framework
Investigators: A.S. Malik; Sponsor: AIT Research Initiation Grant

Module for Financial Evaluation of Energy Efficiency Project
Investigators: B. Mohanty, R. Liu; Sponsor: French Govt.

Energy and Environmental Economics Research Study
Investigators: R. Pacudan, T. Lefevre; Sponsor: MAF(E)

Energy Sector Reforms in Southeast Asia
Investigators: R. Pacudan; Sponsor: AIT Research Initiation Grant

Integrated Rural Energy-Environment Planning and Assessment Methodologies
Investigators: R. Pacudan; Sponsor: UN/ESCAP

Assessment of Energy Efficiency Options for Mitigating Greenhouse Gas Emission from Electricity Sector
Investigators: R.M. Shrestha, S.C. Bhattacharya; Sponsor: SAREC/Sida

Global Environmental Outlook, Phase 2: Participation of Collaborating Center
Investigators: R.M. Shrestha; Sponsor: UNEP

Electric Power Systems Management
Investigators: S. Chirarattananon, S. C. Srivastava, A. S. Malik; Sponsor: Sida

Phase 2: Electric Power Systems Management
Investigators: S. Chirarattananon, C. Vu, S.C. Srivastava, A.S. Malik; Sponsor: Sida

Methodology for Monitoring the Energy Efficiency of Buildings using the AIT Library as a Case Study
Investigators: S. Chirarattananon, N. Muangkroo, S. Sirins; Sponsor: Energy Conservation Promotion Fund (Thai Govt.)

Daylighting: Sky Luminance, Application and Lighting Integration
Investigators: S. Chirarattananon, Srikomporn Univ.; Sponsor: Energy Conservation Promotion Fund (Thai Govt.)

Feasibility of the Establishment of the Energy Conservation Service Industry in Thailand
Investigators: S. Chirarattananon; Sponsor: Demand Site Management Office (EGAT, Metropolitan Electricity Authority Thailand, Provincial Electricity Authority, Thailand)

Preparations for a Regional Energy Development and Policy Implications Conference
Investigators: S. Chirarattananon; Sponsor: Banpu PCL

Analysis and Management of Wastes in the Steel Industry
Investigators: C. Visvanathan, C. Polprasert, S. Mutambara, T. Lefevre; Sponsor: Thaiinox Steel Ltd.

Analysis and Management of Toxic Wastes in the Oil Industry
Investigators: C. Visvanathan, S. Mutambara, T. Lefevre; Sponsor: TOTAL Exploration and Production

Financing the Advance Construction of Network Infrastructure for Guided Urban Development
Investigators: R. W. Archer; Sponsor: Metropolitan Research Trust, et al

Transferring Land Pooling/Redevelopment to the Developing Countries of Asia
Investigators: R. W. Archer; Sponsor: Metropolitan Research Trust, et al

Land, Housing and Urban Development in Thailand
Investigators: R. W. Archer; Sponsor: Metropolitan Research Trust, et al

Utilization of GIS for Planning in Developing Countries
Investigators: H. Marishita; Sponsor: JICA
APPENDIX

Participatory Framework for Planning Rural Road Networks, Construction and Maintenance: Present Practice and Implication for Developing Countries in Asia. Investigator: J.K. Roulray
Sponsor: ILO Geneva

Sustainable Solid Waste Management in Kathmandu. Investigator: G.B. Thapa
Sponsor: Royal Netherlands Govt.

Planning for Environmentally Sustainable Development
Investigator: G.B. Thapa
Sponsors: United Nations University, Tokyo; Royal Netherlands Govt.; Environmental Pollution Control Board, Orissa, India; Danida, Bangladesh

Sustainable Rural Industrial Development in China
Investigator: B.W.E. Wickramanayake
Sponsor: Royal Netherlands Govt.

Housing Factory Workers in the Northern Corridor of the Bangkok Metropolitan Region
Investigator: Y. Kioe Sheng
Sponsor: National Housing Authority

Mangrove Web Page
Investigator: J. Hambray
Sponsor: CP Aquaculture

Environmental Impact of Small-Scale Aquaculture
Investigator: S. Sathieswaran
Sponsor: DFID, UK

Advisory Trips to Danida Projects
Investigator: G.K. Hansen; Sponsor: Danida

Methods and Strategies for Management and Use of Marginal Land
Investigator: G.K. Hansen
Sponsor: Danida

Risks and Benefits in Utilization of Sewage Sludge for Agricultural Crops
Investigator: G.K. Hansen
Sponsor: Danida

Quality Evaluation of Thai Rice
Investigator: A. Noomhurn
Sponsor: Chia Meng Co., Ltd.

