



2018
ASIAN INSTITUTE OF TECHNOLOGY
ANNUAL REPORT



AIT
Asian Institute of Technology



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Former Minister of Foreign Affairs of Thailand

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Professor Emeritus, Colorado State University; Former CEO, Engineering Analytics, Inc., USA

Dr. Anat Arbhahirama

Chairman of Management Committee, Bangkok Mass Transit System Public Co. Ltd., Thailand

Dr. Prasarn Trairatvorakul

Former Governor of the Bank of Thailand

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Ambassador of Cambodia to Thailand

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Ambassador of Canada to Thailand

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Ambassador of the People's Republic of China to Thailand

H.E. Mr. Gilles Garachon

Ambassador of France to Thailand

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Ambassador of India to Thailand

H.E. Mr. Ahmad Rusdi

Ambassador of Indonesia to Thailand

H.E. Mr. Noh Kwang-il

Ambassador of the Republic of Korea to Thailand

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Ambassador of the Lao People's Democratic Republic to Thailand

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Former Deputy Prime Minister; Interim Minister of Foreign Affairs of Thailand

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Former Secretary-General, Office of the Higher Education Commission of Thailand

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Deputy Permanent Secretary, Ministry of Foreign Affairs, Thailand

Dr. Suphat Champatong

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Former Director, Asian Development Bank

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Chairman of Board, MAA Group Consulting Engineers; Former AIT Provost

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Secretary General, Association of Universities of Asia and the Pacific; Former AIT Vice President

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Managing Director, Thai Pipe Industry Co. Ltd.

Mr. Cao Shihai

Deputy Secretary-General, China Scholarship Council

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Ambassador of Japan to Thailand

H.E. Mr. Pirkka Tapiola

Ambassador; Head of Delegation of the European Union to Thailand

EX-OFFICIO MEMBERS

Dr. Eden Y. Woon

President, Asian Institute of Technology

Ms. Maria Fe Nuestro Ferriols

President, AIT Alumni Association

SECRETARY

Mr. Karma Rana

Institute Secretary

EXECUTIVE COMMITTEE

Chair

Prof. Emeritus Dr. Sahas Bunditkul

Former Deputy Prime Minister; Interim Minister of Foreign Affairs of Thailand

Vice-Chair

Ambassador Pradap Pibulsonggram

(Non-trustee); Ambassador of Thailand (rtd.); Thailand Representative to the ASEAN Connectivity Coordinating Committee

Members

Trustees

Assoc. Prof. Kraiwood Kiattikomol

Advisor, King Mongkut's University of Technology Thonburi

Dr. Sumate Yamnoon

Former Secretary-General, Office of the Higher Education Commission of Thailand

Mr. Cao Shihai

Deputy Secretary-General, China Scholarship Council

Non-Trustees

Dr. Apichart Anukularmphai

Advisor to the Deputy Prime Minister

Mr. Robert James Kay

Executive Vice President, GMS Power Public Co. Ltd.

Mr. Lee Pit Teong

Chairman of the iGroup (Asia Pacific) Ltd.

Prof. Karl E. Weber

Former AIT Vice President; AIT Professor Emeritus

Ex-officio Members

H.E. Dr. Subin Pinkayan

Chairman of the Board; Former Minister of Foreign Affairs of Thailand

Dr. Eden Y. Woon

President, Asian Institute of Technology

Secretary

Mr. Karma Rana

Institute Secretary

AUDIT COMMITTEE

Chair

Dr. Sumate Yamnoon

Former Secretary-General, Office of the Higher Education Commission of Thailand

Members

Ambassador Pradap Pibulsonggram

Ambassador of Thailand (rtd.); Thailand Representative to the ASEAN Connectivity Coordinating Committee

Mr. Robert James Kay

Executive Vice-President, GMS Power Public Co. Ltd.

Mr. Lee Pit Teong

Chairman of the iGroup (Asia Pacific) Ltd.

Secretary

Ms. Saowarot Buabok

AIT Internal Auditor

MESSAGE FROM THE CHAIR OF THE AIT BOARD OF TRUSTEES



At the outset, I wish to convey my sincere thanks to all members of the Board of Trustees for their strong and continuous support to AIT. I would also like to acknowledge the important role of the Executive and Audit Committees which spends a lot of time reviewing and vetting matters prior to their submission to the Board.

A stellar function of the year 2018, was the visit of Her Royal Highness Princess Maha Chakri Sirindhorn to AIT on 27 April, during which HRH formally inaugurated the modernized AIT Library, the AIT Clock Tower, and the new AIT Gate. It was a well-attended event with donors of funds raised for the modernization of the AIT Library, specially accorded recognition by HRH Princess Maha Chakri Sirindhorn, and HRH also toured the modernized AIT Library. The AIT is blessed by HRH's gracious royal patronage and is indebted to HRH for her continued support to AIT.

On 30 August 2018 we witnessed another important day in AIT with the formal handing over of the baton of the AIT presidency at the Robert B Banks Auditorium in the presence of the members of the AIT Board of Trustees. It provided an opportune occasion to acknowledge and thank President Worsak Kanok-Nukulchai for his valuable contributions made to the Institute by putting AIT on a solid footing, while welcoming Dr. Eden Woon as the new AIT President to build on that as AIT faces a crossroad when it approaches its 60th Anniversary.

After the AIT President Worsak Kanok-Nukulchai informed the Board that he did not wish to seek a second term, the Board had set up a Presidential Search Committee (PSC), chaired by Dr. Anat Arhbabhirama, Vice Chairperson of the Board. As a rewarding outcome of the rigorous and thorough process of evaluating the prospective presidential candidates by the PSC, the Board unanimously approved to appoint Dr. Eden Woon as the AIT President, effective 1 September 2018.

The Board is confident that the President, Dr. Eden Woon with his diverse international background in academia, business, and extensive management and leadership experiences in different sectors, can help lead AIT to a new level with more global recognition.

In concluding, I wish to once again thank all our Trustees and partners, for their strong and continued support to the Institute. The Year 2019 should be exciting and we all look forward to celebrating the AIT's 60th Anniversary together.

Dr. Subin Pinkayan

Chairman

Board of Trustees

Asian Institute of Technology (AIT)

MESSAGE FROM THE AIT PRESIDENT



I had the honor of arriving at AIT to serve as its 9th President on 1 September 2018. I came with a determination to take AIT to greater heights, leveraging on its legacy of contributing to societies in Asia. When I came on board, the first thing I noticed was the good work that previous President Worsak Kanok-Nukulchai did in making AIT once again a steady ship. In fact, much of what you read in this Annual Report 2018 was under his able leadership.

The Presidential Search Committee and the Board of Trustees expected me to now take the ship forward. The strategy that I envisioned for AIT was coined as I²E²S². It stands for **Innovation, Internationalization, Enterprises, Entrepreneurship, Stakeholders, and Support**. And these are the six strategic focus areas which I would like to see AIT work on, while leveraging on its social impact core strengths.

Briefly, AIT will be seeing more **innovation** in its research and in its teaching, injecting more leading-edge technology—and more multi-disciplinary perspectives—into our social impact research. Education will be more experiential and not confined to classrooms and laboratories. Exchanges and Internships and Service Learnings and more hands-on work will be part of the future degree requirements. And we will be doing all this through **internationalization** by forging relations with partners from near and faraway. AIT will re-establish its global footprint and global influence. This gives our students and faculty a broader horizon to view their research and education in a globalized world.

AIT will also forge closer relations with **enterprises**, in addition to its traditional partners in governments and the NGO world. Our relevance will be improved through more collaboration, more training, and more dialogue with industries. We must be more in tune with enterprises' needs as they fuel the economy of countries which our students come from. In addition, at a time when young men and women are interested in starting their own businesses, AIT will establish an **Entrepreneurship** Center in 2019 to provide mentorship and knowledge and networks to nurture those interested in their own start-ups.

Students will be our top priority **stakeholders** in the future AIT, as campus environment and services will be improved. Alumni engagement will deepen and broaden. AIT will become a more sustainable and caring and cost-efficient campus. Finally, to do all of the above, our funding scheme must be improved. More **support** will be solicited from donors, from companies, and from alumni to help AIT grow in scholarship and in student life.

That is I²E²S² in short, but to accomplish these tasks, we must transform AIT. And Transforming AIT has become the motto for our 60th anniversary year 2019. Only then can we hope to build on our legacy and expand our reputation. I am looking forward to working with the students, staff, faculty, Board members, and friends of AIT in this endeavor!

Eden Y Woon

President

Asian Institute of Technology (AIT)

INSTITUTIONAL HIGHLIGHTS

JANUARY

- 1. Students from 20 Countries Make AIT their New Home - 5 January 2018
- 2. AIT Signs MoU with the Department of Industrial Works - 26 January 2018
- 3. AIT's Gender, Technology, and Development Journal Completes Two Decades of Impactful Work
- 4. Book on 'Organic Waste Recycling' Explores New Technologies and Sustainability Paradigms
- 5. AIT to Serve as Training Hub for Global Navigation Satellite System - 23-26 January 2018



FEBRUARY

1. QS Rankings by Subjects 2018 Ranks AIT in Eight Subject Areas - 28 February 2018
2. Fond Memories of AIT: H.E. Mr. Abdul Tawab Balakarzai, Afghanistan Minister - 12 February 2018
3. AIT Cultural Show - 10 February 2018
4. AIT Auditorium Renamed Robert B. Banks Auditorium - 20 February 2018
5. Talks by Dr. Adrian Ray Chamberlain - Former President, Colorado State University -
 - 5.1 Milton E. Bender Jr. Lecture on "SEATO-GSE and AIT: Beginnings and Visions for the Future" - 20 February 2018
 - 5.2 "Visions for Thailand's Higher Education Leadership as a Regional Hub for Science, Technology, and Innovation in the 21st Century Global Society" - 22 February 2018

QS WORLD UNIVERSITY RANKINGS by Subject 2018

QS RANKINGS BY SUBJECTS 2018 RANKS AIT IN EIGHT SUBJECT AREAS 28 FEBRUARY 2018

2018 QS World University Ranking by Subjects : Asian Institute of Technology

No.	QS Subject	World Ranking				Asia	Thailand
		2015	2016	2017	2018	2018	2018
1	Architecture & Built Environment	NR	NR	101-150	101-150	18	1
2	Civil and Structural Engineering	151-200	151-200	151-200	101-150	30	1
3	Environmental Studies	151-200	201-250	151-200	151-200	28	2
4	Computer Science & Information Systems	301-400	351-400	451-500	351-400	42	2
5	Mechanical, Aero. & Manufacturing Engng.	NR	NR	351-400	301-350	96	2
6	Agriculture and Forestry	NR	NR	NR	201-250	42	4
7	Business and Management Studies	NR	NR	251-300	201-250	47	3
8	Electrical & Electronic Engineering	NR	251-300	301-350	251-300	72	2

As research cultures and publication rates vary significantly across academic disciplines, the QS World University Rankings by Subject applies a different weighting of the 4 indicators below, depending on the subject areas.

- (1) Academic reputation
- (2) Employer reputation
- (3) Research citations per paper
- (4) H-Index

Survey drawn on responses from 75,015 academics worldwide.
 QS draws on 40,455 survey responses from employers worldwide.
 Number of citations per paper
 The h-index measures both productivity and impact of publication.

1



2

3



4



5.1



5.2

MARCH

- 1. Bangabandhu Chair Inaugurated at AIT - 15 March 2018
- 2. H.E. Ambassador Ahmad Rusdi, Ambassador of Indonesia Pays Maiden Visit - 5 March 2018
- 3. AIT Is Very Popular in Viet Nam: Ambassador H.E. Mr. Nguyen Hai Bang - 12 March 2018
- 4. Canada for Enhanced Cooperation with AIT - 26 March 2018
- 5. Earth Data Analytics to Be AIT Focus in Digital Belt and Road (DBAR) - March 2018
- 6. Setting Research Priorities for Cities and Climate Change: AIT's Dr. Shobhakar Dhakal Publishes in Nature - 1 March 2018
- 7. Dr. Anil Kumar Anal Authors Book on Bionanotechnology - March 2018
- 8. 27 Companies Participate in AIT Career Fair - 28 March 2018



1



2



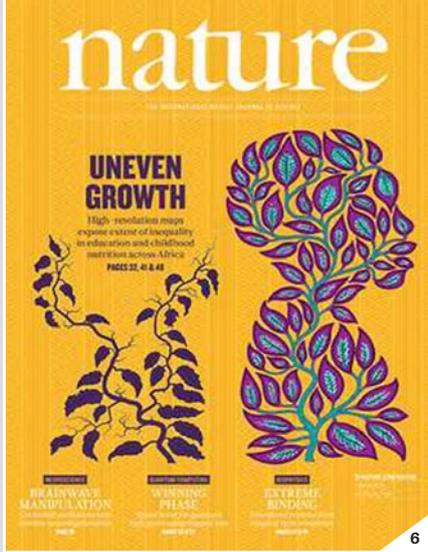
3



4



5



6



7



8

APRIL

1. HRH Princess Maha Chakri Sirindhorn Inaugurates Modernized AIT Library - 27 April 2018
2. 28 Donors Honored at Gathering Studded with Diplomats and Dignitaries: 13 Ambassadors and 11 CEOs Gather at Modernized AIT Library Inauguration - April 2018
3. Dr. Shobhakar Dhakal is Coordinating Lead Author for IPCC Sixth Assessment Report - April 2018
4. AIT Student's Research Selected as Elsevier Atlas Article of the Month - 23 April 2018



1



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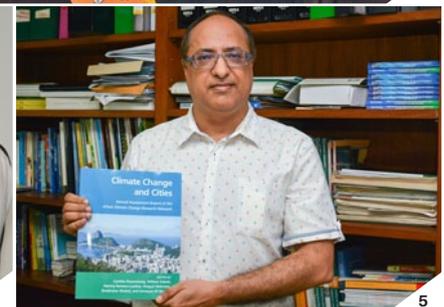
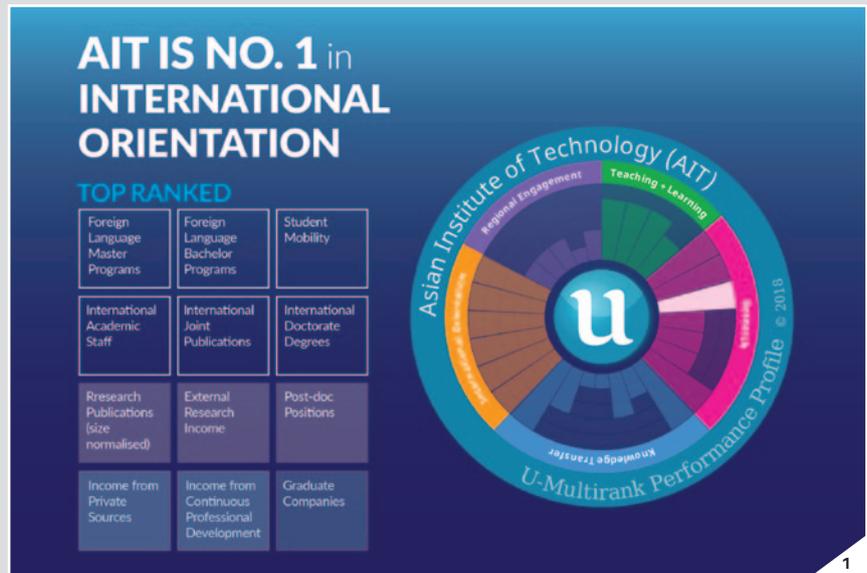
MAY

- 1. Partnership Agreements Signed in China - May 2018
- 2. 129th Graduation: 460 Students Hailing from 21 Countries Received Their Degrees - 18 May 2018
- 3. AIT Alumnus Dang Hoang An Appointed Minister in Viet Nam - 15 May 2018
- 4. Satel and DNWP Advanced Telecommunications Laboratory to Be Established at AIT - 15 May 2018
- 5. Dr. Mongkol Ekpanyapong Receives Thailand Research Fund 2017 Prominent Research Award - 23 May 2018



JUNE

1. AIT Remains Top-Ranked International University According to Latest Rankings - 6 June 2018
2. Sri Lanka Ambassador Presides Over Leadership Program in Agricultural Research Management - 8 June 2018
3. Partnership with Druk Green Power Corporation - 25 June 2018
4. AIT Partners with IIT Roorkee - 22 June 2018
5. New Publication on Climate Change and Cities - 25 June 2018



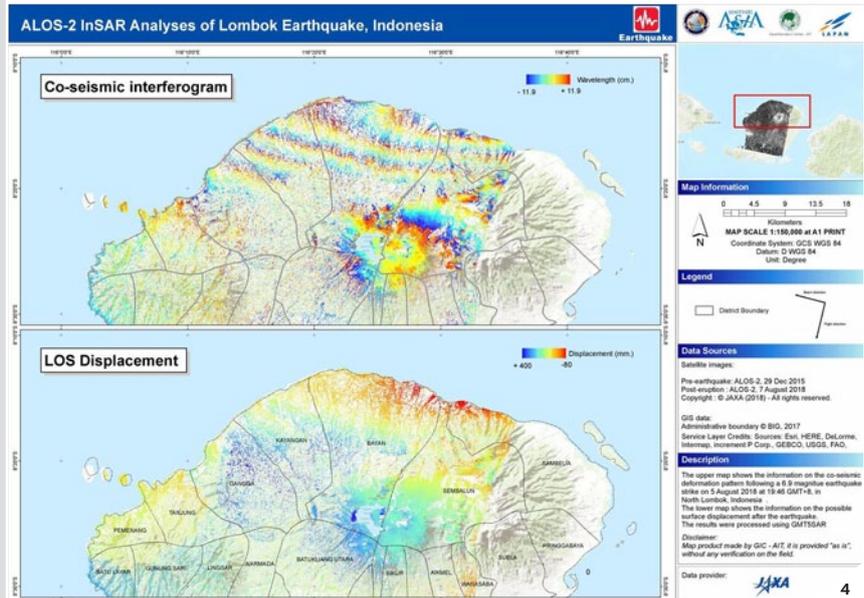
JULY

- 1. 50 Scholarships from Thailand's Ministry of Agriculture and Cooperatives - 3 July 2018
- 2. AIT Hosts Asia Region Meeting of International Association for the Study of the Commons - 13-16 July 2018
- 3. Agreement with Green Technology Center, Korea - 18 July 2018
- 4. Two Hundred Participants Throng Free Open Source Software for Geoinformatics Thailand 2018 - 23-24 July 2018
- 5. Students from 13 Countries Join Third Edition of AIT-Tiger Leong Camp - 16 July 2018
- 6. AIT Alumnus Nopparat Maythaveekulchai Appointed Governor, Provincial Waterworks Authority of Thailand - 24 July 2018
- 7. AIT Alumna Dr. Somchint Pilouk Appointed New Governor of the Industrial Estates Authority of Thailand - July 2018



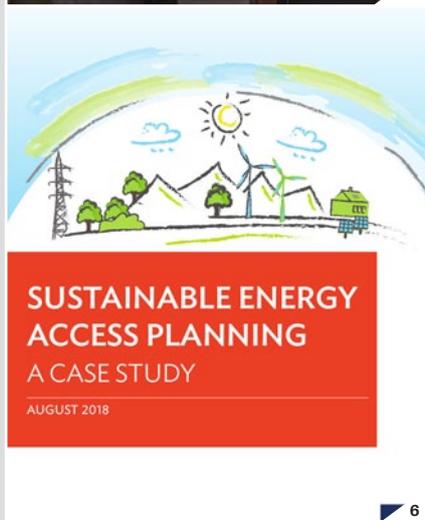
AUGUST

1. Metropolitan Electricity Authority of Thailand to Depute 24 Students to AIT - 24 August 2018
2. CSI Chair Professorship for Prof. Worsak Kanok-Nukulchai - 18 August 2018
3. Orientation Day: Students from 25 Countries Join AIT - 3 August 2018
4. AIT Prepares Disaster Maps to Help Rescue Work Following Lombok Earthquakes - 6 August 2018
5. AIT Student Hayat Ullah Awarded IPNI Scholar Award - 9 August 2018
6. Prof. Joyashree Roy Joins AIT as Bangabandhu Chair Professor - August 2018



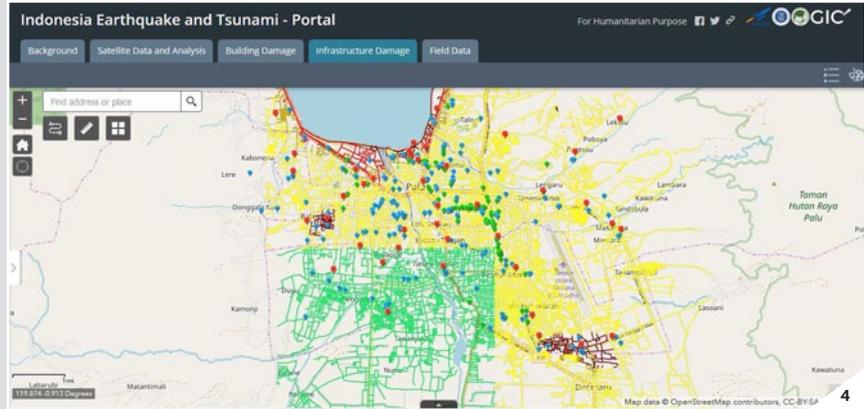
SEPTEMBER

- 1. Dr. Eden Y. Woon Is New President of AIT - 1 September 2018
- 2. President Woon Unveils Six Strategic Focus Areas for AIT - 5 September 2018
- 3. A New Look Korea House Is Inaugurated - 28 September 2018
- 4. AIT Signs Multiparty Agreement for Smart City Projects in Khon Kaen - 21 September 2018
- 5. AIT Helps Create First Comprehensive Disaster Risk Database for Uttarakhand Province, India - 12 September 2018
- 6. ADB Publishes Case Study on Sustainable Energy Access Planning by Prof. Ram Shrestha - September 2018
- 7. Prof. Mukand Singh Babel Honored with Japan Society of Hydrology and Water Resources International Award - 13 September 2018



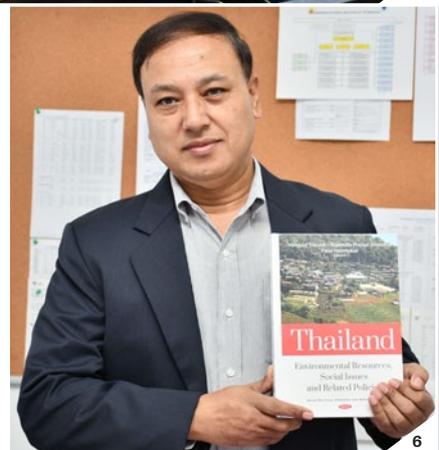
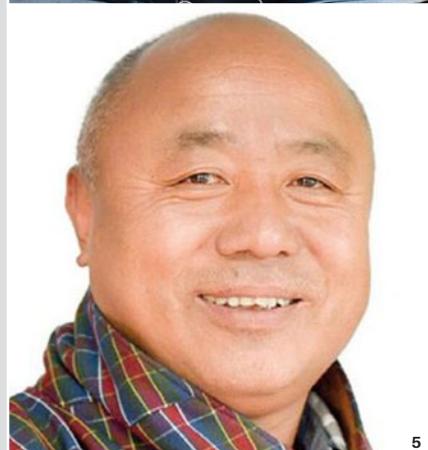
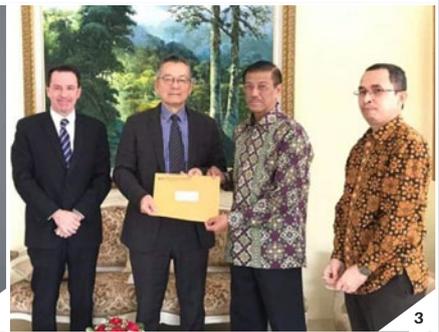
OCTOBER

- 1. Inter-institutional Agreement Signed with Vilnius Gediminas Technical University - 25 October 2018
- 2. Alumnus Mr. Chawalit Tippawanich Appointed President and CEO of Global Power Synergy Public Company - 1 October 2018
- 3. 24 Companies Participate in AIT Career Fair - 31 October 2018
- 4. AIT's Geoinformatics Center Develops Indonesia Earthquake and Tsunami Resource



NOVEMBER

- 1. HRH Princess Maha Chakri Sirindhorn Honors AIT at Chulachomklao Royal Military Academy - 13 November 2018
- 2. AIT Signs MoU with Kaduna State University, Nigeria - 6 November 2018
- 3. Donation to Indonesian Embassy for Victims of Sulawesi Disaster - 6 November 2018
- 4. Boosting Yields, Raising Incomes, and Offering Climate-Smart Solutions Via System of Rice Intensification - 1-2 November 2018
- 5. EEM Alumnus Yeshey Penjor Appointed Minister in Bhutan - November 2018
- 6. Prof. Rajendra Prasad Shrestha Co-Authors Book on Environmental Resources, Social Issues, and Related Policies - November 2018



DECEMBER

- 1. Royal Audience for President Woon - 22 December 2018
- 2. MoU with Chitralada Technology Institute - 19 December 2018
- 3. First Asian Aquaculture Conference - 3-6 December 2018
- 4. Students Receive Certificates from HRH Princess Maha Chakri Sirindhorn - 28 December 2018
- 5. 292 Students from 21 Countries Honored in AIT's 130th Graduation Ceremony - 14 December 2018
- 6. AIT Hosts International Cricket Matches - 7-17 December 2018



REPORTS FROM THE ADMINISTRATION AND RESPONSIBILITY CENTERS

This report provides an overview of the key activities undertaken by the Vice Presidents (VPs), School Deans, and Responsibility Centers (RCs) during 2018. An RC is a unit that is expected to generate sufficient revenues to fully cover its direct and indirect expenses. As a financial incentive, an RC retains part of its net surplus into its Capital Fund.

The Responsibility Center Management (RCM) concept was created at the University of Pennsylvania in the early 1970s as a response to a financial crisis and is now widely used in most universities in the US. The RCM system provides an incentive structure that encourages and rewards revenue generation and cost savings at all levels. It requires awareness among all faculty and staff members of financial implications of decisions at the policy and operational levels.

Under the RCM system, each AIT unit can be categorized as either a Responsibility Center (RC) or a Service Center (SC).

Currently, AIT has three (3) academic RCs and 13 Outreach RCs.

Academic RCs:

1. **School of Engineering and Technology (SET)**
2. **School of Environment, Resources and Development (SERD)**
3. **School of Management (SOM)**

13 Outreach RCs:

1. **AIT Extension**
2. **AIT Solutions**
3. **AIT Center in Viet Nam (AITCV)**
4. **Internet Education and Research Laboratory (intERLab)**
5. **Special and Online Degree Programs**
6. **Language Center**
7. **Center of Excellence on Nanotechnology (CoE-Nano)**
8. **Regional Resource Center for Asia and the Pacific (RRC-AP)**
9. **Geoinformatics Center (GIC)**
10. **AIT Assets**
11. **AIT International School (AITIS)**
12. **Asian Center of Innovation for Sustainable Agriculture Intensification (ACISAI)**
13. **AIT Artificial Intelligence Technology (AIT²) Center**

A Service Center (SC) is a unit whose primary purpose is to provide services and support to the President, VPs, Deans, and Outreach RC Directors within the policy and budget framework established by the Board and the President.

The SCs comprise of the following units: Office of the President (OPRE); Institute (INST); Office of Academic Administration (OAA); Office of Advancement (OADV); Office of Finance (OFIN); Office of External Relations (OEXR); Office of Human Resources Services (OHRS); Office of Facilities & Assets Management (OFAM); Office of Host Country Relations (OHCR); Office of Student Affairs (OSA); Office of Media & Communications (OMCO); Office of Procurement, Inventory, & Assets (OPIA); AIT Library (LIB); and Office of Medical & Health Care (OMHC).