Evolution of Volatile Component during Roasting
Investigator: J.C. Vincent
Sponsor: CIRAD

Sponsor: Sida

Support to AIT Aquaculture Outreach Program in Indochina and Northeast Thailand. Investigators: H. Demaine, M. Korn, H.B. Nielsen, P. Edwards
Sponsor: Danida

Support for Regional Aquaculture Development. Investigators: P. Edwards, H. Demaine, J. Hambray, D. Little
Sponsor: ODA

Phase 2: Pond Dynamics Collaborative Research Support Program
Investigators: C.K. Lin, P. Edwards
Sponsor: USAID

Comparative Study of Transition to Alternative Agriculture Practices in Thailand and Japan
Investigator: S. Sathieswaran
Sponsor: Sumimoto Foundation

Sponsors: Siam Agro Industrial Pineapple Public Co., Ltd., Thailand, et al

Experimentation of a Fluidized Bed Coffee Roaster. Investigator: J.C. Vincent
Sponsor: CIRAD

Water Weed Harvester
Investigator: D. Gee-Clough
Sponsor: AIT

School of Management

Entrepreneurship in High Technology Firms in Thailand
Investigator: B. Igol
Sponsor: (in cooperation with Inst. of Strategy and International Business, Helsinki Univ. of Technology)

Comparative Financial Markets in Asia
Investigators: F.W. Swierczek, J.P. Gupta
Sponsor: EC

AIT School of Management EC Partnership
Investigators: J.P. Gupta, F. W. Swierczek, P. Gougon; Sponsor: EC

Financing Technological Investment
Investigator: J.P. Gupta
Sponsor: French Govt.

Project Financing for the European Community
Investigator: J.P. Gupta
Sponsor: EC

International Joint Venture: Case Analysis
Investigator: J.P. Gupta
Sponsor: EC

Case Studies in Technology Parks in Asia
Investigator: F. W. Swierczek
Sponsor: National Science Technology Development Agency, Thailand

Feasibility Study for Thailand Distance Training Network
Investigator: F.W. Swierczek
Sponsor: National Science Technology Development Agency, Thailand

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### RESEARCH CONTRACTS SIGNED IN 1997

*Abbreviations are listed on page 48.*

<table>
<thead>
<tr>
<th>Title</th>
<th>School/Center</th>
<th>Sponsor</th>
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<tr>
<td>January</td>
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<tr>
<td>Feasibility Study of Mapping Agricultural Resources</td>
<td>SERD</td>
<td>Office of Agricultural Economics, Thailand</td>
<td>8 months</td>
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<td>Information Technology Strategy for Institute of Engineering, Tribhuvan Univ., Nepal</td>
<td>RCC</td>
<td>Institute of Engineering Tribhuvan Univ., Nepal</td>
<td>2 months</td>
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<td>Flood Protection Master Plan Study</td>
<td>SCE</td>
<td>Public Works Dept., Thailand</td>
<td>12 months</td>
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<td>Elucidation of Factors Affecting the Extractability of Sweet Potato Starch</td>
<td>SERD</td>
<td>International Potato Center, Bogor, Indonesia</td>
<td>13 months</td>
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<td>Feasibility Study of the Production of Chitin-Chitosan Membranes for Use as Temporary Skin Substitutes</td>
<td>SERD</td>
<td>MITTEC, Thailand</td>
<td>12 months</td>
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<td>Feasibility Study of Agricultural Use and Land Application of Sewage Sludge</td>
<td>SERD</td>
<td>Bangkok Metropolitan Administration</td>
<td>18 months</td>
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<td>Financial Software Evaluation for GPI Co Ltd.</td>
<td>SAT</td>
<td>Golden Poultry International Co. Ltd.</td>
<td>1 month</td>
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<td>Human Resources Management Information System (HRMIS)</td>
<td>RCC</td>
<td>Telephone Organization of Thailand</td>
<td>24 months</td>
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<td>Web Site 2</td>
<td>SERD</td>
<td>UN/ESCAP</td>
<td>12 months</td>
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<td>May</td>
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<tr>
<td>Study of the Integrity and Stability for Renovation of Ancient Structures in Ayutthaya</td>
<td>SCE</td>
<td>Stonehouse Design &amp; Consultants Co.</td>
<td>7 months</td>
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<td>Disposal of Mercury and Other Hazardous Wastes</td>
<td>SERD</td>
<td>TOTAL Exploration and Production, Thailand</td>
<td>12 months</td>
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<td>Full Scale Embankment Using Wire Mesh Reinforcement</td>
<td>SCE</td>
<td>B.B. Trading Co. Sdn. Bhd.</td>
<td>12 months</td>
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<td>Computer-Assisted Design of Steel Houses and Low-Rise Buildings</td>
<td>SCE</td>
<td>Siam Yamato Steel Co. Ltd.</td>
<td>20 months</td>
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<td>Evaluation of New Profiles of Hitek Prefabricated Vertical Drain</td>
<td>SCE</td>
<td>Nylex (Malaysia) Sdn Berhad</td>
<td>12 months</td>
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<td>Mangrove Web Page</td>
<td>SERD</td>
<td>Charoen Pokphand Co. Ltd.</td>
<td>12 months</td>
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<td>Investigation of the Causes of Failure of the Quay Wall at the Cement Docking Terminal of the Siam Cement Factory at Ta Luang, Saraburi Province</td>
<td>SCE</td>
<td>Aquaculture Siam Cement Public Co. Ltd.</td>
<td>2.5 months</td>
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<td>Development of a Program for Comprehensive Improvement of Energy Efficiency in Industrial Factories</td>
<td>SERD</td>
<td>Electricity Generating Authority of Thailand (EGAT)</td>
<td>1.5 months</td>
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<tr>
<td>Geotechnical Investigation of Rock Properties for the Design of the Hongsa Open-Pit Coal Mine, Lao PDR</td>
<td>SCE</td>
<td>Thai Laos Lignite Co. Ltd.</td>
<td>14 months</td>
</tr>
<tr>
<td>September</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institute of Engineering - Information Technology Consultancy Project II</td>
<td>RCC</td>
<td>Institute of Engineering Tribhuvan Univ., Nepal</td>
<td>5 months</td>
</tr>
<tr>
<td>AIT-UNCDF Project of Cooperation</td>
<td>SERD</td>
<td>United Nations Capital Development Fund</td>
<td>36 months</td>
</tr>
<tr>
<td>Construction Engineering and Management</td>
<td>SCE</td>
<td>Royal Government of Bhutan</td>
<td>7 months</td>
</tr>
<tr>
<td>Study of Traffic-Induced Vibration and Fatigue in 13 Steel Overpass Bridges in Bangkok</td>
<td>SCE</td>
<td>Bangkok Metropolitan Administration</td>
<td>8 months</td>
</tr>
<tr>
<td>Accelerated Aging Technique for Thai Rice</td>
<td>SERD</td>
<td>Thailand Research Fund</td>
<td>30 months</td>
</tr>
</tbody>
</table>
1997 LIST OF FACULTY MEMBERS