Academic Affairs

VICE PRESIDENT: PROF. SIVANAPPAN KUMAR



QS RANKINGS BY SUBJECTS 2018 RANKS AIT IN EIGHT SUBJECT AREAS
28 FEBRUARY 2018

2018 QS World University Ranking by Subjects : Asian Institute of Technology

No.	QS Subject	World Ranking				Asia	Thailand
		2015	2016	2017	2018	2018	2018
1	Architecture & Built Environment	NR	NR	101-150	101-150	18	1
2	Civil and Structural Engineering	151-200	151-200	151-200	101-150	30	1
3	Environmental Studies	151-200	201-250	151-200	151-200	28	2
4	Computer Science & Information Systems	301-400	351-400	451-500	351-400	42	2
5	Mechanical, Aero. & Manufacturing Engng.	NR	NR	351-400	301-350	96	2
6	Agriculture and Forestry	NR	NR	NR	201-250	42	4
7	Business and Management Studies	NR	NR	251-300	201-250	47	3
8	Electrical & Electronic Engineering	NR	251-300	301-350	251-300	72	2

As research cultures and publication rates vary significantly across academic disciplines, the QS World University Rankings by Subject applies a different weighting of the 4 indicators below, depending on the subject areas.

(1) Academic reputation

Survey drawn on responses from 75,015 academics worldwide.

(2) Employer reputation

QS draws on 40,455 survey responses from employers worldwide.

(3) Research citations per paper

Number of citations per paper

(4) H-Index

The h-index measures both productivity and impact of publication.

The Asian Institute of Technology (AIT) offers challenging academic programs with rich and varied curriculum following a multidisciplinary approach using real life problems. In addition, the institute's faculty members, staff, and students conduct relevant research and carry out outreach throughout the Asian region and beyond.

1. ACADEMIC RECOGNITION (PARTICIPATION IN U-MULTIRANK AND QS)

AIT consolidated its position as one of the world's top international university again in 2018, bagging six perfect scores in the category "International Orientation" in the U-Multirank's Annual World Rankings of Universities. AIT is the only university in Asia to be ranked at the global top in international orientation, and this is the third time that AIT has achieved this result. AIT was also rated among the world's top 25 performing universities (with only 3 in Asia) in the category "Income from Continuous Professional Development."

In the QS Top Universities Rankings by Subject, AIT was ranked among the top universities in eight (8) subject areas: Civil and Structural Engineering (ranked within 101-150) and Architecture and Built Environment (101-150), two subjects where AIT is ranked at the top in Thailand. Other subject areas where AIT is included

includes Environmental Studies (151-200); Business and Management Studies (201-250); Agriculture and Forestry (201-250); Computer Science and Information Systems (351-400); Electrical and Electronic Engineering (251-300); and Mechanical, Aeronautical, and Manufacturing Engineering (301-350).

2. ACADEMIC SENATE

The Academic Senate, comprised of all full-time Professors, Associate Professors, Assistant Professors, Instructors, and Visiting Faculty with a period of appointment of not less than one year is a body that recommends policies to the President for developing and conducting academic programs and policies, reviewing and establishing curriculum, and awarding of degrees and diplomas.

During 2018, based on the Academic Senate's recommendation, a total of 830 students were conferred degrees ranging from doctoral, masters, professional masters, special, diploma, certificate of advanced studies, and bachelors (460 students on 18 May, 78 students on 18 July, and 292 students on 14 December 2018).

The Academic Senate meets once a month. The typical agenda of Academic Senate meetings includes reports from its standing committees, namely the Academic Development Review Committee (ADRC), Doctoral Program Review Committee (DPRC), and the Undergraduate Program Review Committee (UGPRC), the VPAA's

and Deans' reports on faculty appointments, contract renewals, and promotions, and any other issues.

2.1 Academic Program Curriculum Review

The Academic Senate continued with the curriculum review of the various academic programs offered at AIT. After completing the review of the academic programs offered by the School of Environment, Resources and Development and the School of Management, the curriculum of most academic programs of the School of Engineering and Technology were reviewed and endorsed in 2018 (with the few remaining SET academic programs to be completed in the first quarter of 2019).

2.2 New Academic Programs and Offerings

The Academic Senate endorsed the following new academic offerings, based on the recommendation of the ADRC in 2018:

- Double Degree Masters Program in Wireless Communications Engineering: AIT and University of Oulu, Finland.
- Academic program in Development and Sustainability (D&S) to be offered by the Department of Development and Sustainability in the School of Environment, Resources and Development. This will be the first program to include an Internship option as part of credit requirements.
- Professional Masters in Structural Design of Tall Buildings, for which courses will be delivered using a unique blend of components, both online (around 75%) and in-class (around 25%), with students required to be physically present on campus for in-class sessions and examination for at least one (1) week for each course.
- Area of Specialization (AoS) in Data Science and Artificial Intelligence (DS&AI) for five (5) of its academic programs (Information Management, Computer Science, Information & Communications Technologies, Industrial Manufacturing Engineering, Microelectronics & Embedded Systems, and Mechatronics).

2.3 Requirements for Area of Specialization

Specific policy was developed for Areas of Specialization (AoS) offered under Academic Programs at AIT. The policy was developed with regards to the course credits limit and choosing appropriate thesis or research topics. Accordingly, the range of required course credits will be 9-21, and electives credits would be 5-17s for the thesis option and 17-29 credits for the research option. Students would be required to conduct a thesis or research study in the particular AoS they enrolled in.

2.4 Revised Form for Journal Submission by Doctoral Students

The Form for Journal Submission to be filled out by doctoral students as part of the documentation to be submitted to the Doctoral Program Review Committee for evaluation of the accepting journal publication was revised. This was to ensure that the journal article published toward the fulfillment of requirements for a doctoral study is based on the dissertation and that authorships are in order.

2.5 Titles for the Professional Masters Program

With many professional masters programs to be developed in the near future, the Academic Senate endorsed the following three options: (1) Masters of Engineering (Professional); (2) Masters of Science (Professional); and (3) Professional Masters in <name of Academic Program / Area of Specialization>.

2.6 Revised Criteria for Doctoral Students

The admission criteria for admission to the doctoral program was updated with the following change: "In case a doctoral applicant does not meet the CGPA requirement of at least 3.50 in the Masters degree but has a CGPA of at least 3.0 along with an article indexed in Scopus, the applicant can be admitted to the doctoral program."



However, those who do not have a CGPA of at least 3.50 in their Masters degree and do not have an article indexed in Scopus can still be admitted to the Certificate of Advanced Studies (CAS) and transfer to the doctoral program if they attain a CGPA of 3.50 during the CAS, as was the earlier practice.

2.7 Amendments to Academic Requirements and Procedures for the Doctoral Program

Amendments were made to the Academic Requirements and Procedures for the Doctoral Program in order to comply with the conversion from the semester system to the term system for the School of Management.

3. ACADEMIC PERFORMANCE

Academic performance in terms of education, research, and technology and knowledge transfer is detailed below in terms of a number of key indicators.

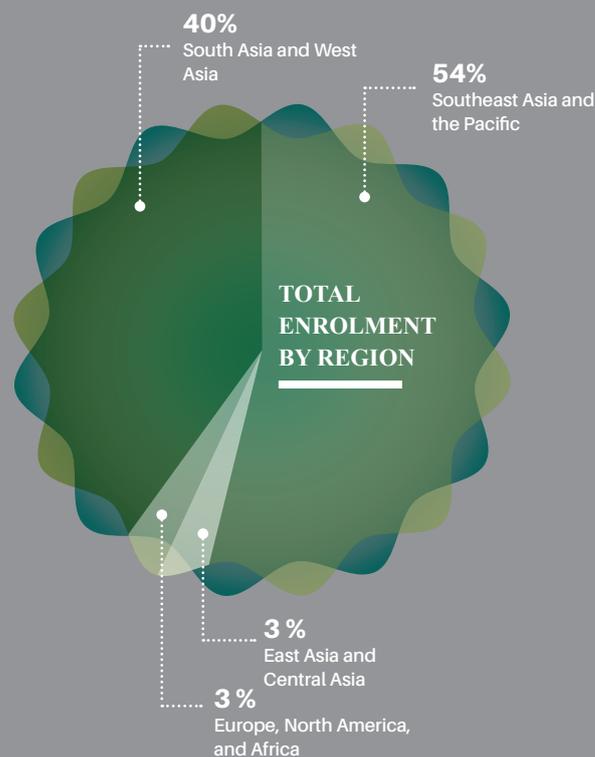
3.1 Student Intake

In 2018, of a total 2,436 applications, 668 new students joined AIT. In the January semester (including the March term), 200 new students enrolled from 24 different countries from four different regions: Southeast Asia and the Pacific, South and West Asia, East and Central Asia, America, and Europe. Of these, 53% enrolled in the School of Engineering and Technology (SET), 21% in the School of Environment, Resources and Development (SERD), and 26% in the School of Management (SOM). Approximately 30% of students were women. In this intake, 7% of students received scholarships (full subsidy of tuition fees), 32% were funded by external donors (sought by the students themselves, e.g. student's employer), 40% received AIT fellowships (partial tuition subsidy), and 21% were self-supporting.

In the August semester (including the October term), 468 new students were enrolled from 26 countries from all continents: 60% from Southeast Asia and the Pacific, 34% from South and West Asia, 2% from East Asia, 2% from Europe, and 1% each from Africa and North America. Around 54% of these students were enrolled in SET, 30% in SERD, 15% in SOM, and 1% in interdisciplinary programs. Approximately 41% of these students were women. In this intake, 29% of the students received scholarships, 10% were funded by external donors, 31% received AIT fellowships and 30% were self-supporting.

Students at a Glance

1,914 TOTAL ENROLLMENT
FROM 49 COUNTRIES.



3.3 Graduation

AIT confers degrees three times a year (May, July, and December). A total of 830 students graduated in 2018. Of these, 72% obtained masters or professional masters degrees, 7% doctoral degrees, and 20% bachelors degrees.

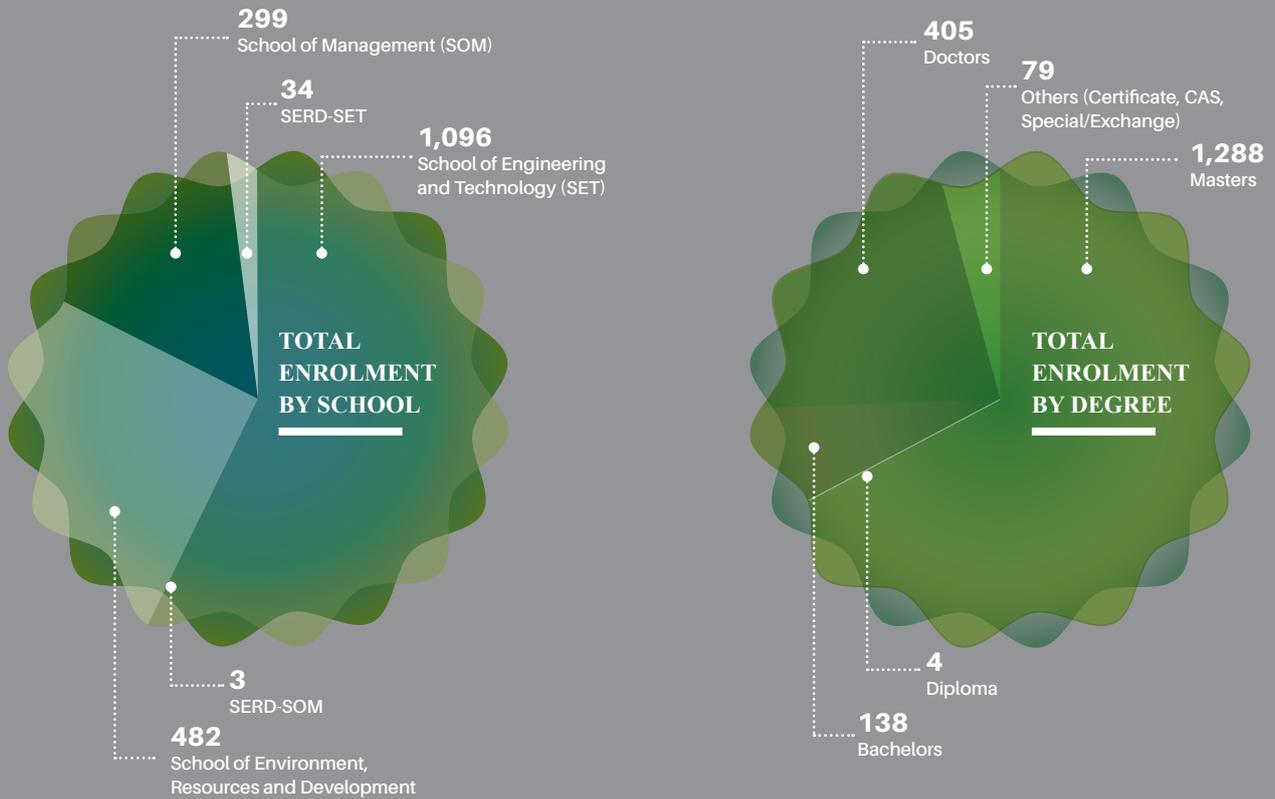
The table below gives the total number of graduates from all degree programs in 2018 by department and school.

The standard time needed to complete the various degree programs is as follows:

- 4 semesters for Masters
- 8 semesters for Bachelors
- 2 semesters for Professional Masters & Diploma
- 7 semesters (minimum) for Doctoral program (only minimum time specified due to the nature of the doctoral program).

3.2 Student Enrollment

Average enrollment (including both new and continuing students) for the January and August semesters in 2018 was 1,914, from 49 countries. Of these, 67% were enrolled in the Masters program, 21% in the Doctoral program, 8% in the Bachelors program, and the rest in other programs, with 57% enrolled in SET, 25% in SERD, 16% in SOM, and the rest in interdisciplinary programs. The average male-female distribution was around 63-37%.



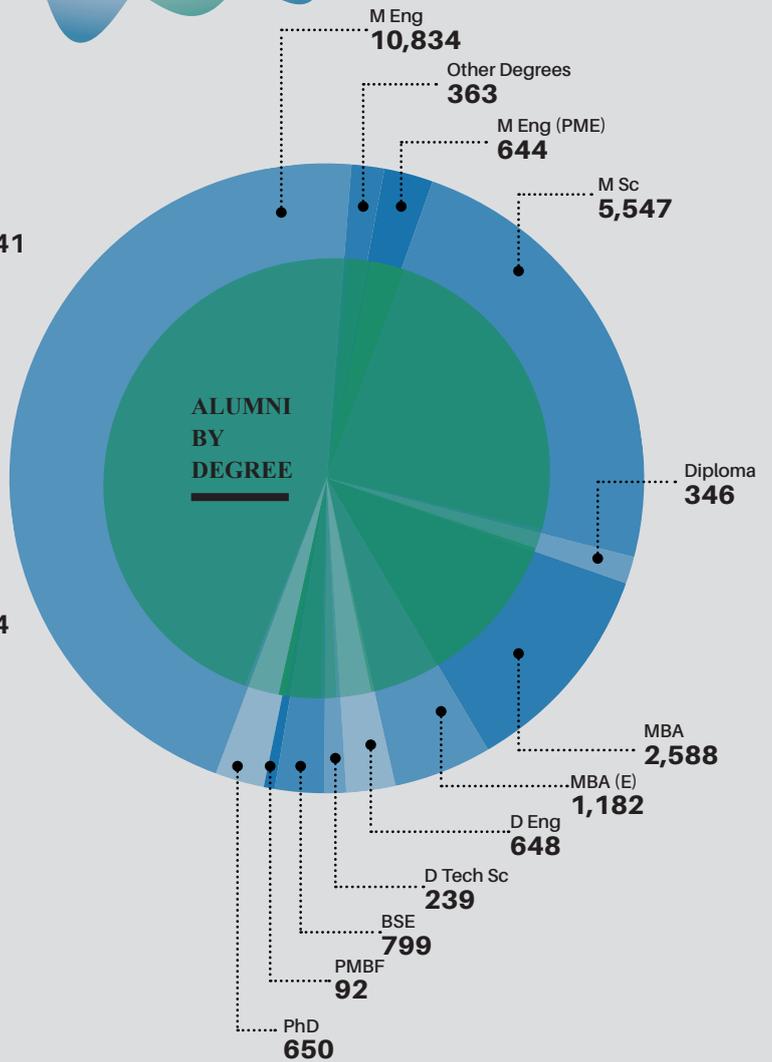
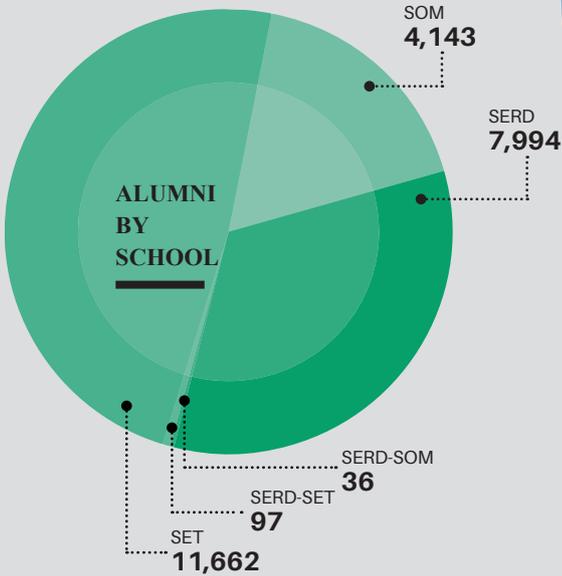
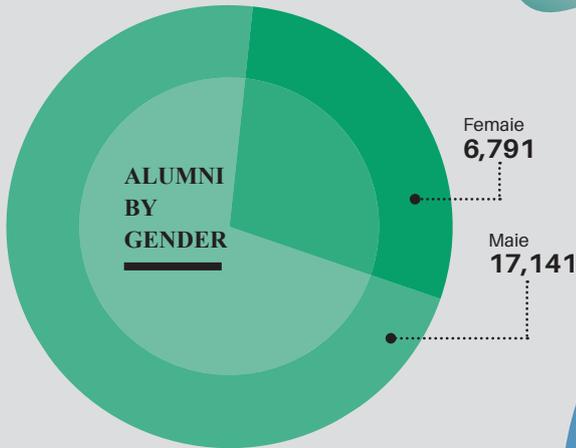
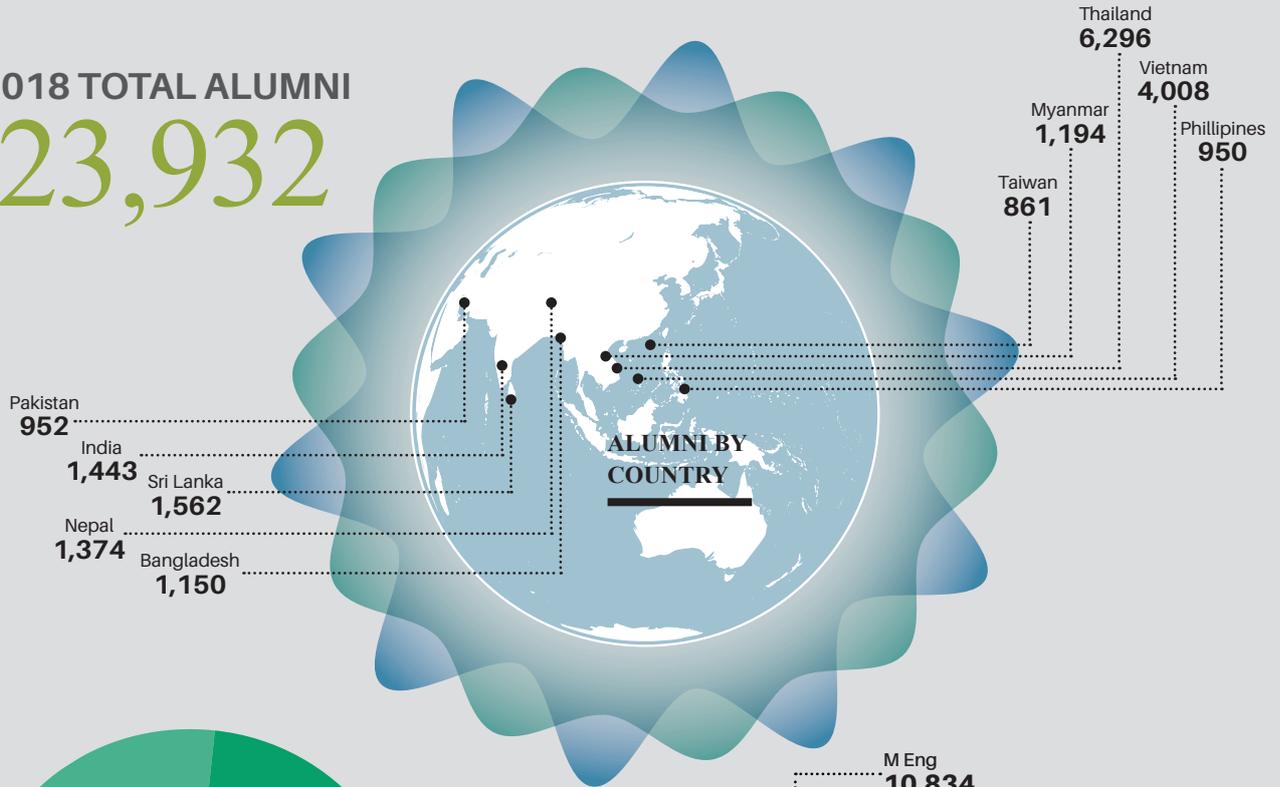
School	Department	2018	Doctoral	Masters	Diploma	Bachelors
SET	ICT	110	13	89	1	7
	ISE	118	8	49	6	55
	CIE	298	4	215	2	77
SET Total		526	25	353	9	139
SERD	FAB	57	8	25	-	24
	EECC	87	3	84	-	-
	DS	51	7	44	-	-
SERD Total		195	18	153	-	24
SOM		97	13	84	-	-
SERD-SOM		3	-	3	-	-
SERD-SET		9	1	8	-	-
AIT total		830	57	601	9	163

(Note: Typically, Professional Masters' students take at least three (3) semesters to graduate, and doctoral students usually take longer than seven (7) semesters to graduate.)

Alumni at a Glance

2018 TOTAL ALUMNI

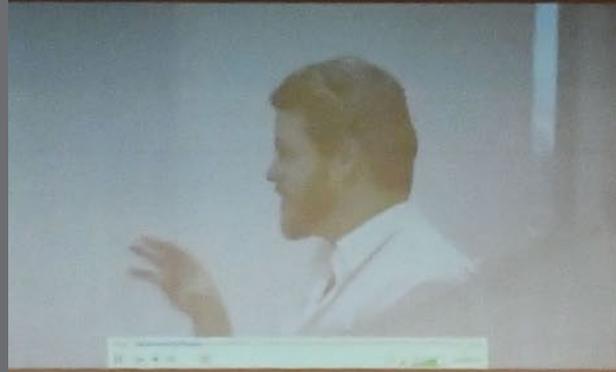
23,932



3.4 Career Center

THE CAREER CENTER ORGANIZED TWO CAREER FAIRS IN 2018, ATTRACTING A TOTAL OF **910** VISITORS (OF WHOM **733** WERE STUDENTS).

A total of 22 Career Talks were organized during the year, with 661 students taking part. The Career Center facilitated internship placements of five (5) students in companies that participated in the Career Fairs and assisted 35 students in obtaining internships by providing recommendation letters to companies.





3.5 Faculty Appointments, Contract Renewals, and Promotions

In 2018, two (2) new faculty members were appointed, three (3) were promoted from Associate Professor to Full Professor, two (2) were promoted from Assistant Professor to Associate Professor, and 13 faculty contracts were renewed. In addition, 45 faculty members were appointed on long-term Visiting, Adjunct, or Affiliated contracts (one year and above), and 121 faculty members were appointed as short-term Visiting, Adjunct, or Affiliated contracts (less than one year).

In addition, recognition was accorded to Prof. Ajit P. Annachhatre, Prof. Worsak Kanok-Nukulchai, Prof. Nguyen Thi Kim Oanh, Prof. Prinya Nutalaya, and Prof. Jayant K. Routray by appointing them Professor Emeritus.

3.6 Faculty Performance

AIT regular faculty are expected to teach a minimum of 9 credits per year. The data presented in the table below indicate that in general, teaching loads are satisfactory. The table shows the total number of courses and faculty workloads in terms of student research guidance.

The faculty teaching performance assessment is based on the survey conducted for each course every semester. Students evaluate teaching performance using a number of parameters presented on a 5-point Likert scale, where 5 is Strongly Agree and 1 is Strongly Disagree. In cases of co-teaching, faculty are evaluated individually. The survey consists of 45 questions: 12 for course delivery, 11 for instructor characteristics, 11 for overall assessment, and 3 optional open-ended questions for comments.

Faculty at a Glance

Faculty	Faculty Headcount Annual Average	Faculty Strength in FTE*
SCHOOL OF ENVIRONMENT, RESOURCES AND DEVELOPMENT		
Full-time Faculty	29.4	29.4
Visiting Faculty > 1y	2.5	2.5
Visiting Faculty < 1y	2.2	1.1
Adjunct Faculty	8.0	2.0
Total	42.1	35.0
SCHOOL OF ENGINEERING AND TECHNOLOGY		
Full-time Faculty	29.0	29.0
Visiting Faculty > 1y	5.0	5.0
Visiting Faculty < 1y	7.5	3.6
Adjunct Faculty	43.4	10.8
Total	84.7	48.5
SCHOOL OF MANAGEMENT		
Full-time Faculty	3.3	3.3
Visiting Faculty > 1y	0.2	0.2
Visiting Faculty < 1y	9.2	4.6
Adjunct Faculty	10.5	2.6
Total	23.2	10.7
ASIAN INSTITUTE OF TECHNOLOGY		
Full-time Faculty	61.8	61.8
Visiting Faculty > 1y	7.7	7.7
Visiting Faculty < 1y	18.6	9.3
Adjunct Faculty	61.9	15.5
Total	149.9	94.2

* FTE is computed by multiplying the headcount by the FTE factors, where 1 is used for Chair Professor, Professor, Associate Professor, Assistant Professor, Instructor, and long-term Visiting Faculty; 0.5 for short-term Visiting Faculty; and 0.25 for Adjunct Faculty.

Faculty Teaching and Research Supervision Loads and Assessments in 2018

SCHOOL / DEPARTMENT		NO. OF TEACHING FACULTY		TOTAL NO. OF COURSES	TOTAL COURSE OFFERINGS	AVERAGE CLASS SIZE	AVERAGE ASSESSMENT
		REGULAR	Short-term/ Part-time				
SERD	DS	13	1	41	49	9	4.2
	EECC	17	4	48	55	16	4.2
	FAB	7	5	26	28	12	4.2
SERD-wide		37	10	115	132	13	4.2
SET	CIE	13	41	75	156	19	4.2
	ICT	13	12	53	65	24	4.1
	ISE	7	13	39	52	17	4.0
SET-wide		33	66	167	273	20	4.1
SET-SERD		5	1	8	9	20	4.1
SOM		4	22	48	97	15	4.3
AIT-wide		79	99	338	511	17	4.2

SCHOOL / DEPARTMENT		NO. OF TEACHING FACULTY		TOTAL DOCTORAL GRADUATES	AVERAGE ASSESSMENT (Doctoral graduates)	TOTAL MASTER GRADUATES	AVERAGE ASSESSMENT (Masters graduates)
		REGULAR	Short-term/ Part-time				
SERD	DS	11	3	13	4.43	47	4.4
	EECC	11	1	2	4.49	82	4.6
	FAB	7	-	10	4.61	35	4.5
SERD-wide		29	4	25	4.49	164	4.5
SET	CIE	12	9	7	4.69	167	4.6
	ICT	13	3	14	4.60	99	4.6
	ISE	8	2	10	4.91	59	4.6
SET-wide		33	14	31	4.72	325	4.6
SET-SERD		1	-	-	-	6	4.6
SOM		6	7	13	4.74	47	4.6
AIT-wide		69	25	69	4.64	542	4.6

Faculty Publications until 2018

SCHOOL / DEPARTMENT		No. of full-time faculty	Average H-index		Sum of Cited Documents		Sum of Citations		Sum of Refereed Journal Articles (Scopus)
			Scopus	Google Scholar	Scopus	Google Scholar	Scopus	Google Scholar	
SERD	DS	12	7	12	336	640	2,276	6,463	260
	EECC	14	18	23	1,049	1,581	20,030	35,085	720
	FAB	6	9	15	240	602	2,414	6,122	191
SERD-wide		32	12	18	1,625	2,823	24,720	47,670	1,171
SET	CIE	11	10	13	463	656	6,575	9,566	328
	ICT	13	9	13	624	971	7,863	15,461	271
	ISE	7	9	13	342	642	2,601	5,266	154
SET-wide		31	9	13	1,429	2,269	17,039	30,293	753
SET-SERD		1	1	6	5	37	3	218	3
SOM		5	5	13	59	89	445	1,187	38
AIT-wide		69	10	15	3,118	5,218	42,207	79,368	1,965

3.7 Research Performance

The research projects of AIT are expected to contribute to promoting technological change and sustainable development. As of 31 December 2018,

- 334 sponsored and contracted projects with budget of over THB 1.5 billion are ongoing;
- 173 sponsored and contracted projects with budget of almost THB 312 million were initiated; and
- 186 sponsored and contracted projects with budget of more than THB 213 million were successfully completed.