FULL-TIME FACULTY

(All faculty members are listed in alphabetical order. The italicized entries are abbreviations of their respective Schools or Academic Centers. See page 46.)

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Abbreviations

BUET Bangladesh University of Engineering and Technology
EUR Erasmus University, Rotterdam
IIT Indian Institute of Technology
INP Institut National Polytechnique, France
INSTN Institut National des Sciences et Techniques Nucléaires, France
KMIT King Mongkut's Institute of Technology, Thailand
KMITT King Mongkut's Institute of Technology (Thonburi), Thailand
MIT Massachusetts Institute of Technology
NIDA National Institute of Development Administration, Thailand
REC Regional Engineering College, India
UNSW University of New South Wales, Australia
UPLB University of the Philippines, Los Banos
UPMF Université Pierre-Mendes France
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Mr. Sorosak Intarapanich (August 1997 - April 1998)
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<table>
<thead>
<tr>
<th>ADB</th>
<th>Asian Development Bank</th>
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<tbody>
<tr>
<td>ADEME</td>
<td>Agence de l'Environnement et de la Maîtrise de l'Energie (formerly AFME)</td>
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<tr>
<td>AFME</td>
<td>Association of Southeast Asian Nations</td>
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<tr>
<td>ASEAN</td>
<td>Bangkok Metropolitan Administration</td>
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<tr>
<td>CEC</td>
<td>Commission of the European Communities</td>
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<tr>
<td>CIDA</td>
<td>International Potato Center</td>
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<tr>
<td>CIRAD</td>
<td>International Center for Research in Developing Countries</td>
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<tr>
<td>CIDSE</td>
<td>Centre de Recherche sur l'Epidemiologie</td>
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<tr>
<td>CRCE</td>
<td>Canadian Universities Consortium</td>
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<tr>
<td>DAAD</td>
<td>Deutscher Akademischer Auslanddienst</td>
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<tr>
<td>DANCED</td>
<td>Danish Cooperation for Economic Development</td>
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<td>DANIDA</td>
<td>Danish International Development Assistance</td>
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<tr>
<td>DFID</td>
<td>Dept. for International Development, UK (formerly Overseas Development Administration, ODA)</td>
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<tr>
<td>DSDM</td>
<td>Demand Site Management Office</td>
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<tr>
<td>DTU</td>
<td>Dept. of Technical and Economic Cooperation, Thailand</td>
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<tr>
<td>EC</td>
<td>European Community</td>
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<tr>
<td>EEEC</td>
<td>Energy Economics Environment Consultants Co. Ltd.</td>
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<tr>
<td>EGAT</td>
<td>Electricity Generating Authority of Thailand</td>
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<tr>
<td>ETA</td>
<td>Expressway and Rapid Transit Authority of Thailand</td>
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<tr>
<td>ESA</td>
<td>European Space Agency</td>
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<td>ESCAP</td>
<td>Economic and Social Commission for Asia and the Pacific, UN</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<td>FAO</td>
<td>Food and Agriculture Organization, UN</td>
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<td>GTZ</td>
<td>German Agency for Technical Cooperation Center, Canada</td>
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<tr>
<td>IDRC</td>
<td>International Development and Research</td>
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<td>ILO</td>
<td>International Labour Organization, UN</td>
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<td>IUCN</td>
<td>International Union for the Conservation of Nature</td>
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<td>IPST</td>
<td>Institute for the Promotion of Teaching Science and Technology, Thailand</td>
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<tr>
<td>ITC</td>
<td>International Institute for Aerospace Survey and Earth Science, the Netherlands</td>
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<td>JICA</td>
<td>Japan International Cooperation Agency</td>
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<td>JIRCAS</td>