Below are some examples of ongoing projects that highlight AIT's global, regional and country development experience, and is not an exhaustive list:

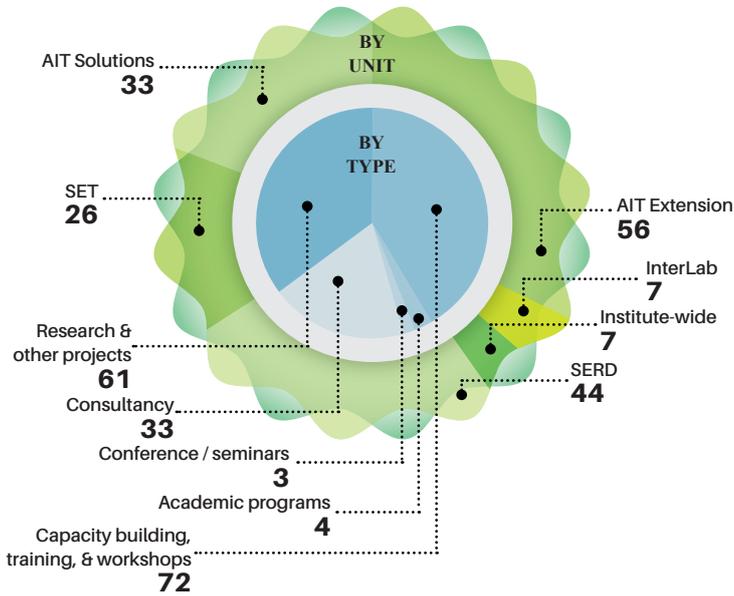
1. The Global Technology Needs Assessment (TNA) project is implemented by UN Environment, Division of Economy and executed by the UNEP DTU Partnership, Denmark. The TNA project is funded by the Global Environment Facility (GEF) and is on its third phase, which is expected to be fully completed in 2021. The project is aimed at assisting developing countries in determining their technology priorities regarding mitigation and adaptation to climate change. AIT is the Regional Center for Asia, having been involved with TNA since its inception. Globally, 23 countries participate in this third phase: Asia (Afghanistan, Myanmar); Asia-Pacific (Nauru, Fiji, Vanuatu); Africa-Francophone (Benin, Central African Republic, Chad, Djibouti, Guinea, Niger, Haiti); Africa-Anglophone (Eritrea, Liberia, Malawi, Uganda); Africa-Portuguese (Sao Tome and Principe); Caribbean (Antigua and Barbuda, Dominica, Jamaica, Trinidad & Tobago, Suriname); and Eastern Europe (Ukraine).
2. The Fecal Sludge Management (FSM) Toolbox project covers an array of activities with comprehensive outcomes, including field testing evaluation, training of trainers, Toolbox dissemination, and enhancement of existing tools. These outcomes were tested and verified with hands-on training of FSM practitioners, training of tools with utmost outcome, and in-field evaluation and training in various regions and countries, namely: South Africa, Laos, Myanmar, Uganda, Indonesia, Bangladesh, Cameroon, and India. The Toolbox team is committed in constantly evolving and are engaging in providing practitioners with best possible FSM solutions. Working with its partners, the FSM Toolbox have extensively diverted its resources in pushing through the phase of the application process of its tools to bring about optimistic change in the field of FSM.
3. AIT successfully obtained funding from USAID for the project titled "Connecting Climate change, Hydrology, and Fisheries for Energy and Food Security in the Lower Mekong Region." The project develops and evaluates dam operation scenarios that optimize both hydropower production and total fish catch in the context of proposed and completed hydropower facilities under climate change scenarios within the 3S basin. The project also aims to develop the capacity of young professionals working in relevant government agencies and responsible for dam operations, water resources management, and fisheries in Cambodia, Lao PDR, Vietnam, and Thailand.
4. AIT is a member of the Climate Technology Centre and Network (CTCN) consortium, the operational arm of the UNFCCC Technology Mechanism, hosted and led by the UN Environment Program and the UN Industrial Development Organization. AIT provides technology solutions, capacity building, and advice on policy, legal, and regulatory frameworks tailored to the needs of Nepal, Bhutan, and Timor-Leste. AIT continues to provide expert technical assistance to technological and developmental interventions for countries in the region and beyond as part of this global project.
5. Along with DHI (Singapore) and ERN International (Mexico), AIT helped create the first comprehensive Disaster Risk Database for Uttarakhand Province in India, which was unveiled by the Finance Minister of Uttarakhand Province Mr. Prakash Pant at an event organized in Dehradun on 12 September 2018. The integrated disaster risk database covering earthquakes, landslides, floods, and industrial hazards, was part of a multi-hazard risk assessment effort taken up under the World Bank funded "Uttarakhand Disaster Recovery Project" following the 2013 cloudburst which caused significant loss of life and property.
6. The Thailand Accident Research Center at AIT with funding from its Consortium of Industry partners, namely, Asian Honda Motor Co. Ltd., Honda Motor Co. Ltd., Yamaha Motor Co. Ltd., and Thai Yamaha Motor Co. Ltd. carry out the project titled "Motorcycle Accident Investigation in Thailand." Data collection were from the Central and Eastern, Northern, North-Eastern, and Southern regions of Thailand. The research aims to analyze and provide information to address the incidence of accidents, including identification of contributing factors in motorcycle accident causation and motorcycle accident injuries in Thailand.
7. AIT received two more EU-funded projects under the Erasmus+ Capacity Building of Higher Education program (Computer Science, Information Management, and Energy). Altogether, there are ten (10) ongoing Erasmus+ projects being implemented, reiterating AIT's leading role in capacity building for the region and beyond.

3.8 Learning, Innovation, and Educational Development

Following are the key highlights:

- Moodle: The accumulated number of courses built in the AIT Moodle (<http://moodle.ait.asia>) is 164 (SERD: 103; SET: 28; SOM: 35; UG: 10; LC: 10).
- Analysis: Reports and notes on teaching, learning, and student engagement for AIT policy development were prepared (analysis of official leaves, length of lectures, analysis of AIT's U-Multirank scores, report on KPIs (faculty and school), status and challenges in doctoral program).

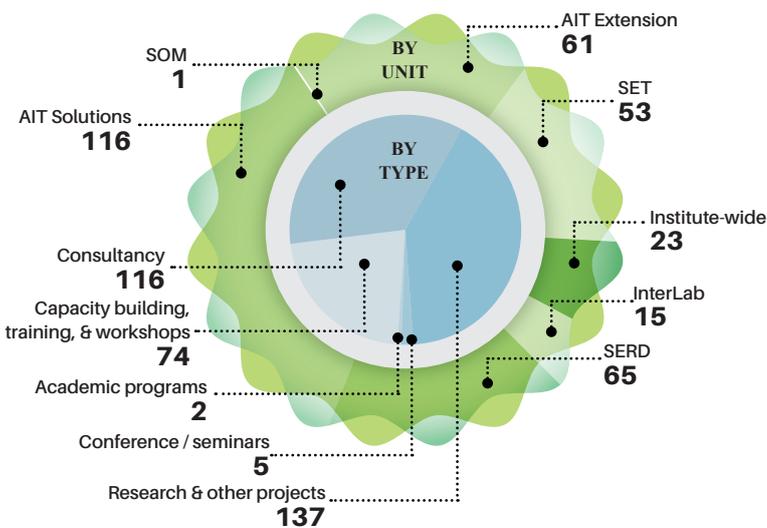
Projects at a Glance



INITIATED PROJECTS 2018 Total Project Budget

312 Million Thai Baht

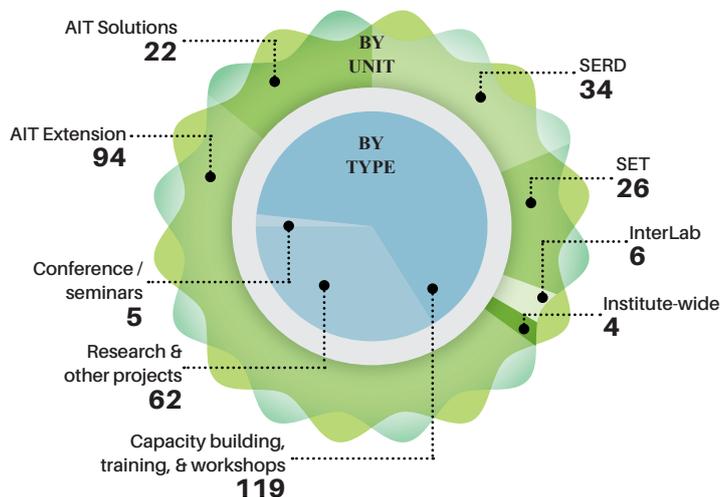
173 Total Number of Initiated Projects



ONGOING PROJECTS 2018 Total Project Budget

1,472 Million Thai Baht

334 Total Number of Initiated Projects

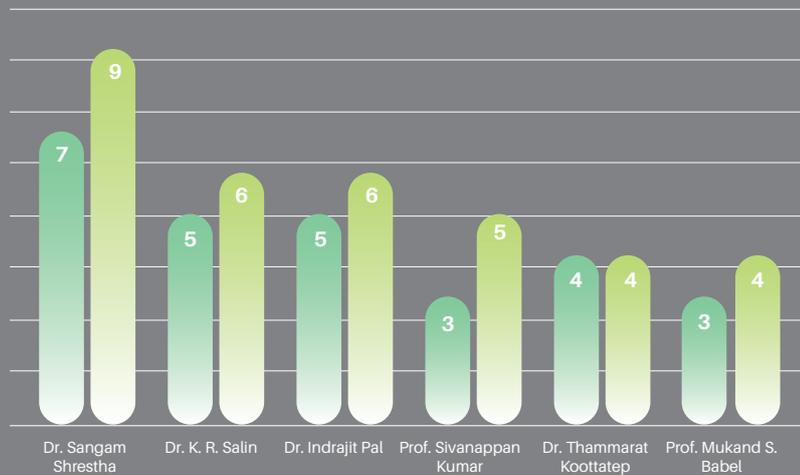


COMPLETED PROJECTS 2018 Total Project Budget

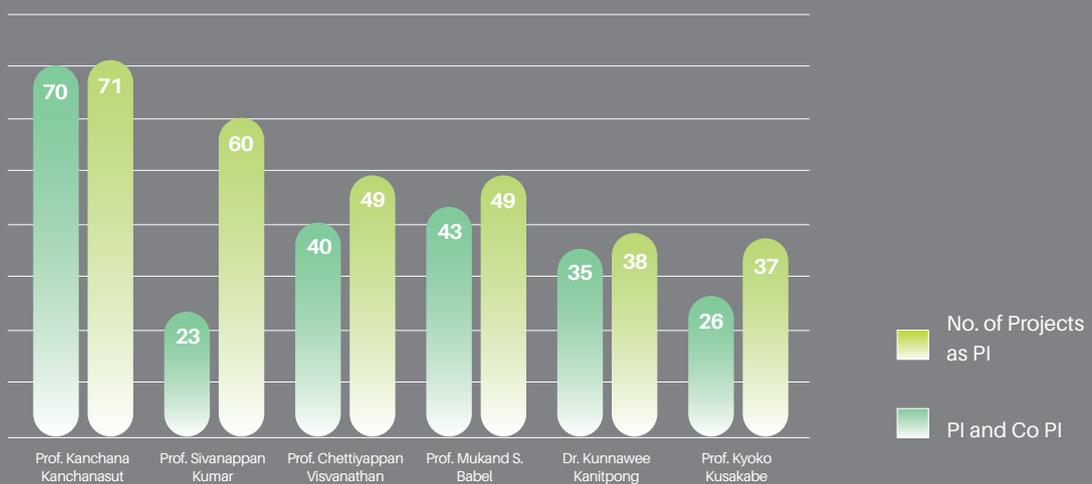
213 Million Thai Baht

184 Total Number of Initiated Projects

Top Principal Project Investigators (PI) Initiated in 2018



Top Principal Project Investigators (2016-2018)



Top Scopus-Cited AIT Researchers

1. Prof. Phan Minh Dung

- On the acceptability of arguments and its fundamental role in nonmonotonic reasoning, logic programming, and n-person games (cited 2,312 times) 1995; Artificial Intelligence; Dung, P.M.
- An abstract, argumentation-theoretic approach to default reasoning (cited 406 times) 1997; Artificial Intelligence; Bondarenko, A., Dung, P.M., Kowalski, R.A., Toni, F.

2. Prof. Nguyen Thi Kim Oanh

- Simultaneously Mitigating Near-Term Climate Change and Improving Human Health and Food Security (cited 553 times) 2012; Science; Shindell, D., Kuylenstierna, J.C.I., Vignati, E., Van Dingenen, R., Amann, M., Klimont, Z., Anenberg, S.C., Muller, N., Janssens-Maenhout, G., Raes, F., Schwartz, J., Faluvegi, G., Pozzoli, L., Kupiainen, K., Höglund-Isaksson, L.,

Emberson, L., Streets, D., Ramanathan, V., Hicks, K., Oanh, N.T.K., Milly, G., Williams, M., Demkine, V., Fowler, D.

3. Prof. Weerakorn Ongsakul

- Unit Commitment by Enhanced Adaptive Lagrangian Relaxation (cited 340 times) 2004; IEEE Transactions on Power Systems; Ongsakul, W., Petcharaks, N.

4. Prof. C. Visvanathan

- Membrane Separation Bioreactors for Wastewater Treatment (cited 331 times) 2000; Critical Reviews in Environmental Science and Technology; Visvanathan, C., Ben Aim, R., Parameshwaran, K.

5. Dr. Anil Kumar Anal

- Chitosan-alginate Multilayer Beads for Controlled Release of Ampicillin (cited 224 times) 2005; International Journal of Pharmaceutics; Anal, A.K., Stevens, W.F.

Student Research – 2018

SCHOOL/ FoS	DOCTORAL STUDENTS DISSERTATION	STUDENTS' RESEARCH				TOTAL MASTER'S STUDENT RESEARCH	UG STUDENTS' CAPSTONE PROJECT	TOTAL
		Thesis	Research Studies	Internship	Projects			
SET	25	230	56	0	67	378	139	517
CEIM	1	36			64	101		
CIE (UG)							77	
CS	1	7	6			14		
EL (UG)							3	
GTE	2	15	6			23		
ICT		6	13			19		
ICT (UG)							4	
IM	4	6	10			20		
IME	3	13			3	19		
ME	4	14	1			19		
ME (UG)							52	
MES	1	11				12		
NT		5	2			7		
OTM		6				6		
RSGIS	8	25	4			37		
STE		34		1		34		
TC		3	9			12		
TC (UG)							3	
TE		16	5			21		
WEM	1	33				34		
SERD	18	135	18	0	0	171	24	195
AARM		3				3		
ABM	3	2				5		
ASE	2	6				8		
BSE (UG)							24	
CCSD	1	7				8		
E		18	16			34		
EEM	2	43				45		
FBT	3	14				17		
GDS		7	2			9		
NRM	4	13				17		
RRDP	3	12				15		
UEM		10				10		
UM						0		
SOM	13	0	9	0	32	54	0	54
MBA-D			9		1	10		
MOT	2							
EMBA (VN)					31	31		
DBA	6					6		
IB	1							
SM (PHD)	4					4		
SET & SERD	1	6	0	2	0	9	0	9
DPMM	1	4		2		7		
UWEM		2				2		
SERD& SOM	0	0	3	0	0	3	0	3
EBM			3			3		
TOTAL	57	371	86	2	99	615	163	778

Administration

VICE PRESIDENT: PROF. KAZUO YAMAMOTO

(January to June 2018)

2018	Jan	Feb	Mar	Apr	May	Jun
Presidential Office Work						
% Working days: 59.1% (AIT) /40.9% (Univ. of Tokyo)						
Non-School RC Supervision						
Outreach Center Committee (OCC)						
Meetings with other Directors						
AITCV Steering Committee						
AITCV 25th Anniversary Event						Hanoi
Kurita-AIT Scholarship Management (Donor-side)						
Kurita-AIT Research Grant Management (ca 10 m JPY)						
IDEA (*1) R&D Center Activity Monitoring						
Outreach Activities as VPA (invited lecturer)						
	Jan	Feb	Mar	Apr	May	Jun

*1 IDEA: IDEA Consultants, Inc.

Development

VICE PRESIDENT: MR. SURENDRA SHRESTHA
(January to June 2018)

This brief report provides an update on the initiatives and opportunities ahead within the scope of the main responsibilities assigned, namely: i) developing an innovative institute strategy; ii) exploring new partnerships to support the implementation of the strategy; and iii) enhancing partnerships with alumni (AITAA).

1. Brief on the Three Assigned Tasks

STRATEGY: An Institute-wide Committee has completed the main elements of a new strategy following a thorough review of existing documents. Committee consultations included discussions with faculty, senior staff, and students. The Strategy includes holistic integration of traditional strengths, focusing on regional priorities to better prepare work-ready graduates for the 21st century. The Strategy proposes a business model that looks more Eastern than Western. The Strategy and a Resource Plan will be articulated upon confirmation by Management.

PARTNERSHIPS: Partnerships work focused on the following three areas: national governments; raising visibility; and in-house teamwork, especially for AIT Day.

The following governments have either confirmed or are in the process of confirmation that they will provide full scholarships, research grants, or support for short-term training: Afghanistan, Cambodia, India, Indonesia, South Korea, Nepal, and the Philippines. Regular follow-up with these countries is recommended.

To raise AIT's visibility, the following actions have been completed: i) AIT has registered with the UN Secretariat, UN ESCAP, ILO, UNDP, UNCRD, and UNEP; ii) AIT is one of the core partners in the Global Forum on Technology for SDGs (G-STIC) leading urban and agriculture clusters; AIT is participating in many higher education forums in the region (Himalayan University Consortium, Afghanistan, Indonesia, Myanmar, Nepal, and the Philippines).

Three Institute-wide initiatives have been established, bringing faculty and staff from Schools and Centers for an interdisciplinary team approach. These Initiatives include: Climate Change, Urbanization, and Sustainable Development Goals (SDGs). AIT has started engagement for building capacity in these regional priorities.

ALUMNI: Alumni are the biggest resource for our Institute. Senior alumni are in positions of power and influence in both the public and the private sectors. All country visits and six (6) AIT Day national events have been organized working closely with alumni. The Institute must do more to strengthen this partnership for mutual gain.

2. Opportunities

AIT is a known brand name. The first half of the Institute's history witnessed its establishment and rapid growth, while the second half witnessed a multitude of challenges and a gradual erosion of the brand as well as the Institute's international status. Looking ahead, AIT has an opportunity to serve as a capacity building, "go-to" institution focused on the nexus of technology, development, and knowledge. Some of the key opportunities for our Institute include:

A. INTEGRATED APPROACH: 21st-century education is rapidly moving from a "silo" approach to more holistic, integrated learning. It is not so much what knowledge should be acquired as how that knowledge should be utilized for innovative solutions of real problems, which will include critical thinking skills. The future will involve intrinsic motivation and design.

B. WORLD CLASS UNIVERSITY (WCU): As the economic center of gravity moves from West to East, countries in Asia will set the norms, values, and standards for higher education for the 21st century. Many of the countries in the region have announced the establishment of WCUs that are more international as well as autonomous and endowed with substantial resources. Plans of WCUs include moving from teacher-focused to student-focused classrooms. AIT should be engaged in supporting the establishment of WCUs. AIT will need to consider franchising its brand across the region and be at the center of the hub as WCUs emerge in the coming years.

C. RESOURCES FOR AIT: Current operational resources are provided mainly through the generous support of the Thai Government. The work done in the past 12 months shows that a business model focusing on meeting capacity building needs in areas of priority for the region is feasible. Building on the AIT brand and quickly adapting to the needs of the region will be the key. An agile AIT adapting to the fast-changing needs of the region will ensure growth and success. There is an opportunity for AIT to gain international status and serve Asia as well as the developing world.



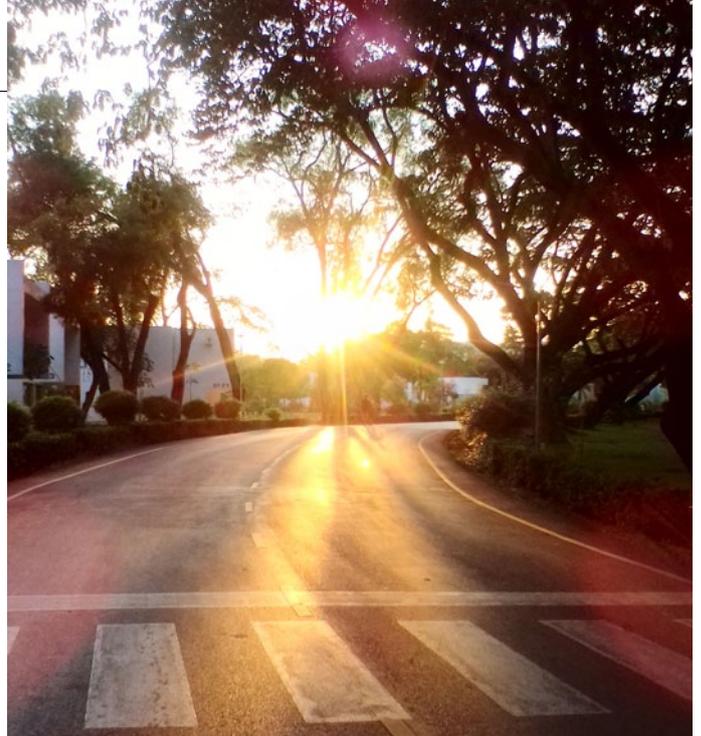
AIT

Office of Advancement

The Office of Advancement (OADV) is responsible for developing and cultivating links with alumni, industry, foundations, and corporate partners. It also serves as the focal point for individual alumni, the AIT Alumni Association (AITAA), and national chapters to provide support to alumni and develop collaboration and partnership for mutual benefit. The Office works to secure fully-funded scholarships at Masters and PhD level from universities and government ministries and institutes, especially in Sri Lanka.

In terms of industrial linkages and private sector scholarships, the Office worked to secure scholarships from the Thai Pipe Industry Co. Ltd., Bangchak Petroleum Co. Ltd.; BRIDGEX BINA Sdn Bhd, Malaysia; the Chaipattana Foundation; the INDEX International Group Co. Ltd.; and Wisit Engineering Consultants, Ltd. The Office also initiated student internship placements in leading companies, including INDEX International Group Co. Ltd.; Nawarat Patanakarn Public Co. Ltd. and Wisit Engineering Consultants, Ltd. OADV received perpetual scholarships in honor of the late AIT President Prof. Robert B. Banks as well as 24 credited fellowships from a group of SEC'88 alumni, Tiger Leong Innovation Camp, and Computer and Structures, Inc., USA to support AIT fellowships in Structural Engineering, School of Engineering & Technology.

Furthermore, OADV facilitated fundraising for the AIT International School and its new container-type classrooms.



School of Engineering and Technology

DEAN: PROF. VORATAS KACHITVICHYANUKUL

Financial Performance

The School's projected financial performance for 2018 showed a 700% increase in the surplus compared to the approved budget surplus, from the budgeted 3.1 million THB to a tentative 22 million THB. The School's projected net revenue was 229.9 million THB, with projected operating expenditures of 116.6 million THB since hiring of new faculty could not be completed as planned and an overhead contribution of 91.3 million THB was forecast. For 2019, the School's targeted surplus is 8.2 million THB, about 2.6 times the previous year's target and lower than the forecast surplus due to the completion of planned faculty recruitment and an end to the undergraduate program.

Faculty and Staff Figures

In 2018, the School recruited one (1) new full-time faculty member in the area of Water Engineering and Management, renewed 13 full-time faculty members, and processed six (6) faculty promotion requests while recommended four (4). The School is in the process of recruiting one (1) new full-time faculty in ISE in the combined areas of MES and NT. In addition, more faculty positions are to be filled in ISE (IME program), ICT (ICT and CS programs), and CIE (WEM, STE, and GTE programs) to strengthen the School's faculty resources. The total faculty FTE is 49.25, of whom 27 are full-time, 10 are seconded, 4 are visiting and 41 are part-time faculty. Based on total student enrollment and FTE, the student-faculty ratio is computed at 20.58 (total student enrollment: 1,014).

The School comprised 89 staff members, including 40 direct-hire staff under academic units, 20 center-funded staff, and 29 research-funded staff under research projects. The student-staff ratio was computed at 25.35 (total student enrollment: 1,014).

Student Figures

A total of 303 students representing 22 countries enrolled in SET (including interdisciplinary programs) in 2018.

SET received 47 full scholarships (5 ADB-JSP, 8 GMSARN, 24 HM King's, 5 AITCV, 3 Japanese Government, 1 BRIDGEX, 1 KURITA), in addition to 49 scholarships from externally-funded donors as well as RTG and self-supporting.

Full Scholarship	Externally-Funded	RTG	Self-Supporting	AIT Fellowship
47	22 Full and 9 Partial plus 5 Partial (2 Thai Pipe, 2 TICA, 1 WE)	16 Full, 15 Partial	11 Full, 87 Partial	2 Full, 164 Partial

In 2018, 71 Unified Bachelors and Masters Program students were admitted in collaboration with JNTU, India. A total of 391 post-graduate students and 138 undergraduate students graduated



in 2018 (5% were PhD graduates). Total student enrollment at the end of 2018 was 1,014 PG and 62 UG.

Research and Academic Projects

In 2018, a total of 24 sponsored and contracted research projects, with a total budget value of 83.8 million THB including overhead of 4.3 million THB and faculty recovery of 1.3 million THB, as well as two (2) sponsored and contracted academic projects were initiated, with a total budget value of 12.3 million THB, including overhead of 0.85 million THB and faculty recovery of 1.04 million THB. During this period, 26 projects were successfully completed, with a budget value of 57.1 million THB.

Visibility

SET signed 5 MoUs and MoAs related to the School, and currently has 5 MoUs and MoAs in process - 3 from Bangkok, 2 from the USA, 1 from Portugal, 1 from Sri Lanka, 1 from Japan, 1 from Myanmar, and 1 from the Philippines.

SET led the coordination and participated in the AIT Day event in Myanmar on 4 March 2018 along with other schools and with the support of the AIT Alumni Association, Myanmar Chapter. The event was attended by more than 150 participants. The AIT English Entry Test (EET) was also given in two batches by the AIT Team (1st batch) and the AIT Language Center (2nd batch), with a combined total of 161 test takers.

SET also helped organize and participated in the AIT Day event in Nepal on 22 March 2018 along with other schools and with support from the AIT Alumni Association, Nepal Chapter. About 100 students attended the event, and 15 potential students paid the application fee.

The school also organized an AIT-SET Day in the Philippines on 31 August-1 September 2018. The event was partially supported by and held at the University of Science and Technology of the Southern Philippines, Cagayan de Oro. The event attracted about 300 potential students. AIT-SET Day was covered by local media



and received online coverage on the school's official Facebook page, garnering more than 300 views.