<td>Japan International Research Center for Agricultural Sciences</td>
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<tr>
<td>KAAD</td>
<td>Katholischer Akademischer Auslanddienst</td>
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<tr>
<td>KEIDANREN</td>
<td>Federation of Economic Organizations, Japan</td>
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<tr>
<td>MAE/F</td>
<td>Ministère des Affaires Étrangères (France)</td>
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<tr>
<td>NASDA</td>
<td>National Space Development Agency of Japan</td>
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<td>NEPO</td>
<td>National Energy Policy Office, Thailand</td>
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<td>NORAD</td>
<td>Norwegian Agency for Development Cooperation</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
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<tr>
<td>OCAJ</td>
<td>Overseas Construction Association of Japan, Inc.</td>
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<tr>
<td>SAREC</td>
<td>Swedish Agency for Research Cooperation with Developing Countries</td>
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<tr>
<td>SEAMES</td>
<td>Southeast Asian Ministers of Education Secretariat</td>
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<tr>
<td>Sida</td>
<td>Swedish International Development Cooperation Agency</td>
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<tr>
<td>UCLES</td>
<td>University of Cambridge Local Examinations Syndicate</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<td>UNCDF</td>
<td>United Nations Capital Development Fund</td>
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<td>UNDCP</td>
<td>United Nations Drug Control Program</td>
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<td>UNDHA</td>
<td>United Nations Department of Humanitarian Affairs</td>
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<td>UNHCR</td>
<td>United Nations High Commission for Refugees</td>
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<tr>
<td>UNIDO</td>
<td>United Nations Industrial Development Organization</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Program</td>
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<tr>
<td>UNEP</td>
<td>United Nations Environment Program</td>
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<tr>
<td>UNEP EAP/EP</td>
<td>UNEP Environment Assessment Program for Asia and the Pacific</td>
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<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
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<tr>
<td>UNICEF</td>
<td>United Nations Children's Fund</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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<tr>
<td>WTUSM</td>
<td>Wuhan Technical University of Surveying and Mapping, People's Republic of China</td>
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<tr>
<td>WWF</td>
<td>Worldwide Fund for Nature</td>
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</tbody>
</table>

## SCHOOLS

| SAT       | School of Advanced Technologies |
| SCE       | School of Civil Engineering |
| SERD      | School of Environment, Resources and Development |
| SOM       | School of Management |

## PROGRAMS

| AAS       | Agricultural and Aquatic Systems |
| AFE       | Agricultural and Food Engineering |
| BPT       | Bioprocess Technology |
| CSIM      | Computer Science and Information Management |
| EE        | Environmental Engineering |
| EMBA      | Executive Master of Business Administration |
| EP        | Energy Program |
| GE        | Geotechnical Engineering |
| HSD       | Human Settlements Development |
| IB        | International Business |
| IPM       | Infrastructure Planning and Management |
| ISE       | Industrial Systems Engineering |
| NIT       | Management of Technology |
| PCAD      | Programs in Computer Applications Development |
| PPT       | Pulp and Paper Technology |
| SEC       | Structural Engineering and Construction |
| STAR      | Space Technology and Applications Research |
| TC        | Telecommunications |
| TE        | Transportation Engineering |
| UEM       | Urban Environmental Management |
| WEM       | Water Engineering and Management |

## CENTERS

| ADPC      | Asian Disaster Preparedness Center |
| AITCV     | AIT Center in Vietnam |
| CEC       | Continuing Education Center |
| CLAIR     | Center for Library and Information Resources |
| CLET      | Center for Language and Educational Technology |
| ROCC      | Regional Computer Center |
| SAV       | Swiss-AIT-Vietnam Management Development Program |
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