SET also participated in visits to Sri Lanka on 14-17 February and 3-5 May 2018, Pakistan on 19-21 March 2018, Sweden 10-15 June 2018, China on 19-23 September 2018, and India on 26-29 September 2018.

In addition, the School participated in exhibitions in Thailand in November 2018 as part of the Institute's yearly promotional activities, which include the OCSC International Education Expo in Siam Paragon, the QS World Grad School Tour at the Anantara Siam Hotel, and the CRMA Research Exhibition. The School also participated in Siam University's Open House on 27-28 November 2018.

Each department also organized visits to some universities in Thailand. The school, represented by one or more faculty members, also participated in promotional trips organized by the RTG office.

To remain continually visible, SET's target countries for 2018 are Cambodia, Myanmar, Nepal, the Philippines, India, and Thailand as well as visits to China, Vietnam, Indonesia, and Sri Lanka. The School plans to proceed with organizing the AIT-SET Day next year with the help of alumni chapters and partners in the targeted countries.

Online Promotional Activities

SET promoted the School's programs in social media by posting news about admission openings and various scholarships announcements.

SET also ran online advertising campaigns to reach prospective students in various Asian countries and promoted openings and available scholarships, which boosted application submissions.

New Ventures

In 2018, two batches were offered for a Professional Masters in

Project Management in Mandalay and Yangon (Myanmar) under the CEIM program, CIE Department. The program also plans to offer professional Masters in the Philippines and Sri Lanka.

The first batch of the online Professional Masters in Tall Building was also offered in partnership with AIT Solutions and expected to attract more students next year.

In addition, the School would like to extend the Unified Program initiative to other countries.

To be more visible, SET plans to encourage more summer programs and study visits from other institutes and to create interest in each event on Facebook to attract viewers.

Highlights

- The CEIM Program successfully launched its new virtual lab, with a grand opening on 28 August 2018.
- Prof. Mukand Babel, WEM, was honored with the Japan Society of Hydrology and Water Resources (JSHWR) International Award on 13 September 2018 at Mie University, Tsu City, Japan.
- Mr. Divakar Thapaliya, a student of WEM and one of the recipients of the Kurita Scholarship was honored at the Kurita Scholarship Award Ceremony on 24 August 2018.
- A new SATEL and DNWP Advanced Telecommunications Laboratory was established in the TC program building during the 1st quarter of 2018.
- Dr. Tanujjal Bora was awarded the title of AIT Distinguished Faculty in May 2018.
- Dr. Tanujjal Bora's collaborative research conducted with researchers from Oman won the National Research Award 2018 in Oman awarded by The Research Council (TRC), Oman.
- Prof. Phan M. Dung received the Classical Paper Award 2018 for his seminal work in the field of formal argumentation, a fast-growing field in AI. The award is among the most prestigious awards given for distinguished research achievements in AI for 2018.

School of Environment, Resources and Development

DEAN: PROF. RAJENDRA PRASAD SHRESTHA

SERD Intake

SERD received a total of 817 applications for 2018, which was 17% higher than for 2017. Of 817 applicants, 67% were offered admission. Of those offered a place, 177 applicants (or 32%) enrolled in various SERD programs.

The overall pay factor for SERD was 0.78, which is satisfactory. As per budget planning, 247 students were expected to be admitted in 2018. With 177 students actually enrolled, enrollment achievement was 73%, which was lower than in 2017 (86%).

Scholarships Received by SERD Students

SERD received 61% of total scholarships available AIT-wide in the August 2018 semester, compared to 54% in 2017. This also indicates an increase in comparatively better and more qualified applications in 2018.

SERD Finance

Total revenues and expenses for 2018 as of 31 December were as follows:

Total Annual Revenues = 153.68 million THB; Total Annual Expenses = 154.10 million THB, including direct expenses and an Institute allocation as OH. However, it does not include revenues (residual + payroll recovery) from projects, and OH rates are not final.

The forecast School budget for 2019 (excluding strategic investment) was submitted to Finance: Total Operating Revenue is about 158.29 THB, while Total Operating Expenditure (excluding institute allocation - OH) is about 91.45 THB.

Sponsored Research

A total of 44 new sponsored research projects were initiated in 2018, with a gross total budget of 97.15 million THB, of which OH due to the Institute were 7.0 million THB. The additional 6.5 million THB as revenue center cost and 1.0 million THB as research support fund was also contributed from sponsored research projects.

Academic and Personnel

- A total of 130 courses (60 in the January semester, 12 in the Inter-semester, and 58 in the August semester) were offered school-wide in SERD in 2018.
- Current student strength is 510 students.
- SERD graduated 164 Masters students, 19 Doctoral students, and 7 from other programs (Certificate, Diploma, and Special) in 2018.



- SERD hired one (1) regular direct-hire faculty in EEM in 2018, one (1) in RRDP, and one (1) in NRM to fill vacant positions. Similarly, 13 adjunct faculty were appointed in several SERD academic programs.
- Current SERD faculty and staff strength is 29 full-time faculty, 15 visiting or adjunct faculty representing 12 countries, and 121 staff members (36 direct-hire and 85 project-funded).
- 25 seminars on special topics and 15 visitor groups were hosted by the School.
- A number of faculty, student, and alumni achievements were recorded and announced on our webpage and Facebook page throughout the year.

Promotional Activities, Materials, and Websites

New websites at department level were created with new sets of promotion materials (prospectus, leaflet, brochures). Several department-level initiatives were also started, including publication of a monthly newsletter, an annual report and Facebook, Instagram, and Twitter pages for promotional activities.

The School also carried out promotional activities at Institute level (e.g., AIT Days, education fairs), and separately at department level, which were more online- and social media-oriented. SERD started producing annual reports in 2016, and the 2018 annual report was released in January 2019.

SERD's website (<http://www.serd.ait.ac.th>) was uploaded to AIT's multisite WordPress on 30 September 2018. It is continuously being updated and maintained. SERD E-brochure (prospectus) was updated and SERD's flier was redesigned. It is being used for all Institute- and School-level promotional activities.

New Initiatives and Visibility

- A total of eight (8) MoUs, two (2) MoAs, and one (1) Project Agreement were initiated in 2018.



- SERD is actively working with governments and the private sector. SERD initiated or renewed collaboration with MOAC, MEA, and PEA (Thailand) for about 100 dedicated scholarships to AIT.
- Two AC/DC electric fast-charging stations were installed at AIT in collaboration with Energy Absolute (EA) in 2018, a new type of facility at AIT and its vicinity. The installation of two EV-charging stations at AIT is primarily for research purposes but also to serve the community. This serves as a fine showcase for the steps the Institute is taking toward a carbon-neutral smart campus.
- A new academic program on “Development and Sustainability” has been developed and received approval to launch from August 2019 under the SERD Department of Sustainability and Development.
- Department-wide Ph.D. colloquia and faculty seminar have been started.
- An Association of Belt and Road Environmental Deans (ABRED) was formed at the forum held in Tongji University, China. The association consists 50 Universities from 23 countries in Asia, Africa, and Europe, including 25 universities from China. The Chair is affiliated with Tongji University, where the secretariat is housed. SERD’s Dean was elected Co-chair of ABRED.
- In addition to several scientific publications by SERD faculty in high-end journals, the following books were published by SERD faculty in 2018: 1) A book on Organic Waste Recycling, which explores newer technologies and sustainability paradigms, by Prof. Chongrak Polprasert and Prof. Thammarat Koottatep; 2) Bionanotechnology: Principles and Applications, by Dr. Anil Anal; 3) Climate Change and Cities: Second Assessment Report of the Urban Climate Change Research Network, by Dr. Shobhakar Dhakal; 4) Thailand: Environmental Resources, Social Issues, and Related Policies, by Prof. Yongyut Trisurat, Prof. Rajendra Prasad Shrestha, and Dr. Palle Havmoller; and 5) Climate Change and Sub-Saharan Africa: The Vulnerability and Adaptation of Food Supply Chain Actors, by Dr. John Kuwornu.

SERD Retreat

SERD’s Annual retreat on the theme of “Reorienting for Excellence” was organized on 7-9 December 2018 in Rayong, Thailand to revisit progress made in our actions since our last retreat and to further discuss what has been implemented in our research outcomes.

Discussions were also held on how to align SERD programs and strategies to the needs of the region. Discussions were held on specific topic regarding expanding SERD’s reach to the areas of Artificial Intelligence and Big data, climate change and cities, and AIT as a sustainable campus. AIT’s President, 20 faculty members, 1 invited guest, and 7 staff members attended the retreat and contributed to the discussion and final report.



School of Management

DEANS

PROF. LAWRENCE S. ABELN

(January to August 2018)

PROF. M. NAZRUL ISLAM (INTERIM)

(August to December 2018)

In 2018, SOM observed the growing challenges of the changing face of business schools all around the globe. Following the resignation of Prof. Lawrence Abeln in August 2018, the AIT President appointed Prof. Nazrul Islam as Acting Dean from 8 August, 2018 and then Interim Dean from 1 October, 2018 to take over the School's leadership and resolve immediate concerns.

A summary of major achievement of 2018 are as follows:

RANKINGS: In 2018, SOM was ranked among the top 250 Business Schools in the world by QS World Ranking by Subject 2018 under "Business & Management."

MARKETING & COMMUNICATION: To revamp SOM's marketing and communication strategy and effectively reach prospective students, a new promotion plan was implemented in 2018, which includes a modified school admission process, a simplified admission form, and a new school brochure and marketing documents. In 2018, SOM visited Nepal, Myanmar, India, Viet Nam, and Indonesia to host Information Sessions and meet prospective students, conduct interviews, and offer on-the-spot places to qualified candidates.



Academic Program

DOCTOR OF BUSINESS ADMINISTRATION (DBA): With the reimplementation of the DBA Program from August 2017, the need to clarify and update the DBA academic structure became apparent. In its 29 March 2018 meeting, AIT Management approved the new DBA course structure, requirements, and entry criteria.

MASTER OF BUSINESS ADMINISTRATION (MBA): From August 2018, the MBA Evening section at the Bangkok campus opened and began to attract regular MBA students as well as working professionals.





FINANCIAL STATUS (FORECAST): Projected Operating Revenues for 2018 are 51.16 million THB. Overall revenues increased by 17% compared to 2017 (43.7 million THB).

ADMISSION: A total of 96 students were enrolled in 2018, representing more than 10 countries. In 2017, the total number of admissions was 43.

FACULTY HIRING: In 2018, SOM invited several International Visiting faculty members to teach MBA and DBA courses. The regular faculty hiring process was advertised for 3 positions (Finance, Marketing, and Business Analytics). By the closing date (30 November 2018) 9 applications for Finance, 10 for Marketing, 7 for Business Analytics, and 16 unclassified had been received. The faculty selection panel was approved in December 2018.



On 10 November 2018, SOM hosted an information session in Yangon, Myanmar, where the AIT President joined the SOM Dean to meet prospective students

AIT Extension

EXECUTIVE DIRECTOR: DR. JONATHAN L. SHAW

Purpose

AIT Extension is the continuing professional and executive development arm of AIT, with a mission that complements that of the Schools. It specializes in customized short courses for practicing professionals and has expertise in designing and implementing programs for diverse clients in many sectors. Expert resources include internal staff, AIT faculty members, and experts in relevant fields based in Thailand and the region.

Performance

1. In 2018, AIT Extension ran 78 courses for around 1,329 participants. Net revenues are expected to be around 56.86 million THB, with a small projected deficit of 600,000 THB (F21: 5.1 million THB; F30: 4.5 million THB).
2. The projected deficit of 600,000 THB is against the forecast surplus for 2018 of 2.1 million THB. This performance is down on recent years (2014: 13.65 million THB; 2015: 16.27 million THB; 2016: 12.76 million THB; 2017: 7.8 million THB). Since 2017, as a Tier 1 center, AIT Extension pays office space rental of 2.99 million THB, which has substantially impacted surpluses.
3. The present headcount is 42, with two vacancies, and personnel costs of 29.05 million THB. In 2019, with these vacancies filled, this will rise to 32.01 million THB. This is still considerably lower than personnel costs 15 years ago (2004).
4. With four of eight senior staff approaching 60 years of age or already 60, succession planning is now necessary.
5. In 2018, AIT Extension invested in 30 Samsung and 40 iPad tablets for greater use of IT for classroom and course materials. Further renovation on its classrooms and facilities in the former RCC Building (AIT Extension Building) are planned for 2019.
6. Services offered were extensively revised in 2016 under the following categories: Continuing Professional Education, Assessment, Monitoring & Evaluation, Learning Facilitation, and Expert Services. A new website was launched in late 2018 reflecting these services.

Key Performance Indicators

Indicator	Definition	2015	2016	2017	2018	2019
Surplus	Revenues less expenditures (including all allocated costs and overhead), million THB/year	14.04	8.55	8.27	0.6	12.5
Repeat clients (client retention)	Clients in 2016 sending more than one course in the past five years, %	76%	94%	74%	75%	-
New clients		-	-	5	7	-
Involvement of AIT faculty	As proportion of total hours taught by all resource persons, %	17.7%	36.3%	33.9%	35%	-
Internal staff development	Internal staff contributing to courses as resource persons, staff members (additional)	3	2	3	1	-
Participant satisfaction	Quantified course reaction evaluation completed by all participants at end of course (aggregated)	93%	94%	85%	83%	-

AIT Solutions

EXECUTIVE DIRECTOR: DR. NAVEED ANWAR

AIT Solutions (AITS) remained active in developing innovative solutions in 2018 as it initiated 33 new projects with 20 organizations, including companies from the corporate sector, government organizations, and international development agencies. Some of its salient projects were:

- ADVISORY SERVICES FOR EARTHQUAKE SAFETY ASSESSMENT OF UN BUILDINGS IN YANGON, with the Myanmar Earthquake Committee
- WIND ENGINEERING STUDY - PROJECT BRAVO, ALI-ETON PROPERTY DEVELOPMENT CORPORATION, Philippines
- WIND TUNNEL STUDY & CODE BASED DESIGN REVIEW OF THE ADDRESS BUILDING, Geometric Engineering Co. Ltd., Thailand
- MEGA PROJECT, Seminar Properties Ltd., Bangladesh
- STRUCTURAL ASSESSMENT OF EXISTING HERITAGE BUILDING BY THE WORLD BANK, Sri Lanka
- INNOVATIVE SELF-FINANCING APPROACH TO AFFORDABLE HOUSING: CONCEPT DEVELOPMENT AND IMPLEMENTATION STRATEGY, with Research & Innovation for Sustainability Center (RISC)

AITS worked on Performance-based Design and Wind Tunnel Testing for several tall buildings in earthquake-prone countries such as the Philippines to ensure resilient structures.

AIT through AITS and the Engineering Institute of Thailand (EIT) in collaboration with the Association of Structural Engineers of the Philippines, Inc. (ASEP) and supported by Computers and Structures, Inc. (CSI), Mahidol University and EJEC successfully organized the **7th Asia Conference on Earthquake Engineering (7ACEE2018)** at the Sheraton Grande Sukhumvit, Bangkok from 22-25 November 2018.

In June 2018, AIT started offering the **Professional Masters Degree in Structural Design of Tall Buildings (PM-TB)**, providing the knowledge and skills needed to excel as a practicing engineer. This program is being managed and coordinated by AIT Solutions.

A multi-party agreement was signed between AIT and five municipalities in Khon Kaen, Thailand and the College of Local Administration of Khon Kaen University for furthering **Khon Kaen's Smart City Initiative**. This collaboration was facilitated by AIT Solutions.

Thirty-one (31) bright and talented undergraduate students from 14 countries attended the third **AIT-Tiger Leong International Innovation and Leadership Camp** organized by AITS, which was held from 16-26 July 2018 at AIT. The interactive camp was designed to contribute to the nurturing of young minds on a unique mix of innovation, leadership, and multi-disciplinary and cross-cultural attributes. AITS also structured the **Innovative Market Place**, an idea competition supported by Dr. Bindu N. Lohani, Member, AIT Board of Trustees and Former Vice-President, Asian Development Bank. Twenty (20) teams pitched their creative ideas under four thematic areas including waste management (reduction and recycling), safer built environments, climate change, and smart cities, which have not yet been commercialized and won exciting prizes.

Reinforcing the importance of creating and sharing knowledge, AITS not only organized several hackathons, workshops, seminars, trainings, and

events but also attended and presented at many international events. AITS organized a visionary event titled **Structural Engineering: Backbone of the Built Environment - Future-proofing our Infrastructure** in May 2018 at the Siam Kempinski Hotel, Bangkok. The event highlighted the role of structural engineering in the design and development of safe and resilient infrastructure in the future. The event was followed by an exciting talk titled **Empowering the Next Generation of Structural Engineers** by earthquake engineering software pioneer Mr. Ashraf Habibullah, President/CEO, Computers and Structures, Inc., USA. Seminars and workshops on **Analysis and Performance Based Design of Tall Buildings** held in Cebu (Philippines), Karachi (Pakistan), and AIT were also arranged by AITS with partner organizations. A special talk on **Innovation for Economic Stability** by Mr. Phil Psilos, FHI 360's Asia-Pacific Technical Advisor for Economic Development and Innovations was given on 15 November 2018, and a workshop on **Eastern Economic Corridor (EEC) Development Projects and Insight Information** by Dr. Veerapat Tantayakom, Executive Director of Investment Project Division, Office of EEC, Thailand was held on October 19, 2018. The Wildlife Enforcement Monitoring System (WEMS) Secretariat at AIT also jointly organized important events, including the conference on **Science, Technology, and Innovation for Addressing Wildlife and Forest Crimes and Attaining SDGs** and an event themed **Beat Plastic Pollution - If you can't reuse it, refuse it** to commemorate World Environment Day.

Dr. Naveed attended and presented at several important conferences and events, including the **Eleventh U.S. National Conference on Earthquake Engineering - Integrating Science, Engineering & Policy** held in Los Angeles, California from 25-29 June 2018, **The Tenth International Conference on Construction in the 21st Century (CITC-10)** held at the Hilton Hotel, Colombo, Sri Lanka from 2-4 July 2018, and the **7th Annual Vertical Cities** held in Bangkok, Thailand. AITS engineers also presented at a three-day seminar workshop on **Analysis and Design of Tall Buildings** organized by the Philippines Institute of Civil Engineers, Singapore Chapter in collaboration with the Association of Structural Engineers of the Philippines (ASEP) on 15-17 June 2018 in Singapore.

Besides other initiatives, AITS arranged around 24 on-campus and off-site meetings and visits with various local and international organizations to expand and strengthen our network. [ilab] also conducted several meetings with faculty and corporate sector to explore opportunities. Featured meetings were with the Siam Cement Group (SCG), Nspire by Netsol Technologies, the Wongpanit Group, the School of Change Makers, Suan Sunandha Rajabhat University, CPAIL, DRV, Gone Adventurin (GA), and Wastespace, Thailand. AITS also welcomed H.E. Mr. Kiatchai Sophastienphong, Vice Minister for Finance and his team at AIT to explore potential collaboration in the areas of robotics, machine vision and learning, agriculture, and post-disaster assessment. In addition, various meetings were conducted in the Philippines for possible collaborations with well-known organizations including DMCI, Ayala Land, OCLP Holdings Inc., and Innoland-Cebu.

The seventh issue of **Technology** magazine with the theme of **Built Environment** was released in November 2018, featuring three main attributes of a sustainable and resilient built environment: safety of infrastructure and people, carbon footprint impact on the environment, and waste management and solutions. Articles covered climate change and the built environment as well as the concept of zero waste. In addition, some of the initiatives being carried out at AIT to support resilient and sustainable built environment were shared.

AIT Center – Vietnam

DIRECTOR: DR. FREDRIC W. SWIERCZEK

2018 celebrated the Silver (25th) Anniversary of the Asian Institute of Technology (AIT) Center in Vietnam. To date, AIT has graduated 3,900 Masters and PhDs, and AITCV has 1,908 graduates in the iEMBA and DBA programs, and 25,000 participants have attended its short courses. This performance makes AIT one of the most successful international graduate institutions of higher education in Asia. AITCV organized celebrations in Hanoi, Ho Chi Minh City, and Can Tho with the participation of more than 400 Alumni.

1. Academic Programs

In 2018, 66 Vietnamese students graduated at the 129th & 130th AIT graduation ceremonies for the Professional Masters Programs of MPM, GEM, iEMBA, and DBA. In 2018, 47 participants were selected for the DBA, iEMBA, MPM, and GEM programs. Participants are from EVN, PVN, VNPT, Meinhardt Consultancy (Vietnam), universities (Van Lang and Binh Duong), the Ministry of Construction, EVN subsidiaries, private companies, as well as self-supporting.

2. Professional Development

AITCV offers two International Diplomas, including the Executive Program in Development Policies and Practices (DPP) and the Executive Program in Hospitality Management (EMHM). The DPP program is a joint cooperation between AITCV and the Geneva-based Graduate Institute of International and Development Studies (IHEID). EMHM is a collaboration between AITCV and the Salzburg University of Applied Sciences (FHS, Austria). In 2018, 15 participants enrolled in DPP and 21 in EMHM.

AITCV is recognized for its quality professional and management development with major customers such as the Big C Central Group, the Siam Cement Group, the A&P Group, Nikko Hotels, Yamaha, General Motors Power Systems, and Heineken, and cooperative groups such as Red Sun, Finance, Land, and Com-

merce (FLC). We also provided training for government organizations such as Vietnam Environment Administration, An Giang and Quang Ninh Provinces. In 2018, AITCV conducted 47 short training courses with 1,056 participants on various topics, including Supply Chain Management, Production Management, Project Quality Management, Green Lifestyle, Sustainable Business, and Organization Development as well as Soft Skills such as Presentation, Communication, Sales, Negotiation, Report Writing, English Skills, and Digital and Social Media. As regards training and study tours, AITVN implemented 32 programs with 312 participants from Bangladesh, Cambodia, Bhutan, and the United Arab Emirates on topics such as public management, training design, human resources management, construction, energy efficiency, and agriculture development.

3. International Projects

- In 2018, AITCV has continued to implement international projects as the Learning Center (LC) for Environment and Social Sustainability in collaboration with the World Bank, ADB, JICA, USAID, USEPA, and DFAT. A consultancy project with FAO Vietnam focused on “Building Capacity for Enhancing Bioenergy Sustainability through the use of GBEP Indicators” and an “Upscale and Mainstream Green Office Lifestyles in Vietnam” was funded by UNEP.
- In 2018, AITCV completed the capacity building program for the Vietnam Union of Science and Technology Associations (VUSTA) funded by USAID through the Vietnam Partner Capacity Development Program (PCD). The program developed competency for 31 officials from VUSTA and its members in policy research project design, policy research project monitoring and evaluation, and policy research writing skills. AITCV also provided the expertise in Leadership Development for Vietnam NGOs in the Leadership Development forum sponsored by PCD.



Office of Special Degree Programs

DIRECTOR: PROF. NITIN K. TRIPATHI

The Five-Year Unified International Bachelor-Master Degree Program is a strategic curriculum that aims to develop a collaboration between the Asian Institute of Technology (AIT) and partner Universities to offer a fast-track and economical way for students to complete Bachelors and Masters degrees with partner universities and AIT, respectively. AIT has 10 partners within this program:

- Jawaharlal Nehru Technological University Kakinada (JNTUK), India
- Jawaharlal Nehru Technological University Hyderabad (JNTUH), India
- Chiang Mai University (CMU), Thailand
- College of Agriculture Baramati (CAB), India
- Don Bosco University (DBU), India
- KL University (KLU), India
- Petra Christian University (PCU), Indonesia
- University of Toledo (UT), USA
- Siam University (SU), Thailand

MAY 2018 GRADUATION: 17 students

As officially confirmed in the Academic Senate meeting of the Asian Institute of Technology on 14 May 2018, 17 students graduated in the May 2018 semester (2 from JNTU Kakinada and 15 from JNTU Hyderabad).

- 6 from Microelectronics & Embedded Systems (MES)
- 3 from Construction, Engineering, & Infrastructure Management (CEIM)
- 3 from Information & Communications Technologies (ICT)
- 2 from Telecommunications (TC)
- 1 from Mechatronics
- 1 from Energy
- 1 from Remote Sensing & GIS (RS&GIS)

Students also completed requirements for Bachelors (14) and Masters (3) degrees.

INTER-SEMESTER JULY 2018 GRADUATION: 22 students

As officially confirmed in the meeting of the Academic Senate of the Asian Institute of Technology on 18 July 2018, 22 students graduated in the July 2018 Inter-semester (1 from JNTU Kakinada and 21 from JNTU Hyderabad).



- 6 from Remote Sensing & GIS (RS&GIS)
- 4 from Information & Communications Technologies (ICT)
- 3 from Information Management (IM)
- 3 from Nanotechnology
- 2 from Microelectronics & Embedded Systems (MES)
- 2 from Energy
- 1 from Transportation Engineering (TRE)
- 1 from Computer Science (CS)

ADMISSIONS FOR AUGUST 2018 SEMESTER: 8 students

JNTUH: 5 students admitted (3 for RS&GIS; 2 for CEIM)

JNTUK: 2 students admitted (1 for RS&GIS; 1 for CEIM)

CAB: 1 student admitted for ABM-SERD

ADMISSIONS FOR JANUARY 2019 SEMESTER: 36 students (expected; awaiting exam results)

JNTUH: 22 students admitted (1 eligible/applied)

JNTUK: 14 students admitted (8 eligible/applied)

Summary of Number of Students Enrolled and Graduated

	2015		2016			2017			2018			2019	TOTAL	
	JAN	AUG	JAN	AUG	DEC	JAN	AUG	DEC	JAN	AUG	DEC	JAN		
JNTUK	55	7	29	6		23	12		7	2		14	141	
JNTUH			61	14		111	5		57	5		22	253	
CAB							4					1	5	
TOTAL	62		110			155			64			8	36	399
			MAY	SUMMER	DEC	MAY	SUMMER	DEC	MAY	SUMMER	DEC			
GRADUATED	5 from ABM-SHIATS		29	15	11	14	30	23	17	22	57		161	
Total Admission:			399			Resigned:			2					
Current Students:			236			Graduated:			166 (4 Diploma)					
Extension:			19			Certificate Program:			30					
Dismissed:			1											



Admissions: Jawaharlal Nehru Technological University Kakinada (JNTUK), India

Field of Study	2015	2016	2017	2018	TOTAL
Environmental Engineering and Management (EEM)	22				22
Construction, Engineering and Infrastructure Management	21	12	18	3	54
Remote Sensing & GIS	19	8	4	3	34
Energy		15	10		25
Nanotechnology			1		1
Microelectronics & Embedded Systems (MES)			2		2
Transportation Engineering (TRE)				3	3
Total	62	35	35	9	141

Admissions: Jawaharlal Nehru Technological University Hyderabad (JNTUH), India

Field of Study	2016	2017	2018	TOTAL
Microelectronics & Embedded Systems (MES)	16	11		27
Construction, Engineering and Infrastructure Management (CEIM)	4	10	7	21
Information Management (IM)		9	9	18
Computer Science (CS)	19	9	8	36
Remote Sensing & GIS	14	17	20	51
Mechatronics	2	3		5
Information and Communications Technologies (ICT)	3	14	9	26
Telecommunications (TC)	4	8		12
Energy	3	12		15
Transportation Engineering		10	4	14
Nanotechnology	3	12	5	20
AARM		1		1
Structural Engineering (STE)	7			7
Total	75	116	62	253

Admissions: College of Agriculture Baramati (CAB), India

Field of Study	2017	2018	2019
Agribusiness Management (ABM)	4	1	10
Total	4	1	

MoU/MoA Signed Between AIT and Partners

Country	University / Institution	Remarks
India	Assam Don Bosco University (ADU)	MoA signed on 21 August 2015, valid for 5 years
India	KL University	MoA signed on 8 November 2016, valid for 5 years
Indonesia	Petra Christian University (PCU)	MoA signed effective January 2017, valid for 5 years
USA	University of Toledo (UT), Ohio	MoU signed on 5 June 2017, valid for 5 years; specific Operational Agreement finalized
India	SHE Foundation (Student Recruitment Agency)	Extension/renewal of MoU and MoA signed on 22 March 2017, valid for 5 batches from JNTUK, JNTUH, and KLU
India	JIS Group	MoU signed on 8 March 2015, valid for 5 years
Taiwan	National Ilan University	MoU signed on 11 May 2016, valid for 5 years, student exchange program
India	United Group of Institutions (UGI)	Renewal of MoU signed on 15 July 2016, valid for 5 years
India	College of Agriculture Baramati	Signed on 27 January 2016, valid for 5 years
Thailand	Siam University (SU)	Signed on 11 September 2017, valid for 5 years
Sri Lanka	South Asian Institute of Technology and Medicine (SAITM)	Signed on 12 November 2017, valid for 5 years

On-going and New Initiatives and Developments

Country	University / Institution	Remarks
China	Shanghai Ocean University (SHOU)	Sent revised draft MoA to SHOU for review and approval
China	Beijing Institute of Technology (BIT)	Received from BIT revised draft MoA for review
Viet Nam	University of Transportation and Communications (UTC), Hanoi	Mutually agreed proposed Study Structure and fees, sent revised draft MoA to UTC for review and endorsement
Thailand	Thammasat University (TU)	Further discussion with Faculty of Sciences and Faculty of Engineering to propose Unified Program and Dual Masters Degree Program
India	Indian Institute of Technology Roorkee (IITR)	Held initial discussions with Seconded IITR Faculty Members to AIT on the possibility of establishing Unified Program. Need to follow up for further negotiations.

Other Activities*Promotion*

AIT attended the Open House conducted by Siam University on 27-28 November to promote the Unified Program and AIT's Masters programs.

Students

Mr. Nandanavanam VBS Sudarsan Karthikeya, RS&GIS, was awarded Best Poster for his poster titled "Development of Mobile Online Solar Powered Smart Weather and Air Quality" during the FOSS4G Asia 2018 Conference in Sri Lanka.

Two Unified Program students, Mr. Singanamala Dinesh and Mr. Jnana Sai Abhishek Varma, from Mechatronics, Department of Industrial Systems Engineering, AIT were selected as AIT delegates to participate in the SAKURA Exchange Program in Science with Tokyo University of Science, Japan. The Japan-Asia Youth Exchange Program in Science (SAKURA Exchange Program in Science) aims to enhance exchanges between Asia and Japan for young students who will play a crucial role in their future field of science and technology through close collaboration between industry, academia, and government by facilitating short-term visits by qualified young Asian students to Japan.

Mr. Pulluri Tarun, Microelectronics and Embedded Systems (MES), participated in the ICT Summer School in Xi'an Jiaotong University, China.

Support Activities to Partner Universities

SDP Office arranged and facilitated some Supplementary Examinations for those students who had a backlog or failed subjects from previous semesters. The examinations were conducted simultaneously in accordance with the specified schedules and guidelines provided by JNTUK and JNTUH.

Visits and Meetings

- SDP Office led the AIT delegates in attending the Open House conducted by Siam University on 27-28 November to promote the Unified Program and AIT's Masters programs.
- Conducted meeting with Faculty Members from Thammasat University to discuss establishment of Unified Program.
- Hosted meeting between AIT President and Siam University President to discuss updates and developments in the on-going Unified Program collaboration.
- Conducted series of meetings with Seconded Faculty Members from IIT-Roorkee, India to discuss and finalize specific activities for collaboration.
- Attended meeting of the Selection Committee for selection of Indian Faculty for secondment to AIT for August 2018 and January 2019 semesters at the Ministry of Human Resources Development (MHRD), New Delhi, on 4-5 June 2018.
- Hosted and facilitated the meeting with Siam University Sub Steering Committee members to finalize the brochure for promotion, including the promotional trip to Myanmar; discussed Promotional Plan and Admission procedures and other matters (MoA for reference) on 8 May 2018.



- Hosted and facilitated the visit of Deputy Chief Minister and Education Minister H.E. Mr. Kadiyam Sri Hari, Telangana State, India, and JNTU-Hyderabad delegates led by Vice Chancellor Prof. A Venugopal Reddy accompanied by Prof. Govardhan-Rector and Prof. ESB Reddy-Principal. Also in attendance were Dr. Divya and Dr. Raj of the SHE Foundation and AIT students from JNTU on 30 April 2018.
- Hosted and facilitated the visit by delegates from the New Delhi Institute of Management (NDIM), New Delhi, led by Chair VM Bansal and Dr. Vigya Garg, Faculty Member, NDIM, India, on 25-27 April 2018. Guests also visited AIT's SOM Bangkok Campus and Siam University (SU), Bangkok.
- Visited the South Asia Institute of Technology and Medicine (SAITM), Sri Lanka to meet faculty members and officials about the Unified Program on 3-5 May 2018.
- Sent Prof. Pennung Warnitchai to give lectures and presentations during International Day of Petra Christian University, Indonesia on 21-23 March 2018.

SDP Office is in close coordination with Schools, Fields of Study, and related Units in order to ensure smooth operation for the program.

Accommodation and Other Logistics

The SDP Office facilitated and arranged all logistics for incoming students, from pick-up from the airport to guiding them for accommodation allocation until they feel more comfortable and settled in. SDP Office arranged and conducted a meeting to initially evaluate students' performance academically and socially (making new friends and mingling with other nationalities). SDP Office also worked on the establishment of the new Indian food vendor in the cafeteria for Indian vegetarian food. This was a very important requirement for many students keen to have South Indian food in campus.

SDP Office conducted various interactions and meetings with students regarding their transition, academics, and general welfare. SDP Office also developed and maintains a website and social me-

dia pages to provide updates and developments on the program and the various student events and activities. A tracer survey is also being developed to elicit feedback and comments from both graduates (alumni) and current students to track down their current situations and whereabouts.

Support Activities to Administration

- SDP Director Prof. Nitin Kumar Tripathi attended a meeting and was a panel member for the annual Horasis Asia Meeting, Asia's premier gathering of the region's most senior leaders from business and government on 25-26 November 2018, Binh Duong New City, Ho Chi Minh City Region, Viet Nam.
- SDP Director Prof. Nitin Kumar Tripathi attended the meeting of the Selection Committee for selection of Indian Faculty for secondment to AIT, Thailand, for the August 2018 and January 2019 semesters at the Ministry of Human Resources Development (MHRD), New Delhi, on 4-5 June 2018.
- Hosted and facilitated a meeting with Prof. Pratapsingh Kumar Desai, President, Indian Society for Technical Education (ISTE) and Executive Council Member Prof. Rahul Suryawanshi on 28 May 2018.

Special Degree Programs (SDP), unified@ait.ac.th

Prof. Nitin Kumar Tripathi, Director, nitinkt@ait.ac.th

Mr. Arthur Lance Gonzales, Program Officer, lance@ait.ac.th

Internet Education and Research Laboratory

DIRECTOR: DR. MONGKOL EKPANYAPONG

IntERLab will:

- Establish its own public image as a leading regional center offering state-of-the-art Internet education, high-quality research, and training in Internet technology.
- Contribute fully to research activities and provide support to academic activities as appropriate.
- Become a hub for distance learning, a courseware repository, and exchange point for universities in the Asia-Pacific region

Strategy:

- Fostering technology transfer through joint research projects and training courses with industry and business partnerships.

I. Qualitative KPI

A. International recognitions

1. Partnerships with world-class institutes

- Computer Laboratory, University of Cambridge, United Kingdom
- LIP6 Laboratory, Université Pierre et Marie CURIE (UPMC), France
- Network Start-up Resource Centre (NSRC), University of Oregon, USA
- International Centre for Theoretical Physics (ICTP), Italy
- WIDE Project, Japan (University of Tokyo, Keio University)
- IT University of Copenhagen, Denmark

2. Research Networking

- University of the Philippines Los Baños, Philippines
- Malaysian Institute of Information Technology, Universiti Kuala Lumpur, Malaysia
- NECTEC, National Science and Technology Development Agency, Thailand
- Kasetsart University
- Thammasat University
- Chulalongkorn University
- Intelligent Transportation Society (Thailand)
- Thailand Health Funding Agency
- Thailand Research Fund
- National Research Council of Thailand
- Prukha Real Estate Co. Ltd., Thailand

- Energy Policy and Planning Office, Ministry of Energy, Thailand
- National Science and Technology Development Agency, Thailand
- Zoom Information System Co. Ltd., Thailand
- Pineapple Vision Systems Co. Ltd., Thailand
- National Innovation Agency, Thailand
- Electricity Generating Authority of Thailand

B. Professional Recognitions

1. Prizes and Awards

- Outstanding Research Project Award, Thailand Research Fund, awarded by Deputy Prime Minister of Thailand:
Dr. Mongkol Ekpanyapong

2. Invited Speaker, Panelist, and Education Specialist

- Prof. Kanchana Kanchanasut

Keynote Talk: "Next Generation Research and Education Networks," Asi@Connect National Launch Event, Bangkok, November 2018

"Air Quality Monitoring: An ICN Use Case?," ICNRG Internet Engineering Task Force (IETF) 103, Bangkok, November 2018

"DUMBO IV: An Emergency Communication Network," School of Engineering, IEEE Vehicular Technology Society (Auckland) and Auckland University of Technology, New Zealand, August 2018

- Dr. Adisorn Lertsinsruttavee

ISOC Fellow for Internet Engineering Task Force (IETF) 102, Montreal, Canada, July 2018

"TakNet: A Community Network with TVWS Experiments," IRTF Global Access to the Internet for All Research Group at Internet Engineering Task Force (IETF) 103, Bangkok, November 2018

"TakNet: A Community Network," Global Access to the Internet for All Research Groups, Internet Engineering Task Force (IETF) 102, Montreal, Canada, July 2018

C. Industrial Partnerships

- Bangkok Neutral Internet Exchange (BKNIX), Thailand
- Net2Home, Thailand - Partnership in setting up community networks
- TOYOTA InfoTechnology Center Co. Ltd, Japan
- Weathernews Inc., Japan

- Microsoft Research Ltd., United Kingdom

D. Technology Transfer

- intERLab organized a three-day Internet Governance and Hackathon THNG Camp #8 at Nakhon Ratchasima, Thailand, from 23-26 December 2018.
- intERLab together with Asia Pacific Network Information Centre conducted a 2-day workshop on "Network Security" at intERLab, Pathum Thani, on 24-25 May 2018 with a total of 42 participants.
- intERLab organized a 3-day Advanced BGP Workshop at the Hilton Sukhumvit Hotel, Bangkok, on 24-26 May 2018. A total of 12 network engineers from different ISPs and organizations attended the workshop.

E. Trainings and Meetings

- AP* Secretariat Meetings
- Kathmandu, Nepal, 26 February 2018, with 26 participants
- Noumea, New Caledonia, 9 September 2018, with 9 participants
- intERLab organized the 2018 Asia Pacific School on Internet Governance (APSIG) on 8-12 July 2018, with 40 participants at the Asian Institute of Technology Conference Center, Pathum Thani.

F. Research Projects

- Dr. Mongkol Ekpanyapong's research proposal entitled "Smart City Deployment and Accuracy Improvement" was approved by the National Science and Technology Development Agency and Zoom Information Systems Co. Ltd., with a grant amount of 500,000 THB.
- Dr. Mongkol Ekpanyapong's research proposal entitled "Mobile application for Real-time Incident Alert" was approved by the National Innovation Agency and Pineapple Vision System Co. Ltd with a grant amount of 2,600,000 THB.
- Dr. Mongkol Ekpanyapong's research proposal entitled "Research in the Automatic Electrical Measurement of Lead Acid Batteries for Power Plant Systems" was approved by the Electricity Generating Authority of Thailand, with a grant amount of 1,991,000 THB.
- Ms. Nisarath Tansakul's research proposal entitled "Bangpeun: Resource Sharing Platform for Communities" was approved by the Thailand Research Fund and Thailand Network Information Center Foundation, with a grant amount of 2,505,100 THB.

Ongoing projects initiated prior to 2018

- Technical Support for the Bangkok Neutral Internet Exchange (BKNIX) supported by the THNIC Foundation
- Net2Home Research and Development - Community Networks supported by the THNIC Foundation and Net2Home
- SEA HAZEMON Project with UPMC, France - supported by STIC-ASIE (French Ministry of Foreign Affairs)

- Post-Disaster Facilitation Platform through Wireless Emergency Networks Using Disruption Tolerant Networks (DTNs) with UPMC, France - supported by STIC-ASIE (French Ministry of Foreign Affairs)
- Automatic Warning System for Automatic Accident Detection - supported by the Thai Health Funding Agency
- Automatic Illegal Parking Using Unmanned Aerial Vehicle and Practical Deployment and Performance Improvement of Automatic Helmet Wearing Detection System in Real Scenarios - supported by the Thai Research Fund
- Development of UAV-Based Tree Farm Inventory - supported by the National Research Council of Thailand
- Pile Driving Monitoring Device, Phase II - supported by Pruksa Real Estate Co. Ltd.
- Automatic Empty Parking Lot Detection - supported by the Energy Policy and Planning Office, Ministry of Energy of Thailand
- Automatic Image Enhancement with Super-resolution using Deep Learning for Suspect Detection - supported by the National Science and Technology Development Agency of Thailand

G. Academic Conference

- Asian Internet Engineering Conference (AINTEC) 2018

The 14th Asian Internet Engineering Conference (AINTEC) is a highly regarded three-day regional academic conference held in cooperation with the Association for Computing Machinery (ACM) SIGCOMM. It was held on 12-14 November 2018 at the Pullman Bangkok King Power Hotel, Bangkok. A total of 52 industry experts and academics from Asia Pacific, Europe, and the USA attended the conference.

H. Publications

1. Book Chapter

Kanchana Kanchanasut, Adisorn Lertsinsrubtavee, Apinun Tunpan, Nisarath Tansakul, Preechai Mekbungwan, Nunthaphat Weshsuwannarugs, and Parkpoom Tripatana, "Building Last-Meter Community Networks in Thailand," Global Information Society Watch 2018.

2. Peer-Reviewed Conference Proceedings

Adisorn Lertsinsrubtavee, Nisarath Tansakul, Attaphongse Taparugssanagorn, and Kanchana Kanchanasut, "Wireless Edge Network for Sustainable Rural Community Networks", ACM, IRTF and ISOC Applied Networking Research Workshop, Montreal, Canada, July 2018.

Bipun Man Pati, Adisorn Lertsinsrubtavee, Attaphongse Taparugssanagorn, Kanchana Kanchanasut (Asian Institute of Technology), Arjuna Sathiseelan, and Adisorn Lertsinsrubtavee (University of Cambridge), "Adaptive Threshold Setting for Determining Spectrum Occupancy in TV White Space in Thailand," ACM Compass 2018, San Francisco, USA, June 2018.

Davide Aguiari, Giovanni Delnevo, Lorenzo Monti, Vittorio Ghini, Silvia Mirri, Poala Salomoni, Giovanni Pao, Marcus Im, Rita Tse, Mongkol Ekpanyapong, and Roberto Battisini, "Canarin II: Designing a Smart E-bike Eco-system", 15th IEEE Annual Consumer Communications and Networking Conference, Las Vegas, USA, January 2018.

Nabil Tahmidul Karim, Sanjana Jain, and Dharma Raj K.C., "Customer and Target Individual Face Analysis for Retail Analytics," International Workshop on Advanced Image Technology 2018, Chiang Mai, Thailand, January 2018.

3. Conference Poster

Nunthaphat Weshsuwannarugs, Adisorn Lertsinsruttavee, and Kanchana Kanchanasut, "DUMBO IV: A Flying Emergency Communication Network." Best Poster Award, Asian Internet Engineering Conference 2018, Bangkok, Thailand.

I. Linkages with AIT Schools

1. intERLab affiliated members

- SET

Dr. Attaphongse Taparugssanagorn

Dr. Sarawut Ninsawat

Prof. Matthew Dailey

- SERD

Prof. Nguyen Thi Kim Oanh

2. Adjunct Visiting Researchers

Dr. Akara Prayote

Dr. Sunee Raksakietisak

II. Quantitative KPI

1. Training, Meetings, Workshops, and Conferences

- Meetings (2), with 35 participants from Asia Pacific Internet Organizations
- Workshops (2), with 56 participants
- Internet Governance Training (1), with 40 participants from Asia Pacific National Schools of Internet Governance. Also, speakers from Asia, Europe, and the USA.
- Research Conference (1), with 52 participants from Asia Pacific, Europe, and the USA.
- Training (1) with local young participants.

2. Total revenues generated from trainings and workshops: 1,848,823 THB

3. Total amount of research grants received: 7,596,100 THB

4. Total revenue from consultancy services: 1,000,000 THB

III. Discussion

With limited resources and given the fact that the AIT Administration has adopted online education with a formal committee set up, intERLab has adopted a wait-and-see policy with regards to which direction AIT's offerings will take. This is to avoid confusion in the general public. Thus, the third target (distance education) in our 2018 objectives could not be achieved.



Language Center

DIRECTOR: DR. FREEK OLAF DE GROOT

Over 2018, AIT's Language Center (LC) has continued to ensure that students from all over the world are able to succeed in AIT's international environment. In 2018, LC provided services to over 1,000 students participating in more than 2,500 hours of language-related class time.

In addition to its core activity of developing academic English skills for postgraduate students, LC worked with other AIT Units and Schools to offer language-related services where needed. LC services are instrumental in improving communication and understanding in AIT's diverse environment.

AIT's LC has continued to play a significant role in education both locally and internationally. It has continued to offer its existing package of courses, including the Bridging Program, foreign language courses (see below), and research skills development workshops. In addition, LC has started the development of a range of online English language courses and academic workshops that will be offered from Q1 of 2019.

As part of one of Asia's leading institutions of higher learning, AIT's LC strives for high standards of English proficiency. It works to ensure that all undergraduate and postgraduate students have the English skills necessary to study at AIT and to compete in the international community. In 2018, AIT's LC was able to provide English Entry Testing (ETT) to a wider community inside and outside Thailand through a new online testing application that allows test-takers to take tests online in a secure environment. This easier access to English language testing supports AIT in its recruitment activities. Around 850,000 THB was collected from both onsite and online testing.

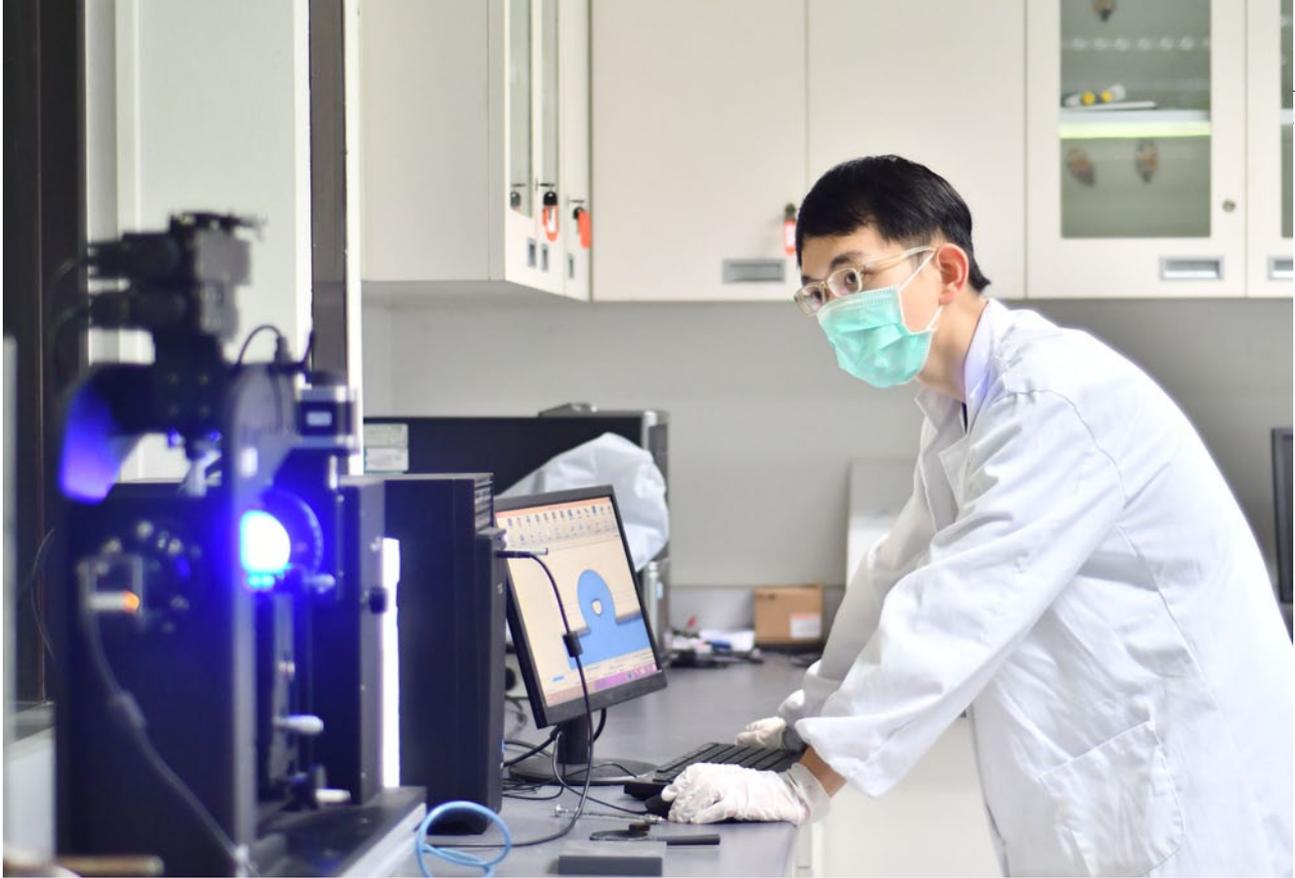
For exceptional students who have been allowed to enroll at AIT despite having English scores below AIT's admission requirements, LC offers a range of English language courses aimed at rapidly improving students' English abilities until they have reached the level deemed appropriate for their degree program. In 2018, LC continued the co-payment system and recovered about two-thirds of the cost of running these courses. However, LC still needs to heavily subsidize these fees in order to continue to offer these courses.

LC believes in offering language skills beyond English communication. In 2018, French, Chinese, and Thai were offered to the AIT community. More than 100 students were able to study on these courses at prices substantially lower than the market rate, and 100,000 THB in revenues was generated from these courses.

Other Units and Schools collaborated with LC on various projects over the past year. LC managed and taught Technical Writing, English, French, and Chinese courses for the SET and SERD undergraduate (UG) programs.

Although LC was able to recover a substantial percentage of its operating expenses, this amount was less than in previous years due to a decline in student numbers and the loss of a substantial source of revenue as a result of phasing out the undergraduate program. For 2019, LC aims at expanding its current range of cost-effective projects in order to raise additional revenues beside the fees for services provided to the Schools. In the coming years, LC intends to diversify the modes in which it offers its services by extending its current activities to online platforms as well as continuing with the provision of services on campus. Furthermore, LC intends to expand its Bridging Program to reach out to local students preparing to study abroad.

No.	Dimensions	Key Performance Indicators	Target Years		
			2016	2017	2018
			Actual	Actual	Forecast
1	Expanding Admissions to AIT	% of Bridging Program applicants scoring 5.0 or higher on the Academic Writing Test after exiting the Bridging Program	100%	100%	100%
2	Ensuring a Successful Education Path	% of attendees graduating on time	100%	100%	100%
3	Graduate Student English Development	% of students below 6.0 attending EL	90.6%	90.0%	94.0%
4	Financial Contribution to AIT	% of LC budget subsidized by fee-based activities	98.9%	106.4%	78%
5	Creating an Effective Education Environment	% of clients rating LC service "better than expected"	98%	98%	98%



Center of Excellence in Nanotechnology

DIRECTOR: DR. G. LOUIS HORNYAK

Summary

The Center of Excellence in Nanotechnology (COEN) has undergone a transition. A new director has been selected and should be in place early in 2019. The director is to serve as part-time faculty in the Department of Industrial Systems Engineering (ISE) as a Professor in the nanotechnology field of study and simultaneously as Director of COEN.

COEN's seven laboratories were very busy in 2018. COEN supported the research work of five Ph.D. students, seven regular Masters degree students, and seven non-thesis Masters degree students. Outside of ISE in AIT, COEN supported the development of one Ph.D. student (RS&GIS) and five Master's degree students from Transportation (TRE), ME (Mechatronics), and EEM (Environmental Engineering & Management). COEN's relationships with Thailand's National Science & Technology Development Agency (NSTDA) continued to grow as three students have conducted their research at the National Nanotechnology Center (NANOTEC) and the National Electronics and Computer Technology Center (NECTEC). One student has joined the Metal and Materials Technology Center (MTEC) to begin work in 2019.

Discussions are underway to merge COEN back into SET. This would turn COEN into a research center within the School and no longer a Responsibility Center. A decision will be made during the first quarter of 2019.

Publication Activity

COEN has supported the research for publication of two papers in

2018. Due to the achievement of a critical mass of students over the past four years, COEN is expected to publish 15 to 20 papers in 2019 (with 11 manuscripts in preparation). Additionally, COEN participated in a six-nation characterization calibration study with NANOTEC and plans to continue with the thrust of related research in 2019. A publication is expected from this work. In addition, COEN is expected to participate along with NANOTEC in its first patent application in over five years.

Invitations for joint publications were received from Columbia University, the Rochester Institute of Technology, and the California Institute of Technology.

Applied Science and Technology Support

Along with the Nanotechnology Academic Program, COEN continues to supply a valuable Applied Science & Technology component to AIT's engineering activities. This is evidenced as COEN's outreach to other departments in AIT is growing. COEN currently has relationships with Mechatronics Engineering, Civil Engineering, Environmental Engineering & Management, Energy, Transportation Engineering, and Remote Sensing & GIS. Industry too needs applied research in order to enhance or develop new product lines. This is an extension of the logical and practical functions of applied science and technology capabilities adapted across the globe.

COEN and the nanotechnology field of study have a good fit within the mission of NANOTEC and other national laboratories in NSTDA due to the applied science and technology orientation of nanotechnology in general.

Equipment and Capabilities

COEN has assembled its anodizing apparatus and expects to expand its capability in designing and fabricating nanomaterials. COEN has also put in place a polymer development laboratory to support industry projects. Corrosion capability using the advanced Autolab electrochemical work station is another example of COEN's drive to contribute solutions to relevant and pressing technological issues. COEN's gas flow measurement apparatus is also on its way to completing the assembly. Gas flow capability is important in the development of sensing components. COEN put considerable effort into training students in laboratory safety and emergency procedures, and it plans to further reinforce this important trend in 2019.

Simulation and Modeling

Our simulation and modeling capability is an ever-important activity and has grown over the past year. Specifically, modeling the physical properties of nanomaterials has become highly accurate. In the long term, it is a priority for COEN to fill the empty niche of nation-wide simulation support in Thailand. COEN has a world-class resident adjunct professor on staff, with expertise in simulation and modeling.

Simulation support is well received by industry. COEN's industry clients have experienced the predictive capability of these methods. One example is Neon Infotech experimental design and prototype development of anti-reflective and self-cleaning surfaces. Simulations are also aiding IDEAL Fasteners in developing anti-impact and wash/drying resistant coatings for their products. Simulations are aiding the White Group in developing a new integrated battery for solar cell energy storage.

Industry Outreach

COEN continues to pursue excellence in industry relations. The project with Neon Infotech has received 1.5 million THB in funding in 2018, and expectations are positive that future and higher levels of funding will be forthcoming in 2019. Although IDEAL Fasteners funding is expected to end in 2019, given recent successes, COEN expects to continue relationships with this Hong Kong company. The Donaldson Company work is still pending with the expected release of 500,000 THB in 2019. Research supported by the 1 million THB received from the White Group to develop a better battery is still in progress. COEN understands that to better support industry, full time professional staff needs to be in place.

COEN began efforts to develop nanocellulose in 2018 and is actively searching for industrial partners in this area.

Professional Development

COEN personnel participated in professional development activities over the year 2018. These included 1 keynote invitation, 5 invited talks, 10+ invitations to submit papers in reputable journals, 6-week visiting lecturer position at the Beijing Institute of Technology, and a 3-week visiting lecturer position at the Vishwakarma Institute of Technology in Pune, India. Attendance at conferences was lower than in previous years but still garnered good activity. Four students presented research at Nano-Thailand 2018.

Key Performance Indicators

Key Performance Indicators	2015	2016	2017	2018	2019	Comments
Funding (millions THB)	0	12.4	2.85	10	5	New structure will help
Student Achievement of COEN Supported Research (Conferences, Publications, Proceedings, Awards, Abstracts)	3	9	10	20	10	Critical mass achieved. Need to maintain student numbers.
Professional Development (Keynotes, Invited Talks, Publications, Books, Chapters)	5	5	13	15	25	Number of citations of COEN faculty expected to exceed 4,000 by end of 2019
COEN Center Outputs (Supported Research, Technologies, Patents)	3	5	19	30	50	New faculty hiring and more professional lab personnel
Outreach (Industry Seminars, Workshops, Community Services)	0	0	2	5	0	Requires more effort and personnel



Regional Resource Center for Asia and the Pacific

DIRECTOR:

MR. OSAMU MIZUNO

(January to July 2018)

MR. NAOYA TSUKAMOTO

(July to December 2018)



The Regional Resource Center for Asia and the Pacific (RRC.AP) assists and collaborates with countries to advance their environment and sustainable development goals through the provision of capacity building, knowledge sharing, policy advice, and research in three thematic areas: Air and Atmosphere, Climate Change, and Waste Management, with crosscutting activities with other environmental issues.

Air and Atmospheric Pollution Cluster (AAPC)

- RRC.AP hosted the Secretariat of major intergovernmental and technical support networks, including the Malé Declaration on Control and Prevention of Air Pollution and its Likely Transboundary Effects for South Asia, the Acid Deposition Monitoring Network in East Asia (EANET), and the Atmospheric Brown Cloud (ABC) Program. Major AAPC activities include the following;
- Key participation in the Clean Air Week 2018 and invitation to join as panelist for Session 7: "Working Together Against Air Pollution: Partnerships and Cooperation at the Joint Forum;"
- Participated in the 9th Asian Co-benefits Partnership (ACP) Advisory Group Meeting;
- Coordinated the signing of MoU between AIT and the International Union for the Conservation of Nature and Natural Resources (IUCN) to establish a regional cooperation framework between the countries of the Himalaya and the countries of the Mekong Region;
- Coordinated and organized meetings on a three-week Summer School on Environmental and Resource Economics (SSERE2018);
- Took part in the ASEAN Countries Meeting on Soot-Free Transport;
- Senior Level Consultation on EURO 4/IV Implementation and on Roadmap to EURO 6/VI in ASEAN Countries;
- Eighteenth Session of the Scientific Advisory Committee (SAC18) and Twentieth Session of the Intergovernmental Meeting (IG20) of EANET;
- Webinars on Guidance to Fuel Importing Countries for Reducing On-Road Fuel Sulfur Levels: Improving Vehicle Emission Standards;

- Published and contributed to a book on "Emissions of Air Pollutants and Greenhouse Gases in Nepal."
- Best Available Techniques for Preventing and Controlling Industrial Pollution, Activity 2: Approaches to Establishing Best Available Techniques (BAT) Around the World. Proceedings of EANET's Seventeenth Session of the Scientific Advisory Committee (SAC17) and Nineteenth Session of the Intergovernmental Meeting (IG19).

Climate Change Cluster (CCC)

- The Climate Change Cluster carried out assessments, trainings, and workshops on adaptation and mitigation;
- Conducted training programs and workshops on Managing Project Preparation for Climate Change Adaptation;
- Understanding Paradigm Shifts: Japan's efforts in accelerating developing countries' access to the Green Climate Fund: "Developing Project Proposals for Climate Change;"
- Downscaler Training for Climate Change Impact Assessments, Adaptation Planning, and Urban Planning;
- Concept Note Development for the Green Climate Fund;
- National Workshop on Climate Change Adaptation Monitoring and Evaluation;
- Webinar on Experiences of SPREP as a Direct Access Entity to Green Climate Fund;
- Cities' Resilience to Climate Change and Disaster Risks;
- Economics of Climate Change Adaptation (ECCA);
- Developing Climate Change Adaptation Projects for the Green Climate Fund;
- Low Carbon and Adaptation Initiatives;
- Mentoring on Climate Change Proposal Development;
- Training Program on Applicable Low-Carbon Technologies. Part of the training aimed to develop skills among project proponents that are essential for engaging in or supervising the preparation of bankable climate change adaptation projects that effectively address the most important adaptation needs while attending to the goals and requirements of specific financing partners.

- Co-organized a side event in the 5th Asia Pacific Forum on Sustainable Development;
- Participated in the UNFCCC Talanoa Dialogue in Bonn, Germany;
- 6th Asia Pacific Climate Change Adaptation (APAN) Forum;
- COP 24 in Katowice, Poland, where the Cluster conducted side event sessions.

Waste Management Cluster (WMC)

The Waste Management Cluster (WMC) organized a field visit to Si Mum Muang Fruit and Vegetable Central Market in Pathumthani to be familiarized with good waste management practices and trigger research interests in exploring the possibility of replicating these good practices in other areas. The market is owned and managed by the Don Muang Pattana Co. Ltd. Handling around 6,000 tons of various fruits and vegetables each day, the market generates nearly 200 tons of solid waste (from the market itself as well as households).

During the year, the Cluster participated in the 8th Regional 3R Forum in Asia and the Pacific and the Third Meeting of the ASEAN Working Group on Chemicals and Waste (AWGCW) and Scoping Exercise on Low Carbon Technologies. The Cluster was also invited as Panelist at the World Environment Day Activity held at AIT; Panelist for the session on “Ecological Crisis, Knowledge Imbalance, and Innovation Strategy” at the Bangkok Forum hosted by Chulalongkorn University; Guest Speakers and Reviewers as part of the “Creative Hub for Waste Innovation Project” at Thammasat University; and the ASEAN Regional Workshop on “Managing Packaging Waste - Preventing Marine Litter” and Asia-Pacific Economic Cooperation (APEC) Marine Debris Stakeholder Meeting on “Improving Data and Coordination and Developing New Partnerships.”

Projects and Funds Mobilization

RRC.AP secured 12 projects totaling USD 1.99 Million (64.31 million THB) from 12 donor agencies. Major donors included the Ministry of Environment of Japan, IGES, JAIF, UNEP, and OECC. With these resources secured, 3% was spent on capacity building and raising awareness; 11% was spent on strengthening regional cooperation for addressing air and atmospheric pollution; 10% was spent on regional assessments and capacity development on waste management policies; and the rest (76%) was spent on knowledge creation, regional assessments, and capacity building related to climate change.

Key Performance Indicators

No.	Indicators	2017	2018
1	Number of regional networks assisting sustainable development	15	15
2	Number of partner organizations (government and non-government)	67	72
3	Number of faculty and students involved	10 faculty; 14 students	4 faculty; 15 students
4	Total revenues (funds mobilized)	~THB 63 million	~THB 62 million
5	Number of professional staff members as proportion of total RRC-AP staff	0.76	0.77



Geoinformatics Center

DIRECTOR: DR. MANZUL HAZARIKA

The Geoinformatics Center conducted several projects related to Remote Sensing and GIS applications, mainly in the areas of disaster management and crop monitoring. It also conducted two regional training courses, one in state-of-the-art GNSS technology and another in use of drones, satellite imagery, and GIS for agriculture. A brief description of the Center's activities is given below.

1) Uttarakhand Disaster Risk Database Development

The Geoinformatics Center successfully completed a World Bank funded project for developing a disaster risk database in the State of Uttarakhand, India. On 12 September 2018, the Disaster Risk Database at Uttarakhand was launched by the Finance Minister of Uttarakhand State, Mr. Prakash Pant. GIC worked with two international firms, DHI (Singapore) and ERN (Mexico) to create the database, which covers earthquakes, landslides, floods, and industrial hazards and associated risks. This multi-hazard risk assessment effort was initiated by the World Bank funded Uttarakhand Disaster Recovery Project following the 2013 cloudburst that caused significant loss of life and property. Close to 80,000 different earthquake scenarios have been modelled, and this will greatly help not only in risk reduction but also in rapid damage assessment and mitigation efforts.

2) Disaster Response Activities under the Sentinel Asia Project

The Geoinformatics Center is the Principal Data Analysis Node (P-DAN) of the Sentinel Asia project and receives an annual grant from Japan's Aerospace Exploration Agency (JAXA) for satellite data processing, acquired immediately after a disaster. In 2018, Sentinel Asia was activated on more than 25 occasions, including the earthquake and tsunami in Sulawesi, Indonesia, a particularly catastrophic event. The Center was appointed Project Manager following the escalation of Sentinel Asia to the International Disaster Charter. Nearly 500 pre- and post-disaster images from leading satellite image providers around the world were received to conduct the damage assessment. A web-based GIS platform (<http://arcg.is/15uObi>) was created to provide information on damage to buildings and infrastructures along with field data collected through an extensive mapping exercise conducted on the ground in collaboration with national and international organizations.

3) Monitoring Rice Health and Yield Forecasting Using Remote Sensing Technologies

The Geoinformatics Center conducted a study of monitoring rice health and yield with remote sensing technology, with special focus on drones. The study was conducted at a rice farm owned by Mr. Samruay Pungdee in central Thailand's Ang Tong Province. Rice growth was monitored with an unmanned aerial vehicle equipped with a lightweight multi-spectral sensor. The sensor provided data in red edge and near infrared wavelengths as well as two visible bands, allowing for in-depth analysis of the rice field. Additionally, GNSS technology was used to perform a ground survey of the area, which resulted in a geometric accu-

racy of less than one pixel of the 8cm spatial resolution for UAV reflectance maps. Derived normalized difference vegetation index (NDVI) imagery was in line with rice cycle phenology. Rice yield was estimated with satellite imagery from the Moderate Resolution Imaging Spectro-radiometer (MODIS) combined with 9-year historical rice yield for Ang Tong province. The resulting regression depicted a positive relationship between maximum NDVI value and provincial rice yield, indicating that our model can be used to estimate rice yield reasonably well.

4) Flood and Storm Surge Risk Assessment Tools for ADB Spatial Data Analysis Explorer

The Geoinformatics Center implemented an ADB project on Flood and Storm Surge Risk Assessment Tools for ADB Spatial Data Analysis Explorer (SPADE). The aim of the project was to support a range of activities that generate and nurture the application of spatial information technology to contribute to sustainable and resilient infrastructure planning, primarily on projects supported by the Urban Climate Change Resilience Trust Fund (UCCRTF). Flood hazard and risk assessment were conducted in three secondary cities in Viet Nam, namely Hue, Vinh Yen, and Ha Giang.

5) GNSS Training

The Geoinformatics Center organized a Regional Training on GNSS (Global Navigation Satellite Systems) at AIT on 23-26 January 2018 in collaboration with the University of Tokyo and the International Committee on GNSS (ICG) of the United Nations. A total of 67 participants from 15 Asian countries attended the four-day training course. Trainers included some of the most renowned in the field of GNSS, hailing from the US, Japan, Australia, and Austria.

6) Drone Training

The Geoinformatics Center organized a Regional Training on Use of Drones, Satellite Imagery, and GIS for Agriculture on 4-8 June 2018 in collaboration with the Food and Agriculture Organization (FAO) and the International Telecommunication Union (ITU). The five-day training program was joined by participants from 11 countries (Fiji, Samoa, Papua New Guinea, Timor-Leste, Bhutan, the Philippines, Laos, Sri Lanka, South Korea, Pakistan, and Thailand). Topics included drone mission planning, aerial image collection theory, and drone image processing. Hands-on practical sessions for basic drone maneuvering and field data collection were conducted at the Rice Research Institute in Ayutthaya, Thailand.

Asian Center of Innovation for Sustainable Agriculture Intensification

DIRECTOR: DR. ABHA MISHRA

The achievements of ACISAI covering the period from 1 January to 31 December 2018 took place under the strategic themes of Markets and External-Internal Relations and Research and Training. These achievements were assessed in terms of Key Performance Indicators (KPI) as agreed by AIT Management and set out in the ACISAI Business Plan document and are in accordance with each of strategic themes.

Achievements under the Markets and External-Internal Relations strategic theme included the following:

1. Under Target 1, which provides for multi-institutional and multi-stakeholders network development and strengthening, 7 MoUs and MoAs were signed in 2018 and 17 MoAs were maintained from previous years, including with international and national organizations, NGOs, and ministries.
2. Under Target 2, which emphasizes knowledge sharing and dissemination among wider audiences, 6 international peer-reviewed publications and 7 workshops and conference proceedings were published during 2018.
3. Under Target 3, which includes hosting and organizing regional dialogue on the Center's key themes, 6 workshops were organized or co-organized, including 2 local, 2 national, and 2 regional workshops. The total number of participants reached over 600 from local, national, regional, and international organizations, NGOs, national universities, and ministries. Over 76 presentations were delivered in order to enhance regional cooperation through the Center's activities.

Achievements under the Research and Training strategic theme included the following:

1. Several project activities strengthened regional innovation platforms at various levels of governance, including 10 at provincial, 4 at national, and 1 at regional level. These innovation platforms are functional in four countries (Cambodia, Laos, Viet Nam and Thailand). The project works in tandem with the policies of the agricultural ministries in all four countries, involving ministries, national universities, and NGOs and in partnership with FAO, Oxfam, SRI-Rice Cornell University, and the University of Queensland.
2. A total of 3 action research cycles and trainings were completed, including 2 in Viet Nam and 1 in Cambodia.
3. In terms of the production of publications, promotional materials, documentaries, and newsletters, 12-14 reports were produced, including workshop reports, action research reports, policy research and recommendations, and research reports. A total of 16 promotional documents were produced, includ-

ing leaflets, brochures, newsletters, impact materials, success stories, and policy documents. In addition, 2 press releases and 2 video documentaries were produced.

Notable examples of these achievements include the following:

1. A study tour and training program was organized for senior officials of the Department of Agriculture (DoA), Uttar Pradesh, India, with funding from FAO. This was part of the World Bank-supported Uttar Pradesh Water Sector Restructuring Project-II (UPWSRP-II), which aims to improve crop water use efficiency and ultimately increase water and crop productivity in irrigated areas. The objective of the study tour was to provide exposure to improved technical know-how on water management, latest technologies, and best practices for improving crop production and protection, experience-sharing with successful farmer organizations such as Farmer Water Schools, and trends in profitable and sustainable market-oriented family farming, among others.
2. A Workshop on "Enhancing Cooperation and Sharing among SRI National Networks and Stakeholders in Asia" was held on 18-19 October 2018 at the Leverage Business Hotel, Skudai, Johor, Malaysia. The workshop, which was hosted by the Malaysian Agroecology Society for Sustainable Resource Intensification (SRI-Mas), was attended by over 50 participants, including SRI network leaders and representatives from local ministries, academic institutions, civil society organizations (CSO), farmers' organizations, the United Nations Development Program (UNDP), and the Food and Agriculture Organization of the United Nations (FAO). The event was co-organized and funded by SRI-Mas, the Asian Center of Innovation for Sustainable Agriculture Intensification (ACISAI) at the Asian Institute for Technology (AIT), and the SRI International Network and Resource Center (SRI-Rice), with additional funding provided by UNDP. This workshop enabled the exchange of information and sharing of experiences and knowledge among Asian participants from Brunei, Cambodia, Malaysia, Myanmar, India, Indonesia, Iraq, Laos, Nepal, the Philippines, Thailand, and Viet Nam. Participants from Benin, Costa Rica, Kenya, and the USA provided additional perspectives and input from Africa and the Americas.

In addition to the above achievements, with regards to funding and financial aspects, the total amount received from various projects in 2018 was 17,073,470 THB. Details can be made available upon request.

Further details can be accessed through <http://acisai.ait.ac.th>; <http://acisai.ait.ac.th/srilmb>; and <http://www.sri-lmb.ait.ac.th>

AIT Artificial Intelligence Technology (AIT²) Center

DIRECTORS:

PROF. MATTHEW N. DAILEY

DR. MONGKOL EKPANYAPONG

(October 2018)

Introduction

Artificial Intelligence (AI) technologies and the automation they enable stand poised to transform economies worldwide, but as yet, most countries in the Asian region have been slow to adopt AI technology. This situation presents an opportunity for AIT, which has seen a concentration of research expertise in AI for over 20 years. The AIT Artificial Intelligence Technology Research Center (AIT²) was established in late 2018 as a platform for concentrating the AIT's R&D capacity in AI technologies and to help accelerate the adoption of AI technology in the Southeast Asian region.

Goals of the Center

The goals of the AI Technology Center are as follows:

1. To become a regionally recognized center of state-of-the-art academic research in AI;
2. To adapt AI technology to local needs in critical areas such as agriculture, transportation, and law enforcement (these being our current strengths), as well as, through outreach and new faculty hiring, banking, payments, and finance;
3. To help accelerate the adoption of AI technology in Thailand and other ASEAN countries;
4. To build capacity in the region for the development of new products and services incorporating AI technology;
5. To develop new technologies that can be licensed to local companies for commercialization;
6. To bring a significant amount of R&D funding into AIT.

Status

Launch

The Center was soft-launched in November 2018. A public announcement and press release is planned for early 2019.

Committed funding and staff

As of January 2019, we have initiated two projects under the Center:

1. Sensor and IoT technology to assist caregivers of elderly people living at home (National Broadcasting and Telecommunications Commission, Thailand, 4 million THB).
2. CCTV and IoT-based multi-camera vehicle tracking (Thailand Research Fund, 2.4 million THB).

Since the initial founding of the Center, the following faculty and staff are now on board:

1. Prof. Matthew N. Dailey (ICT/SET): Director
2. Dr. Song Weon Keun (ISE/SET): Deputy Director
3. Dr. Mongkol Ekpanyapong (ISE/SET): Affiliated faculty
4. Prof. Phan Minh Dung (ICT/SET): Affiliated faculty

The center has further appointed a secretary and the necessary research staff for its initial projects.

Space

Three classrooms and one storage unit on the ground floor of the AIT Extension building (formerly the AIT VISION laboratory) have been renovated to serve as the Center's main laboratory, meeting room, and server room.

Planned Activities in 2019

We plan the following activities in 2019:

1. Public launch of the Center
2. Establish significant funding for research in autonomous vehicle technology (Dr. Song)
3. Establish significant funding for research in CCTV, agriculture, transportation, and law enforcement (Dr. Mongkol, Prof. Dailey)
4. Establish significant funding for research in personal assistant and natural language understanding technology (Prof. Dung)
5. Bring additional AIT faculty and research faculty on board
6. Bring additional research staff on board
7. Develop expertise in banking, payments, and finance
8. Establish cooperation with AIT Solutions (project work) and AIT Extension (short-term training)

AIT International School

PRINCIPAL / DIRECTOR: MR. KEVIN MAURITSON



The mission of the AIT International School (AITIS) is to provide a holistic education in a stimulating and caring international environment that will help build a positive attitude toward learning. Our education is based on values that will support the growth of reflective and responsible members of society.

Following is a list of major accomplishments and milestones for the past year:

- Expanded the 6th grade to two (2) classes for the first time in AITIS history due to increased student numbers;
- Increased overall enrollment at AITIS to an all-time high of 345 students (Nursery Years through Sixth Grade);
- AITIS was able to purchase and install a second purpose-built portable classroom (over 600,000 THB was raised through donations and other fundraising events);
- 30 new Apple iPads were purchased through the Technology Improvement Plan;
- Robotics and coding were introduced to all AITIS elementary students in keeping with the effort to increase STEM in the curriculum;
- For the fourth year, 6th-Grade students participated in the EduBlogs international competition, earning top honors for their age group among international students;
- Continued working with the Thailand National Science and Technology Development Agency (NSTDA) to enable elementary-level students to learn through numerous hands-on activities led by Thailand's leading Science and Technology leaders;
- Hosted students from Indonesia for the second year in a row to provide intensive English language programs and cultural exchanges;
- AITIS Student Choir and Traditional Dancers performed at several AIT events, including AIT graduation in May and December;
- The AITIS Principal/Director provided special training in conjunction with AIT Extension for ten (10) nature conservation leaders (Multiple Intelligences for Nature Conservation Educators) from Sri Lanka;
- 85 AITIS students (Grades 3 through 6) participated in a three-day overnight camp to help build resilience, leadership skills, self-confidence, teamwork, and self-esteem;
- Maintained a 96% retention ratio for staff (with only three teachers retiring requiring to AIT's age restrictions);
- Thoroughly reviewed and updated the AITIS Scope & Sequence curriculum to ensure alignment both horizontally and vertically throughout the School;
- Observed Songkran, Loy Krathong, UN Day, International Day of the Girl Child, Visual Arts Day, Annual AITIS Talent Program, Hour of Code, and the Annual AITIS Fun & Food Fair;
- Upgraded the AITIS cafeteria, creating more space for AITIS students to eat lunch;
- Purchased new reading subject books for students in Grades 3, 4, and 5;
- Added new shelving and purchased new books and reference material for the AITIS Library.

AIT Assets

DIRECTOR: MR. WANCHAI SOPHONSAKULRAT

The Office of Facilities and Asset Management (OFAM) started operations on 1 July 2014. The main objective of OFAM is to manage AIT facilities and assets. The management of facilities and assets can be classified into three Groups: A) Campus Maintenance, B) Asset Management, and C) Campus Services.

- A. Campus Maintenance: 1. Technical Maintenance; 2. Ground Maintenance and Landscape; 3. Security; 4. Janitorial Services; 5. Pest Control; and 6. Waste Water Treatment.
- B. Asset Management: 1. Accommodation; 2. Auxiliary services; 3. AIT Conference Center; 4. Cafeteria; and 5. Golf Course.
- C. Campus Services: 1. Office administration; 2. Call centers, 3. Motor and labor pool; and 4. Reception, mail, and telephone.

During 2016-2017, AIT Administration implemented the concepts of SC (Service Center) and RC (Responsibility Center) units. All offices under Administration and the Institute are classified by their function and responsibility as well as budgeting as SC or RC units. However, OFAM, which performs functions and responsibilities in both categories, was defined as both RC (AIT asset) and SC (Campus services and maintenance). Its performance of each unit will be evaluated in terms of pre-defined KPI values compared to the target. OFAM maintains 2 KPI sets, one for its SC unit and one for its RC unit. However, for AIT Assets management, only OFAM-RC's KPI will be described further.

OFAM Assets generate revenues from five units: 1. Accommodation; 2. Auxiliary (concessionaire) service; 3. AIT Conference Center hotel and dining room; 4. Cafeteria; and 5. AIT motor pool. Five KPIs were developed to cover three aspects of business operation strategies, as follows;

1. Financial performance (surplus of all operations units, percentage (%) occupancy and revenues)
2. Quality control (customer satisfaction)
3. Delivery service (completion time of customer requests)

Data from these indicators for 2016, 2017, and 2018 and targets for 2019 are shown below:

No.	KPI for RC units of OFAM	2016	2017	2018	2019 (target)
1	Percentage surplus of OFAM RC units (%)	79.3	78.2	76.2	78.0
2	Percentage occupancy of AITCC hotel (%)	30.8	36.7	38.7	40.0
3	Annual AITCC dining room revenues (million THB)	9.9	9.7	8.8	10.0
4	Customer satisfaction (average of all units) (%)	69.4	71.8	72.0	73.0
5	Average completion time of customer requests (no. of days)	4.3	4.5	5.0	4.0

The below data show that the performance of the OFAM-RC unit decreased slightly in 2018 compared to 2017. However, in 2019, OFAM has plans to improve the performance of the revenue-generating units by raising AITCC revenues through new strategies and a marketing plan, a review of the concessionaire rental structure, improvements in AITCC's main wing rooms, and a review of accommodation rental rates. Once these improvement plans are executed, OFAM is confident that it will achieve the set target for 2019.

Campus Rehabilitation Update

On 26 February 2015, Administration received approval from the AIT Board of Trustees for using the rest of the insurance funds to replace, rejuvenate, and upgrade the entire infrastructure backbone of the AIT campus: 1. air-conditioning system; (2) electrical system; (3) water supply system; (4) waste water system; and (5) ground and pavement system.

However, as the Institute held a very important event in April 2018, namely the visit of HRH Princess Maha Chakri Sirindhorn for the grand opening of the newly renovated AIT Library, the major upgrade of the campus infrastructure was slightly adjusted, as follows:

- 1) Air conditioning system: In 2017, OFAM planned to upgrade the air-conditioning networks in the Academic North and South buildings. However, due to the urgency of improvements in other air-conditioning units in the Administration building, works were postponed. In addition, from the available budget after renovation of Administration buildings and given the proposed high renovation cost for two buildings, the work will be done in section zone by zone within the available budget in 2019. The rest will be done using the yearly assets budget.
- 2) Electrical system: Substation 1 was relocated and reconstructed at the front gate due to the relocation of the security guard house and reconstruction of a laterite wall, which will give the Institute a new look. In addition, improvements were carried out on Substation no.5 at AITCC to accommodate the new construction of the AITCC Annex building in March 2018. Upgrades to other substations and the installation of new LED street lights to cover all main roads within the campus will commence in the first half of 2019.
- 3) Water supply: All major improvement works of main water supply pipeline are complete. The rest consist of upgrades to the sub-branch pipeline that supplies water to houses and dormitories. In 2018, OFAM installed a new water pipeline from ST-6 to the 7-11 convenience store and from Dormitory P to the ST-12 building. In conclusion, all backbone upgrades to the water supply networks have been completed.
- 4) Wastewater system: The wastewater pipeline and the pumping manhole in ST4 and ST5 areas were improved. The next project will be the improvement of pumps at pumping stations all over the campus.

5) The ground and pavement system of the main road from the front gate to the Library and to WEM junction has been completed before the AIT Library Grand Opening. Walkways in many areas were also renovated, including the area surrounding the Administration building, the Library building, Student Villages 1 and 2, and the parking lots of AITCC Annex. Walkways for Student Village 3 and other accommodation areas are planned in 2019.

In addition to these main backbone infrastructure projects, other major new construction and renovation projects were successful-

ly completed in 2018. These include: a) construction of the AITCC Annex building and Flood Memorial Park; b) renovation of the Korea House building; and c) painting of Student Dormitories J and K as well as external cleaning of Student Villages 1, 2, and 3 using water jet spray cleaning.

By 2019, all renovation and upgrading of the campus using the insurance fund should be completed. The next major projects for improving the campus would be the renovation and upgrading of student and staff accommodation, which has already started.

Electrical Substation No.1 and New Security Guard House



AITCC Annex Building and New Parking Lot



Main Road Improvement



Renovation of the Korea House building



Improvement to Water Supply Network in Dormitories Area



Improvements to Wastewater Pumping Station, ST4-5 Area



Renovation of Pathway at Administration Building



Water Jet Spray Cleaning at Student Villages 1 and 2



Improvement and Painting in Student Dormitories J and K





AWARDS AND RECOGNITIONS

Recognition of Faculty and Staff

SCHOOL OF ENVIRONMENT, RESOURCES AND DEVELOPMENT

1. Dr. Thammarat Koottatep was promoted to the rank of Professor in the meeting of the AIT Board of Trustees held on 30 August 2018. He joined AIT as an Assistant Professor in the Environmental Engineering & Management (EEM) Program in September 2002.
2. Dr. Loc Thai Nguyen was promoted to the rank of Associate Professor. His elevation was announced by President Eden Y. Woon following the recommendations of the Faculty Evaluation Panel (FEP) and the SERD Professorial Board. He joined AIT as an Assistant Professor in the Food Engineering & Bioprocess Technology (FEBT) Program in July 2014.
3. Prof. Ajit Annachatre was granted the title of Professor Emeritus. This was announced following the meeting of the AIT Board of Trustees held on 30 August 2018. Prof. Ajit joined AIT as an Assistant Professor in 1994 and was promoted to the ranks of Associate Professor and Professor in 1995 and 2004, respectively.
4. Prof. Nguyen Thi Kim Oanh was honored with the title of Professor Emerita. This was approved by the Board of Trustees in its meeting held on 30 August 2018. She joined AIT as a Research Specialist in May 1994 and was appointed Assistant Professor in 1997 and full Professor in 2002.
5. Prof. Jayant Kumar Routray was granted the title of Professor Emeritus. This was approved in the meeting of the AIT Board of Trustees held on 30 August 2018. Prof. Routray joined AIT as an Assistant Professor in June 1988 and was promoted to the rank of Associate Professor in 1993 and Professor in 2005.
6. Dr. P. Abdul Salam, Associate Professor in Energy and Dr. Avishek Datta, Assistant Professor in Agricultural Systems & Engineering (ASE) were awarded the Distinguished Researcher Award 2018 (senior and junior cat-

egory, respectively) during the 129th AIT Graduation on 18 May 2018. The Distinguished Researcher award is based on the evaluation of faculty's sponsored project activities and publications during the years 2016-2017.

7. Dr. Jai Govind Singh, Associate Professor in the Department of Energy, Environment, and Climate Change, was raised to the grade of Senior Member in recognition of professional standing by IEEE. In receiving this honor, Dr. Singh joins a select few as less than 10% of IEEE members achieve this level of professional recognition in IEEE. Dr. Singh received the plaque celebrating his elevation from IEEE, the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.
8. A revised edition of a book on Organic Waste Recycling authored by Prof. Chongrak Polprasert and Prof. Thammarat Koottatep, both of Environmental Engineering and Management, was released in early 2018.
9. A new book by Emeritus Professor Ram M. Shrestha on "Emissions of Air Pollutants and Greenhouse Gases in Nepal: An Integrated Inventory" was published by the Regional Energy Resources Information Center (RERIC), Asian Institute of Technology.
10. A new publication by Emeritus Prof. Ram M. Shrestha on "Sustainable Energy Access Planning: A Case Study" was published by the Asian Development Bank (ADB) in August 2018. The study focuses on detailed analyses of options for providing cleaner energy access to households in Pyuthan District, one of the poorest in Nepal.
11. A new publication titled "Climate Change and Cities: Second Assessment Report of the Urban Climate Change Research Network" and co-edited by Dr. Shobhakar Dhakal was released in July 2018. Dealing with environmental policy, economics and law, climatology and climate change, and earth and environmental sciences, the volume was published by Cambridge University Press.

12. Dr. Shobhakar Dhakal was selected as the Coordinating Lead Author (CLA) for the Chapter on "Emission Trends and Drivers" for the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) in March 2018.

13. Dr. Anil Kumar Anal published a book on "Bio nanotechnology: Principles and Applications." Released by CRC Press in February 2018, the 189-page book was designed for broad accessibility by students and researchers in engineering and the natural sciences.
14. A new publication titled "Thailand: Environmental Resources, Social Issues, and Related policies" was published in November. Co-authored by Prof. Rajendra Prasad Shrestha, Dean, School of Environment, Resources and Development (SERD), the 424-page volume was published by Nova Science Publishers. Prof. Shrestha's co-authors are Prof. Yongyut Trisurat, and Dr. Palle Havmoller. Prof. Trisurat, and Dr. Havmoller both serve in the Department of Forest Biology in the Faculty of Forestry at Kasetsart University, Thailand.

SCHOOL OF ENGINEERING AND TECHNOLOGY

1. Prof. Mukand Babel, WEM, was honored with the Japan Society of Hydrology and Water Resources (JSHWR) International Award on 13 September 2018 at Mie University, Tsu City, Japan.
2. Dr. Tanujjal Bora was awarded the title of AIT Distinguished Faculty in May 2018.
3. Dr. Tanujjal Bora's collaborative research conducted in Oman won the National Research Award 2018 in Oman awarded by The Research Council (TRC), Oman.
4. Prof. Phan M. Dung received the Classical Paper Award 2018 for his seminal work in the field of formal argumentation, a fast-growing field in AI. The award is among the most prestigious awards given for distinguished research achievements in AI in 2018.

Student Recognition



SCHOOL OF ENGINEERING AND TECHNOLOGY

School-Level Prizes

- **Hikomichi Seya Prize for the most outstanding woman graduate in SET**
Ms. Su Pyae Sone [118565]
Thesis: Uplink Grant-Free SCMA Transmissions with Active User Detection and Channel Estimation
Advisors: Dr. Attaphongse Taparugssanagorn; Dr. Poompat Saengudomlert
- **AIT Alumni Association Prize for the most outstanding graduate in SET**
Mr. Shay Haq [118586]
Thesis: Numerical Analysis of Cyclic Consolidation of Saturated Clays
Advisors: Dr. Kuo-Chieh Chao; Dr. Tian Ho Seah

Department of Information and Communication Technologies (ICT)

- **Aoyagi Prize for Information and Communication Technologies**
Mr. Arnon Saengarunwong [118558]
Thesis: A User Interest-Aware Server Selection in Hybrid CDN-P2P Mesh-Based Architecture for Video-On-Demand Streaming
Advisor: Dr. Teerapat Sanguankotchakorn
- **A B Sharma Memorial Prize for best thesis in the area of telecommunications (TC and ICT)**
Mr. Arnon Saengarunwong [118558]
Thesis: A User Interest-Aware Server Selection in Hybrid CDN-P2P Mesh-Based Architecture for Video-On-Demand Streaming
Advisor: Dr. Teerapat Sanguankotchakorn

- **James A. Linen III Memorial Prize for Information Management**
Ms. Reshma Dangol [118686]
Thesis: Schema Extraction and Visualization of Linked Open Data
Advisor: Dr. Chutiporn Anutariya
- **Wireless Personal Multimedia Communications Prize for Telecommunications**
Ms. Su Pyae Sone [118565]
Thesis: Uplink Grant-Free SCMA Transmissions with Active User Detection and Channel Estimation
Advisors: Dr. Attaphongse Taparugssanagorn; Dr. Poompat Saengudomlert
- **John A. Hrones Prize for Remote Sensing & Geographic Information Systems**
Mr. Nemi Bhattarai [118622]
Thesis: Real Time Human Detection Using UAV and Visualization on GIS Platform
Advisor: Dr. Tai Nakamura

Department of Industrial Systems Engineering (ISE)

- **Tim Kendall Memorial Prize for Industrial and Manufacturing Engineering**

Mr. Alex John Denoga Abando III [118438]

Thesis: Improving the Fibers and Scaffolds Fabricated Using the Electrospinning-based Rapid Prototyping Technique

Advisor: Dr. Pisut Koomsap

- **Hisamatsu Prize for Mechatronics**

Mr. Sabeethan Kanagasingham [117783]

Thesis: Autonomous Control for a Rice Field Weeding Robot

Advisor: Dr. Mongkol Ekpanyapong

Department of Civil and Infrastructure Engineering (CIE)

- **Mahesh Varma Prize for Construction, Engineering and Infrastructure Management**

Mr. Polwatta Gallage Madusha Piumal Gallage [118928]

Thesis: Financial Management for Business Success of Medium Contractors: A Case Study of Medium Contractors in Sri Lanka

Advisor: Dr. Chotchai Charoenngam

- **Wen-Jei Yang Prize for Structural Engineering**

Mr. Phruerk Chansukho [118495]

Thesis: Development of Tuned Mass Damper Using Multi-Stage Steel-Laminated Rubber Bearings

Advisor: Prof. Pennung Warnitchai

- **Chin Fung Kee Prize for Geotechnical and Earth Resources Engineering**

Mr. Shay Haq [118586]

Thesis: Numerical Analysis of Cyclic Consolidation of Saturated Clays

Advisors: Dr. Kuo-Chieh Chao; Dr. Tian Ho Seah

- **Professor Lal Chand Wadhwa Memorial Prize for Transportation Engineering**

Mr. Ayush Kuinkel [118440]

Thesis: A Before-After Study on the Effectiveness of GPS Installation Policy to Control Speed of a Fixed-Route Bus in Thailand

Advisor: Dr. Kunnawee Kanitpong

- **Chainarong Na Lamphun Prize for Water Engineering and Management**

Ms. Kuruwita Arachchige Naditha Damsarani Imbulana [118459]

Thesis: Assessment of Climate Change Impacts on River Hydrology and Morphology and Resulting Socio-Economic Vulnerability: A Case Study of the Chindwin River Basin in Myanmar

Advisor: Dr. Sangam Shrestha

- **Mr. Divakar Thapaliya**, a student in WEM and one of the recipients of the Kurita Scholarship, was honored at the Kurita Scholarship Award Ceremony on 24 August 2018.

SCHOOL OF ENVIRONMENT, RESOURCES AND DEVELOPMENT

School-Level Prizes

- **Yoh Kurosawa Prize for the most outstanding woman graduate**

Ms. Nguyen Nhat Ha Chi [118899]

Thesis: Assessment of Particulate Matter and Surface Ozone Air Quality and Associated Health Burdens in the Bangkok Metropolitan Region Using a Photochemical Grid Model

Advisor: Prof. Nguyen Thi Kim Oanh

- **AIT Alumni Association Prize for the most outstanding graduate in SERD**

Mr. Bhavin Pradhan [118593]

Thesis: Implications of Electric Mobility for Kathmandu Valley on Energy Demand, GHG Emissions and Analysis of Barrier

Advisor: Dr. Shobhakar Dhakal

Department of Food, Agriculture, and Bioresources (FAB)

- **Hisamatsu Prize for Food Engineering and Bioprocess Technology**

Mr. Saugat Prajapati [118485]

Thesis: Isolation and Characterization of Keratinolytic Bacteria from Chicken Farm Bed and its Application in the Production of Keratin Hydrolysates from Chicken Feather

Advisor: Dr. Anil Kumar Anal

Department of Energy, Environment, and Climate Change (EECC)

- **Yoshiro Takasaki Prize for Energy**

Mr. Bhavin Pradhan [118593]

Thesis: Implications of Electric Mobility for Kathmandu Valley on Energy Demand, GHG Emissions and Analysis of Barrier

Advisor: Dr. Shobhakar Dhakal

- **Robert and Gunta Banks Prize for Environmental Engineering and Management**

Ms. Nguyen Nhat Ha Chi [118899]

Thesis: Assessment of Particulate Matter and Surface Ozone Air Quality and Associated Health Burdens in the Bangkok Metropolitan Region Using a Photochemical Grid Model

Advisor: Prof. Nguyen Thi Kim Oanh

- **Chongrak Polprasert Prize for Environmental Engineering and Management (with specialization in Water and Wastewater Engineering)**

Mr. Jakpong Moonkawin [118542]

Thesis: Remediation of Gypsiferous Mine Soils by Biological Sulfate Reduction Using Sugarcane Residues as Electron Donors

Advisor: Prof. Ajit P. Annachhatre

- **James A. Linen III Memorial Prize for Climate Change and Sustainable Development**

Mr. Tejas Shah [118707]

Thesis: Puduchery's Emission Inventory Using Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC) and Future Emission Scenarios

Advisor: Dr. Shobhakar Dhakal

Department of Development and Sustainability (DS)

- **Tim Kendall Memorial Prize for Natural Resources Management**

Ms. Sokna Kry [118841]

Thesis: Local Perceptions toward Ecotourism Development in Kampong Phluk Community, Tonle Sap Lake, Cambodia

Advisor: Dr. Nophea Sasaki

- **James A. Linen III Memorial Prize for Regional and Rural Development Planning**

Mr. Jessada Engkapatrankul [118512]

Thesis: STEM Education in Thailand: An Assessment of its Impacts on Students' Perception, Perceived Skills, and Future Career Interests

Advisor: Dr. Thi Phuoc Lai Nguyen

- **Prof. Lal Chand Wadhwa Memorial Prize for Urban Environmental Engineering**

Mr. Mohammad Rafi Hayat [118834]

Thesis: Assessment of Sanitation Services and Management for Improving Living Conditions in Kandahar City, Afghanistan

Advisor: Dr. Vilas Nitivattananon

- The family of the late Prof. Robert B. Banks announced the creation of a new annual Masters scholarship and prize in memory of the late AIT President. Prof. Robert B. Banks was AIT's third President, serving from 1977 to 1983. The Second Robert B. Banks scholarship was awarded to **Ms. Samia Kazi** to study Master's degree in Food Engineering and Bioprocess Technology program.

- **Miss Arlene L. Gonzales**, a doctoral student in Climate Change and Sustainable Development, was selected as one of the participants for the 2018 ProSPER.NET Young Researchers' School on Sustainable Urban Development for the World's Megacities held on March 4-11 at Shonan International Village, Kanagawa, Japan. She was one of the 20 students across Asia-Pacific to join this training workshop organized by the United Nations University, Japan.

- In July 2018, **Miss Arlene L. Gonzales** was also selected to present her research in a poster session organized by the Asia-Pacific Network for Global Change Research during the 23rd Intergovernmental Meeting of the Asia-Pacific Network for Global Change Research held on July 11, 2018 at the Novotel Platinum, Bangkok.

- **Mr. Hayat Ullah**, a doctoral student of Agricultural Systems & Engineering, was awarded the 2017 International Plant Nutrition Institute (IPNI) Scholar Award. Mr. Ullah received the award certificate from Dr. Thomas Oberthür, Director, IPNI (Southeast Asia Program) at a function organized at AIT on 9th August 2018.

- **Mr. Ahmad Rashid Khoshbeen**, an Environmental Engineering and Management Masters Degree student from Afghanistan, received the 40-Under-40 (40U40) Award from Kardan University, Afghanistan. Mr. Khoshbeen's award was in recognition of being the first Afghan student to receive the prestigious H.M. the Queen Scholarship to pursue a Masters degree in Environmental Engineering & Management at AIT and for his research on Solid Waste Management in Kabul City under the supervision of Prof. Chettyyappan Visvanathan.

- A presentation by **Ms. Veena Nagarajan**, doctoral student in Gender and Development Studies, with her advisor, Prof. Kyoko Kusakabe, as co-author, was awarded the Best Paper Award at GAF7, the 7th Gender in Aquaculture & Fisheries: Expanding the Horizons conference held at the Asian Institute of Technology on 17-19 October 2018.

- **Mr. Muhammad Saleem Kalhoro**, a doctoral student in Food Engineering and Bioprocess Technology, was selected for the training program titled "Food and Nutrition Security from the Planetary to the Household Level" held in Costa Rica from 12 to 30 November 2018. He was among 12 out of 173 scholars from America, Asia, and Africa to be selected for the program.

- **Rajan Parajuli**, doctoral student in Gender and Development Studies, was awarded the Elsevier Atlas Award for Article of the Month (December

2017). Rajan works under the supervision of Dr. Philippe Doney and was honored by Ms. Walika Lhaothong of Elsevier on 28 September 2018.

- **Mr. Manoj Tukaram Kamble**, doctoral student in the Aquaculture and Aquatic Resources Management program, was awarded the Best Oral Presentation Award for a paper entitled "Protective effect of Psidium guajava and Phyllanthus acidus Leaf Supplementation Diet against Streptococcus agalactiae," co-authored by Manoj Tukaram Kamble, Amaratne Yakupityage, Krishna R. Salin, and Balasaheb Ramdas Chavan, at the National Conference on "Empowerment of Rural Communities through Aquaculture" held in the College of Fisheries, Shirgaon, Ratnagiri (Maharashtra, India) in February 2018.

SCHOOL OF MANAGEMENT

- **Wilhelm Hill Prize for Business Administration**

Mr. Md. Uzzal Hossain [118765]

Research Study: Social Entrepreneurial Intention: The Influence of Personality Traits, Self-Efficacy, Social Support and Gender Differences

Advisor: Dr. Vimolwan Yukongdi

- **Shoichiro Toyoda Prize for the most outstanding woman graduate**

Ms. Supitcha Sillapasat [119022]

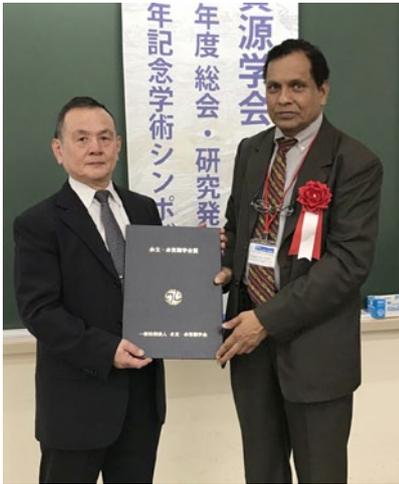
Advisor: Dr. Vatcharapol Sukhotu

- **AIT Alumni Association Prize for the most outstanding graduate in SOM**

Mr. Damri Radenamad [118623]

Advisor: Dr. Vatcharapol Sukhotu

Alumni Recognition



Prof. Mukand Singh Babel of Water Engineering and Management has been honored with the Japan Society of Hydrology and Water Resources (JSHWR) International Award. He was bestowed this honor by Prof. Tsugihiko Watanabe, President of JSHWR, at the General Assembly meeting of the Society held on 13 September 2018 at Mie University, Tsu City, Japan.

The event coincided with the 30th anniversary of the founding of JSHWR and was concurrent with the holding of a symposium titled "Beyond 2020: The Future of Water Management, Water Business, and Water Research."

Prof. Babel received a Masters of Engineering in Agricultural and Food Engineering in 1983 and Doctorate in Engineering in Water Resources Engineering in 1993, both from AIT.

For more details, please visit:

<https://www.ait.ac.th/2018/09/professor-babel-honored-japan-society-hydrology-water>



The Cabinet resolution of 24 July 2018 agreed to appoint Dr. Nopparat Mektawakulchai as the 14th governor of Provincial Water works Authority (PWA), or the sixth governor of the nomination system. Mr. Chatchai Promlert, Acting Chair, PWA revealed that the Cabinet has agreed as proposed by the Ministry of the Interior, Dr. Nopparat Mektawakulchai is the new PWA governor. Dr. Nopparat received a Masters in Business Administration (MBA), International Management from AIT in 2003.

For more details, please visit:

<https://www.prachachat.net/local-economy/news-194947>

SCHOOL OF ENVIRONMENT, RESOURCES AND DEVELOPMENT



1. Environmental Engineering and Management alumnus Mr. Yeshey Penjor was appointed Minister of Agriculture and Forestry of Bhutan. He contested the election from Druk Nyamrup Tshogpa, a political party in Bhutan, which won the majority of seats in the recent parliamentary election to form a government. Mr. Yeshey Penjor received his Masters of Science in Environmental Engineering and Management in 2007 from AIT's School of Environment, Resources and Development. For more details of his achievements, please visit: <http://www.kuenselonline.com/hm-confers-dakyen-to-cabinet-ministers-speaker-and-ol>
2. Mr. Sajid Sohail, a Masters graduate in Environmental Engineering and Management, topped the Civil Engineering Examination in Andhra Pradesh, India. The examination was conducted by the Andhra Pradesh government for the post of Assistant Professor. Mr. Sajid scored 199.98 marks, the top score in all departments.
3. Environmental Engineering and Management (EEM) alumnus and former Chairman of the EEM program, Prof. Saravanamuth Vigneswaran received the Kamal Fernando Mentoring Award. The recognition was announced during the New South Wales

Water Awards at the 2018 Heads of Water Dinner held on 9th March 2018. The NSW Water Awards aim to recognize the outstanding contribution of individuals and organizations in the water industry in innovation, research, infrastructure, and the delivery of water projects.

4. Mr. Dang Hoang, an Energy alumnus specializing in Electrical System Management (1997) was appointed Vice Minister of Industry and Trade (MOIT), Viet Nam in May 2018. Mr. Dang also received a Masters in Business Administration from AIT in 2004. He has worked for many years in various positions in the power sector, from Deputy Director of the National Power System Dispatching Center (A0) to General Director of EVN.
5. Dr. Binda Pandey, a graduate from Gender and Development Studies in 2002, was re-elected as Member of Parliament in Nepal for the next five years. This is her second term in office. She is a prominent advocate for women's rights, and currently serves on the Governing Council of the General Federation of Nepalese Trade Unions (GEFONT) and as a Deputy Member of the ILO's Governing Body.
6. Dr. Giridhari Sharma Paudel, an alumnus from the Regional and Rural Development Planning program was appointed Vice Chair of the Policy and Planning Commission, Government of Gandaki Province, Nepal (Office of the Chief Minister and the Council of Ministers - OCMCM) in August 2018. Dr. Paudel received a Masters of Science degree in Regional and Rural Development Planning in 1997 and Doctorate in Philosophy in 2001.
7. The government of Karnali Province, Nepal, appointed AIT alumnus Prof. Punya Prasad Regmi to the post of Vice Chair of the Provincial Planning Commission in November 2018. Dr. Regmi received a Masters of Science degree in Regional and Rural Development Planning in 1997 and a Doctorate in Philosophy in 2001.
8. Dr. Yuttachai Sarathai, an alumnus of Environmental Engineering and Management (2010), was among the recipients of the Outstanding Government Official Award bestowed by the Royal Thai Government. Dr. Yuttachai, who also serves as a consultant in the AIT project on "Fecal Sludge Management Toolbox" funded by the Bill & Melinda Gates Foundation, was honored on 2 April 2018 at Thai Government House (Santi Maitree Building).
9. Mr. Vasan Narang, an AIT alumnus from Natural Resources Management program (2017), was selected to represent Thailand at the ASEFSU21 organized by the Asia-Europe Foundation in Melbourne, Australia and Christchurch, New Zealand from 27 January to 10 February.
10. Miss Anjali Maniyam Pariyarath, an alumna from the Food Engineering and Bioprocess Technology program, was awarded the Best Paper Presentation (oral) Award during an International Conference on Agriculture, Food, and Biotechnology (ICFAB-2018) held on 24-26 January 2018 in Bangkok. She presented a topic entitled "Optimization of Ultrasonic Assisted Extraction of Anthocyanin from Black Glutinous Rice and Evaluation of Their Antioxidant Properties."



APPENDIX 1

Auditor's Report

To the Board of Trustees of Asian Institute of Technology

Opinion

I have audited the financial statements of Asian Institute of Technology ("Institute"), which comprise the statement of financial position and statement of financial position classified by funds as at 31 December 2018, the statement of revenues and expenses, the statement of revenues and expenses classified by funds, changes in fund balances and cash flows for the year then ended, and notes, comprising a summary of significant accounting policies and other explanatory information.

In my opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Institute as at 31 December 2018 and its financial performance and cash flows for the year then ended in accordance with the Thai Financial Reporting Standard for Non-Publicly Accountable Entities (TFRS for NPAEs).

Basis for Opinion

I conducted my audit in accordance with Thai Standards on Auditing (TSAs). My responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of my report. I am independent of the Institute in accordance with Code of Ethics for Professional Accountants issued by the Federation of Accounting Professions that is relevant to my audit of the financial statements, and I have fulfilled my other ethical responsibilities in accordance with these requirements. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with TFRS for NPAEs, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Institute's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Institute or to cease operations, or has no realistic alternative but to do so.

Other Information

Management is responsible for the other information. The other information comprises the information included in the annual report, but does not include the financial statements and my auditor's report thereon. The annual report is expected to be made available to me after the date of this auditor's report.

My opinion on the financial statements does not cover the other information and I will not express any form of assurance conclusion thereon.

In connection with my audit of the financial statements, my responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the financial statements or my knowledge obtained in the audit, or otherwise appears to be materially misstated.

When I read the annual report, if I conclude that there is a material misstatement therein, I am required to communicate the matter to the management and request that the correction be made.

Auditor's Responsibilities for the Audit of the Financial Statements

My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with TSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with TSAs, I exercise professional judgment and maintain professional skepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Institute's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Institute's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Institute to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

I communicate with management regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.



(Sasithorn Pongadisak)

Certified Public Accountant

Registration No. 8802

KPMG Phoomchai Audit Ltd.

Bangkok

27 June 2019

Financial Statement

These notes form an integral part of the financial statements.

The financial statements issued for Thai statutory and regulatory reporting purposes are prepared in the Thai language. These English language financial statements have been prepared from the Thai language statutory financial statements, and were approved and authorised for issue by the President of the Institute on 27 June 2019.

1 GENERAL INFORMATION

The Asian Institute of Technology, the "Institute", is a regional post-graduate institution. The Institute operates on a not-for-profit basis. The Institute is located at the following addresses

Thailand: 58 Moo 9 Km. 42 Paholyothin Highway, Klong Luang, Pathumthani, Thailand.

Branch: Building B3, University of Transport and Communications, Lang Thuong Ward, Dong Da Dist., Hanoi, Vietnam

The principal activities of the Institute are providing programs in engineering, science, advanced technologies and related management and administration.

2 BASIS OF PREPARATION OF THE FINANCIAL STATEMENTS

The financial statements are prepared in accordance with Thai Financial Reporting Standard for Non-publicly Accountable Entities (TFRS for NPAs); guidelines promulgated by the Federation of Accounting Professions and the Institute's accounting policy.

In addition, the Institute has complied with Thai Financial Reporting Standard for Publicly Accountable Entities as follows:

TFRS	Topic
TAS 7 (revised 2017)	Statement of Cash Flows

The FAP has issued a number of revised TFRS which are effective for annual financial periods beginning on or after 1 January 2019, and have not been adopted in the preparation of these financial statements. The revised TFRS that are relevant to the Institute's operations is as follows:

TFRS	Topic
TAS 7 (revised 2018)	Statement of Cash Flows

Management has made a preliminary assessment of the potential initial impact on the Institute's financial statements of the revised TFRS and expects that there will be no material impact on the financial statements in the period of initial application.

The financial statements are prepared and presented in Thai Baht, rounded in the notes to the financial statements to the nearest thousand unless otherwise stated. They are prepared on the historical cost basis except as stated in the accounting policies.

The preparation of financial statements in conformity with TFRS for NPAs requires management to make judgements, estimates and assumptions that affect the application of policies and reported amounts of assets, liabilities, income and expenses. Actual results may differ from estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the year in which estimates are revised and in any future periods affected.

Information about significant areas of estimation uncertainty and critical judgements in applying accounting policies that have the most significant effect on the amount recognised in the financial statements is included in the following notes:

Note 9 Employee benefit obligations

Note 14 Contingent liabilities

To ensure observance of limitations and restrictions placed on the use of the resources available to the Institute, the books of account of the Institute are maintained and classified for accounting and reporting purposes into funds, which are in accordance with activities or objects specified. Within each fund group, fund balances which are restricted by outside sources are so indicated and are distinguished from unrestricted fund allocated to specific purposes by action of the governing board. The governing board retains full control of unrestricted funds to use in achieving institutional objectives.

The purposes and objects of the funds are as follows:

Unrestricted Current Fund (Fund 10)

This fund is the operating account of most of the academic and administrative units of the Institute. It is available for general operating purposes without restrictions, such as might be imposed by a grant agency or donor.

Unrestricted Fund-General (Fund 21)

This fund is the operating account of support units that offer academic-related services and certain administrative functions.

Restricted Endowment Fund (Fund 22)

The Endowment Fund is used where donors have stipulated, as a condition of their gift, either the principal is to be maintained inviolate and in perpetuity or used along with the income to meet the objectives of the endowment.

Restricted Program Fund (Fund 30 and Fund 31)

The program fund includes academic and non-academic programs. Non-academic programs is subject to restrictions by donors or other agencies limiting its use for funding specific research projects, conference, short courses, workshops or similar projects.

Unrestricted Fund-Integrated facility management (Fund 24)

This fund includes the operating account of the Institute for asset maintenance and for the provision of the Institute's non-core operations, mainly on integrated facilities management service.

Restricted Fund-General Reserve (Fund 23)

The annual surplus of the unrestricted funds and the excess of the activities under Sponsored Program fund that were completed during the year, are transferred to the General Reserve each year. General Reserve funds are held for future use.

Capital Fund (Fund 41)

This fund holds the Institute's property and equipment, including library books.

Agency Fund (accounted for as Fund 50 and Fund 60)

These funds are held on behalf of donors and other agencies and are disbursed in accordance with their instructions. The Institute has no title to these funds and the associated revenues and expenses have been excluded from the statement of revenues and expenses. The assets held on behalf of these others have been disclosed in the statement of financial position together with the associated liability for the same amount to these other parties.

3 SIGNIFICANT ACCOUNTING POLICIES

The accounting policies set out below have been applied consistently to all periods presented in these financial statements.

(a) Basis of preparation

The financial statements of the Institute comprise the funds of the Institute and those of its branch to which it holds title.

Branch

The Branch is an autonomous or semi-autonomous operating entity within an organisation which does not have a separate legal identity. The Branch has separately identifiable assets, liabilities, cash flows, revenues and expenses over which it has accountability.

(b) Foreign currencies*Foreign currency transactions*

Transactions in foreign currencies are translated into Thai Baht at the foreign exchange rates ruling at the dates of the transactions.

Monetary assets and liabilities denominated in foreign currencies at the reporting date are translated to Thai Baht at the foreign exchange rates ruling by the Bank of Thailand at that date. Foreign exchange differences arising on translation are recognised in the statement of revenues and expenses.

Non-monetary assets and liabilities measured at cost in foreign currencies are translated to Thai Baht using the foreign exchange rates ruling at the dates of the transactions.

Foreign branch

The assets and liabilities of foreign branch are translated to Thai Baht at the foreign exchange rates ruling at the reporting date.

The revenues and expenses of foreign branch are translated to Thai Baht at rates approximating the foreign exchange rates ruling at the dates of the transactions.

Foreign exchange differences arising on translation are recognised in the statement of revenues and expenses.

(c) Cash and cash equivalents

Cash and cash equivalents comprise cash balances, call deposits and highly liquid short-term investments.

(d) Accounts receivables

Accounts receivable are stated at their invoice value less allowance for doubtful accounts.

Receivables from Program fund are unbilled receivables represented amount expected to be collected from donors.

The allowance for doubtful accounts is provided for inactive students. Bad debts are written off when incurred.

Bad debts recovered are recognised in other income in the statement of revenues and expenses.

(e) Property and equipment*Owned assets*

Property and equipment are stated at cost less accumulated depreciation and losses on decline in value.

Cost includes expenditure that is directly attributable to the acquisition of the asset. The cost of self-constructed assets includes

the cost of materials and direct labour, any other costs directly attributable to bringing the assets to a working condition for their intended use, the costs of dismantling and removing the items and restoring the site on which they are located and capitalised borrowing costs. Purchased software that is integral to the functionality of the related equipment is capitalised as part of that equipment.

Donated assets are stated at cost or reasonable market price as deemed cost. Subsequently they are stated at cost less accumulated depreciation.

When parts of an item of property and equipment have different useful lives, they are accounted for as separate items (major components) of property and equipment.

Gains and losses on disposal of an item of property and equipment are determined by comparing the proceeds from disposal with the carrying amount of equipment, and are recognised net within other income in the statements of revenues and expenses.

Subsequent costs

The cost of replacing a part of an item of property and equipment is recognised in the carrying amount of the item if it is probable that the future economic benefits embodied within the part will flow to the Institute, and its cost can be measured reliably. The carrying amount of the replaced part is derecognised. The costs of the day-to-day servicing of property and equipment are recognised in the statements of revenues and expenses as incurred.

Depreciation

Depreciation is calculated based on the depreciable amount, which is the cost of an asset, or other amount substituted for cost, less its residual value.

Depreciation is charged to the statement of revenues and expenses on a straight-line basis over the estimated useful lives of each component of an item of property and equipment. The estimated useful lives are as follows:

Campus development	10 years
Building improvement	10 years
Buildings	40 years
Furniture and equipment	5, 10 years
Transportation equipment	8 years
Library assets	6 years

No depreciation is provided on assets under construction.

(f) Losses on decline in value

The carrying amounts of the Institute's assets are reviewed at each reporting date to determine whether there is any indication of a permanent decline in value. If any such indication exists, the assets' recoverable amounts are estimated. A loss on decline in value is recognised if the carrying amount exceeds its recoverable

amount. A loss on decline in value is recognised in the statement of revenues and expenses.

(g) Payables

Payables are stated at cost.

Advances from Program fund represents the amount of advance billing, for which the Institute had not rendered the service under the conditions stipulated in the contracts. Income received in advanced is stated at cost.

(h) Provisions

A provision is recognised if, as a result of a past event, the Institute has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by the best estimate method.

Employee benefits

Obligations for retirement benefits are recognised using the best estimate method at the reporting date.

Defined contribution plans

Obligations for contributions to the Social Securities Fund, Provident Fund and Insured Saving Fund are recognised as expenses in the statement of revenues and expenses as incurred.

(i) Revenue

Tuition income and other fees

Tuition income and other fees are recognised on an accrual basis.

Research Grant and Contract service income

Research grant and contract service income received from Donors/Sponsors under Sponsored Program Fund (Fund 30) is recognised when service are rendered and recognised in proportion to the stage of completion of the project.

Support operations income

Support operations income are recognised as goods or services are provide.

Training income

Training income are recognised as services are provided.

Other contributions (donations)

Due to the absence of any obligation on the donor to make the donation and the uncertain nature of the timing of receipt, donations have to be recognised on a cash basis.

Contribution in kind (Faculty secondments income)

These represent services donated to the Institute in the form of a secondment of faculty or staff and where the value is estimated based on the approved Institute professional salary scale. The amounts are recognised as revenues and expenses in the unrestricted general fund.

Interest income and other income

Interest income and other income are recognised in the statement of revenues and expenses as it accrues.

(j) Expenses*Lease payments*

Payments made under operating leases are recognised in the statement of revenues and expenses on a straight-line basis over the term of the lease. Lease incentives received are recognised in the statement of revenues and expenses as an integral part of the total lease expense, over the term of lease.

Contingent lease payments are accounted for by revising the minimum lease payments over the remaining term of the lease when the lease adjustment is confirmed.

(k) Income tax

No income tax provision is made in the financial statements as the Institute is exempt from payment of income tax in accordance with the notification issued in the Royal Gazette dated 25 October, 2510 B.E. (1967).

Except for services rendered by the Conference Center, the Institute has been exempted from Value Added Tax (VAT), under Section 4(4) of the Royal Decree issued under the Revenue Code governing exemption from Value Added Tax (No. 239), B.E. 2534 which was additionally amended under the Royal Decree (No. 254) B.E. 2535.

4 CASH AND CASH EQUIVALENTS

	2018	2017
	(in thousand Baht)	
Cash at banks - current accounts	6,295	189,367
Cash at banks - saving accounts	154,085	132,244
Highly liquid short-term investments	32,637	2,988
Total	193,017	324,599

5 CURRENT INVESTMENTS

	2018	2017
	(in thousand Baht)	
Fixed deposits with more than three months maturity	710,446	637,153
Less Deposits pledged as collateral	(15,175)	(15,100)
Net	695,271	622,053

At 31 December 2018, fixed deposits of Baht 15.2 million (2017: Baht 15.1 million) were pledged as collateral for bank overdraft facility and outstanding letters of guarantee issued by the same financial institutions (see Note 13).

6 ACCOUNTS RECEIVABLE

	2018	2017
	(in thousand Baht)	
Tuition and other fees	22,747	28,027
Others (mainly from research grants and contract service income)	45,516	44,506
	68,263	72,533
Less allowance for doubtful accounts	(14,128)	(15,317)
Net	54,135	57,216
(Reversal of) doubtful debts expenses for the year	(1,189)	2,986

7 PROPERTY AND EQUIPMENT

	Campus development	Building and building improvement	Furniture and equipment	Transportation equipment	Library assets	Assets under construction	Total
<i>(in thousand Baht)</i>							
COST							
At 1 January 2017	384,326	988,805	461,543	20,467	6,662	49,071	1,910,874
Additions	23,889	42	45,254	1,702	1,087	41,562	113,536
Transfers	46,057	-	4,874	-	-	(50,931)	-
Foreign currency translation	-	(209)	(816)	(257)	-	-	(1,282)
At 31 December 2017 and 1 January 2018	454,272	988,638	510,855	21,912	7,749	39,702	2,023,128
Additions	4,092	-	33,389	300	466	86,577	124,824
Disposals	-	-	(139)	-	-	(12)	(151)
Write-off	-	-	(4,532)	(1,411)	-	-	(5,943)
Transfers	72,367	29,417	2,071	128	-	(103,983)	-
Foreign currency translation	-	(16)	(60)	(19)	-	-	(95)
At 31 December 2018	530,731	1,018,039	541,584	20,910	8,215	22,284	2,141,763
DEPRECIATION							
At 1 January 2017	141,105	690,666	384,023	11,999	935	-	1,228,728
Depreciation charge for the year	35,706	23,570	30,926	1,777	1,238	-	93,217
Foreign currency translation	-	(194)	(714)	(247)	-	-	(1,155)
At 31 December 2017 and 1 January 2018	176,811	714,042	414,235	13,529	2,173	-	1,320,790
Depreciation charge for the year	41,405	22,857	32,558	1,792	1,229	-	99,841
Write-off	-	-	(4,532)	(1,411)	-	-	(5,943)
Foreign currency translation	-	(14)	(53)	(19)	-	-	(86)
At 31 December 2018	218,216	736,885	442,208	13,891	3,402	-	1,414,602
NET BOOK VALUE							
At 31 December 2017	277,461	274,596	96,620	8,383	5,576	39,702	702,338
At 31 December 2018	312,515	281,154	99,376	7,019	4,813	22,284	727,161

The gross amount of fully depreciated property and equipment that was still in use as at 31 December 2018 amounted to Baht 685 million (2017: Baht 631 million).

8 ACCOUNTS PAYABLE AND ACCRUED EXPENSES

	2018	2017
	<i>(in thousand Baht)</i>	
Advance from students	70,419	64,738
Accounts payable from operation	46,915	46,030
Accrued staff expenses	37,173	38,670
Provision for insured saving fund tax	9,365	9,365
Accrued operating expenses	9,988	8,340
Withholding tax payable	5,146	5,773
Others	35,145	17,680
Total	214,151	190,596

9 EMPLOYEE BENEFIT OBLIGATIONS

	2018	2017
	<i>(in thousand Baht)</i>	
At 1 January	17,339	18,407
Provisions made	930	913
Provisions used	(2,366)	(1,981)
At 31 December	15,903	17,339

10 ASSETS HELD ON BEHALF OF, AND AMOUNTS DUE TO, DONORS

The agency fund represents amounts held on behalf of donors and other agencies and are disbursed in accordance with their instructions. The Institute has no title to these funds or the associated revenues and expenses. The fund balances as at 31 December 2018 and 2017 and revenues and expenses for the years then ended were as follows:

	2018	2017
	<i>(in thousand Baht)</i>	
Funds received from donors	528,192	461,325
Application of funds		
● Salaries and other benefits	4,283	4,572
● Scholarships	617,438	283,219
● Contracted services	29,360	31,403
● Communication, travel and utility expenses	2,069	1,472
Total funds applied	653,150	320,666
Income over (under) expenses for the year	(124,958)	140,659
<i>Assets held on behalf of donors</i>		
Cash and deposits at financial institutions	147,642	114,766
Current investments	185,883	224,106
Accounts receivable and other current assets	31,914	29,275
Total assets held on behalf of donors	365,439	368,147
<i>Balance at 1 January:</i>		
● Amounts due to donors	264,238	126,933
● Amounts due to (from) donors - AITVN	(112)	439
Income over (under) expenses for the year	(124,958)	140,659
Transfers to other funds	(4,147)	(3,894)
Foreign currency translation	(18)	(11)
Balance at 31 December	135,003	264,126
Other liabilities	230,436	104,021
	230,436	104,021
Total amounts due to donors	365,439	368,147

11 EMPLOYEE BENEFIT EXPENSES

	2018	2017
	(in thousand Baht)	
Wages and salaries	372,984	419,184
Contribution to provident fund	21,143	20,885
Social security costs	5,356	5,423
Personal income tax of employees	1,271	392
Others	1,894	6,072
Total	402,648	451,956

Provident Fund

The defined contribution plan comprises a provident fund established by the Institute for its employees. Membership to the fund is required. Contributions are made monthly by the employees at the rate of 3% to 15% of their basic salaries and by the Institute at the rate of 5% to 7% of the employees' basic salaries. The provident fund is registered under the Securities and Exchange Commission (SEC) and is managed by a licensed Fund Manager (TISCO Assets Management Co., Ltd.).

12 AIT CENTER IN VIETNAM (AITVN)

The Institute has a branch operation in Hanoi, Vietnam of which the purpose of its operation is to:

- Educate and train students, technocrats, business managers and other professionals; and
- Organise research outreach and development activities as well as the transfer of technologies as required by the economic development of the country.

The results of the operations which have been included as part of the results of the Unrestricted (Fund 10) and Unrestricted-General (Fund 21), Restricted Fund - Program Fund (Fund 30), and Capital Fund (Fund 41) were summarised below:

	2018	2017
	(in thousand Baht)	
Income	54,911	56,809
Expenses	(62,172)	(72,353)
Income under expenses	(7,261)	(15,544)

Financial statements for the years ended 31 December 2018 and 2017 have been prepared and approved by management of the branch.

Significant accounting transactions between the Institute and its branch were eliminated from these financial statements.

13 COMMITMENTS

Land lease

The Institute successfully renewed the lease with the Thammasat University on 10 June 2005. The new lease also contains a Memorandum of Understanding between the Institute and Thammasat University, concerning academic co-operation, as an integral part of the new lease agreement to lease land for 30 years from 19 January 2001 to 18 January 2031 in the amount of Baht 600,000; on expiry of the lease agreement it will give the Institute the right to continue to lease the land. However, the consideration for this discount is that should the lease not be renewed and the land reverts to Thammasat University (University), so all buildings and infrastructure on the Institute's site will become the property of the University.

Furthermore, the lease is contingent on a Memorandum of Understanding (MOU) between the University and the Institute. The MOU provides that the Institute will make available and fund a total of sixty scholarships over the thirty-year life of the land lease agreement. Scholarships made in accordance with the MOU will cover tuition fees for qualified lecturers from the University, selected by the University, to pursue a Doctoral degree at the Institute. At 31 December 2018, the scholarship commitment amounted to totaling Baht 76.5 million (2017: Baht 76.5 million).

Service Agreement

On 20 June 2014, the Institute entered into agreement with SN Service Solutions Co., Ltd. whereby such company will provide technical maintenance included preventive and collective maintenance of academic building, residence and field zone. Under terms of the agreements, the Institute is committed to pay management fee to SN, at the rate as indicated in the agreement. The term of the management agreement is for 5 years, counting from the effective date and will end on 30 June 2019. The agreements can be extended by notifying in writing at least 90 days prior to the end of the initial term as specified in the said agreement.

On 20 June 2014, the Institute entered into agreement with Professional Maid Co., Ltd. whereby such company will provide cleaning service. Under terms of the agreements, the Institute is committed to pay management fee to such company, at the rate as indicated in the agreement. The term of the management agreement is for 2 years, counting from the effective date and will end on 30 June 2016. The agreements can be extended by notifying in writing at least 90 days prior to the end of the initial term as specified in the said agreement. On 1 July 2016, the Institute and Professional Maid Co., Ltd. had agreed to revise the management fee and term of the agreement as indicated in the addendum. The revised term of the management agreement is for 3 years, counting from the effective date of the addendum and will end on 30 June 2019.

On 20 June 2014, the Institute entered into agreement with Green Tree Arborist Co., Ltd. whereby such company will provide landscape management service. Under terms of the agreements, the Institute is committed to pay management fee to such company, at the rate as indicated in the agreement. The term of the management agreement is for 2 years, counting from the effective date and will end on 30 June 2016. The agreements can be extended by notifying in writing at least 90 days prior to the end of the initial term as specified in the said agreement. On 1 July 2016, the

Institute and Green Tree Arborist had agreed to revise the management fee and term of the agreement as indicated in the addendum. The revised term of the management agreement is for 3 years, counting from the effective date of the addendum and will end on 30 June 2019.

On 1 November 2017, the Institute entered into agreement with VP Service Management Co., Ltd. whereby such company will provide management of hotel service of AITCC. Under terms of the agreements, the Institute is committed to pay management fee to such company, at the rate as indicated in the agreement. The term of the management agreement is for 3 years, counting from the effective date and will end on 31 October 2020. The agreements can be extended by notifying in writing at least 90 days prior to the end of the initial term as specified in the said agreement.

Bank guarantees

At 31 December 2018, bank guarantees which were issued by the bank on behalf of the Institute in respect of bank overdraft facility and certain performance bonds as required in the normal course of operations of the Institute amounted to totalling Baht 0.46 million (2017: Baht 1.90 million). These bank guarantees were collateralised by Institute's fixed deposits as discussed in Note 5.

Others

At 31 December 2018, the Institute had obtained credit facilities for bank overdraft totaling Baht 5 million (2017: Baht 5 million) which were collateralised by Institute's fixed deposits as discussed in Note 5. Bank overdrafts bore interest at the rate of fixed deposits plus 1.25 % per annum (2017: fixed deposits plus 1.25% per annum).

14 CONTINGENT LIABILITIES

Labour case

At 31 December 2018, there was labour case in regards to the breach of employment contracts and still pending at Central Labour Court. The Central Labour Court rendered its judgment to dismiss on 30 January 2018. However, the plaintiff has appealed to the Court on 11 May 2018. On 5 November 2018, The Central Labour Court verdict has ordered institute to pay wages the amount of Baht 0.81 million and Institute has already deposited the amount as the Court's verdict. Although, the plaintiff disagreed and submitted a request to exercise the right to appeal to the court to consider the special case on other matter on 8 February 2019.

The management believes that the ultimate outcome cannot be presently and reliably determined or quantified. Thus, no provision is recorded in the accompanying financial statements as at 31 December 2018.

15 RECLASSIFICATION OF ACCOUNTS

Certain accounts in the 2017 financial statements have been reclassified to conform to the presentation in the 2018 financial statements as follows:

	2017		
	Before reclassification	Reclassification	Before reclassification
		(in Baht)	
<i>Statements of revenues and expenses</i>			
Other contribution	8,892,522	2,991,125	11,883,647
Other income	3,516,212	(3,516,212)	-
Replenishment/ replacement of damaged items	(525,087)	525,087	-
Total			-

The reclassifications have been made due to more appropriate to the Institute's business.

STATEMENTS OF FINANCIAL POSITION

	Note	31 December	
		2018	2017
(in Baht)			
ASSETS			
<i>Current assets</i>			
Cash and cash equivalents	4	193,017,166	324,598,917
Current investments	5	695,271,169	622,052,900
Accounts receivable	6	54,134,577	57,216,060
Receivables from Program fund		55,420,809	37,918,299
Assets held on behalf of donors	10	365,438,895	368,146,964
Other current assets		21,254,781	25,910,911
Total current assets		1,384,537,397	1,435,844,051
<i>Non-current assets</i>			
Restricted deposits of financial institutions	5	15,175,000	15,100,000
Property and equipment	7	727,161,292	702,338,366
Total non-current assets		742,336,292	717,438,366
Total assets		2,126,873,689	2,153,282,417
LIABILITIES AND FUND BALANCES			
<i>Current liabilities</i>			
Accounts payable and accrued expenses	8	214,150,724	190,595,702
Advances from Program fund		177,872,120	181,141,611
Deposit payables		5,574,293	5,656,669
Amounts due to donors	10	365,438,895	368,146,964
Total current liabilities		763,036,032	745,540,946
<i>Non-current liabilities</i>			
Employee benefit obligations	9	15,902,734	17,338,998
Total non-current liabilities		15,902,734	17,338,998
Total liabilities		778,938,766	762,879,944
<i>Fund balances</i>			
Endowment fund balances		142,724,615	142,052,215
Capital funds balances		865,159,658	887,132,551
General reserve		340,050,650	361,217,707
Total fund balances		1,347,934,923	1,390,402,473
Total liabilities and fund balances		2,126,873,689	2,153,282,417

STATEMENTS OF REVENUES AND EXPENSES

	Note	For the year ended 31 December	
		2018	2017
(in Baht)			
INCOME			
Tuition income and other fees		426,265,281	463,097,012
Research grants and contract service income		101,875,910	137,564,642
Support operations income		210,813,715	191,966,072
Training income		132,040,252	242,699,678
Other contributions		8,758,909	11,883,647
Faculty secondments income		24,129,190	32,202,420
Total income		903,883,257	1,079,413,471
EXPENSES			
Employee benefit expenses	11	402,648,182	451,956,392
Materials, supplies and services expenses		166,146,013	226,561,147
Contracted services expenses		190,789,890	192,133,897
Communication and travel expenses		34,207,817	45,704,884
Utilities and insurance expenses		62,777,883	54,379,144
Faculty secondments expenses		24,129,190	32,202,420
Total expenses		880,698,975	1,002,937,884
Income over expenses		23,184,282	76,475,587
Depreciation	7	(99,841,086)	(93,217,210)
Income under expenses including depreciation		(76,656,804)	(16,741,623)
Non operating income and expenses			
Interest income		14,818,796	17,446,188
(Gain) loss on exchange rate		872,151	(5,558,863)
Income under expenses		(60,965,857)	(4,854,298)

STATEMENTS OF CASH FLOWS

	Note	For the year ended 31 December	
		2018	2017
		(in Baht)	
CASH FLOWS FROM OPERATING ACTIVITIES			
Opening fund balances		1,390,402,473	1,374,941,852
Closing fund balances		1,347,934,923	1,390,402,473
Movement in fund balances		(42,467,550)	15,460,621
<i>Adjustments to reconcile movement of fund balances</i>			
(Reversal of) doubtful debts expense	6	(1,188,673)	2,986,431
Depreciation	7	99,841,086	93,217,210
Loss on disposal of equipment		151,840	-
Interest income		(14,818,796)	(17,446,188)
Unrealised (gain) loss on exchange rate		(1,197,524)	3,756,492
Employee benefit obligation	9	930,393	913,481
Movement in fund balances from operating activities before changes in operating assets and liabilities		41,250,776	98,888,047
<i>Changes in operating assets and liabilities:</i>			
Accounts receivable		5,473,529	77,868,130
Receivables from Program fund		(17,502,510)	(9,474,392)
Other current assets		10,256,595	(204,301)
Accounts payable and accrued expenses		23,555,022	(38,853,196)
Advances from Program fund		(3,269,491)	(51,512,607)
Deposit payables		(82,376)	(151,672)
Employee benefit obligation paid	9	(2,366,657)	(1,981,414)
Net cash from operating activities		57,314,888	74,578,595
CASH FLOWS FROM INVESTING ACTIVITIES			
Interest received		9,218,331	15,818,703
(Increase) decrease in current investments		(73,293,269)	34,095,994
Purchase of property and equipment	7	(124,824,379)	(113,536,473)
Net cash used in investing activities		(188,899,317)	(63,621,776)
Net increase (decrease) in cash and cash equivalents		(131,584,429)	10,956,819
Cash and cash equivalents at beginning of year		324,598,917	320,882,450
Effects of exchange rate changes on balances held in foreign currencies		2,678	(7,240,352)
Cash and cash equivalents at end of year	4	193,017,166	324,598,917

STATEMENTS OF CHANGES IN FUND BALANCES

Note	Unrestricted Current fund	Unrestricted fund-General	Restricted funds		Unrestricted fund	Capital funds		Restricted fund - General reserve	Total	
			Endowment fund	Program fund		Integrated facility management	Property and equipment		31 December 2018	31 December 2017
<i>(in Bath)</i>										
Balances 1 January	-	-	142,052,215	-	-	887,132,551	361,217,707	1,390,402,473	1,374,941,852	
Additions (Deductions):										
Income (under) over expenses for the year (AITTH)	149,200,823	5,966,727	672,400	8,185,329	(122,218,494)	(97,697,635)	2,185,564	(53,705,286)	10,689,212	
Income (under) over expenses for the year (AITVN)	3,274,137	(7,346,874)	-	(2,773,841)	-	(413,993)	-	(7,260,571)	(15,543,510)	
Total additions (deductions) for the year	152,474,960	(1,380,147)	672,400	5,411,488	(122,218,494)	(98,111,628)	2,185,564	(60,965,857)	(4,854,298)	
Adjusted loss on foreign currency translation of AITVN	-	-	-	-	-	(8,527)	(403,934)	(412,461)	(9,480,553)	
Total	152,474,960	(1,380,147)	142,724,615	5,411,488	(122,218,494)	789,012,396	362,999,337	1,329,024,155	1,360,607,001	
Increase capital:										
Capital from funds held on behalf of others	-	-	-	-	-	4,146,622	-	4,146,622	5,065,501	
Capital for Program fund	-	-	-	14,764,146	-	-	-	14,764,146	24,729,971	
Total	-	-	-	14,764,146	-	4,146,622	-	18,910,768	29,795,472	
TRANSFER TO (FROM) OTHER FUNDS:										
Unrestricted current fund	-	-	-	-	-	-	152,474,960	152,474,960	184,021,613	
Unrestricted fund - General	-	-	-	-	-	-	(1,380,147)	(1,380,147)	10,642,142	
Restricted funds - Program fund	-	-	-	-	-	14,764,146	5,411,488	20,175,634	27,153,296	
Unrestricted fund - Integrated facility management	-	-	-	-	-	-	(122,218,494)	(122,218,494)	(115,887,193)	
Restricted fund - General reserve	(152,474,960)	1,380,147	-	(5,411,488)	122,218,494	57,236,494	-	22,948,687	16,308,423	
Capital fund - Property and equipment	-	-	-	(14,764,146)	-	-	(57,236,494)	(72,000,640)	(122,238,281)	
Net	(152,474,960)	1,380,147	-	(20,175,634)	122,218,494	72,000,640	(22,948,687)	-	-	
Balances as at 31 December	-	-	142,724,615	-	-	865,159,658	340,050,650	1,347,934,923	1,390,402,473	

STATEMENTS OF FINANCIAL POSITION CLASSIFIED BY FUNDS

	Note	Unrestricted Current fund	Unrestricted fund-General	Restricted funds		Unrestricted fund	Capital funds		Restricted funds	Agency fund	Total	
				Endowment fund	Program fund		Integrated facility management	Property and equipment			fund - General reserve	31 December 2018
ASSETS												
Current assets												
Cash and cash equivalents	4	14,028,128	6,399,443	41,834	20,639,748	2,927,849	79,121,265	69,858,899	-	193,017,166	324,598,917	
Current investments	5	104,623,050	-	142,721,713	90,245,718	-	88,482,430	269,198,258	-	695,271,169	622,052,900	
Accounts receivable	6	4,664,013	2,514,800	-	36,930,254	10,025,510	-	-	-	54,134,577	57,216,060	
Receivables from Program fund		-	-	-	55,420,809	-	-	-	-	55,420,809	37,918,299	
Assets held on behalf of donors	10	-	-	-	-	-	-	-	365,438,895	365,438,895	368,146,964	
Other current assets		9,020,420	215,393	3,507	9,490,210	1,531,758	-	993,493	-	21,254,781	25,910,911	
Total current assets		132,335,611	9,129,636	142,767,054	212,726,739	14,485,117	167,603,695	340,050,650	365,438,895	1,384,537,397	1,435,844,051	
Non-current assets												
Restricted deposits of financial institutions	5	-	-	-	15,175,000	-	-	-	-	15,175,000	15,100,000	
Property and equipment	7	-	-	-	-	-	727,161,292	-	-	727,161,292	702,338,366	
Total non-current assets		-	-	-	15,175,000	-	727,161,292	-	-	742,336,292	717,438,366	
Total assets		132,335,611	9,129,636	142,767,054	227,901,739	14,485,117	894,764,987	340,050,650	365,438,895	2,126,873,689	2,153,282,417	
LIABILITIES AND FUND BALANCES												
Current liabilities												
Accounts payable and accrued expenses	8	116,535,412	7,797,935	42,439	48,923,494	11,246,115	29,605,329	-	-	214,150,724	190,595,702	
Advances from Program fund		-	-	-	177,872,120	-	-	-	-	177,872,120	181,141,611	
Deposit payables		1,003,590	1,331,701	-	-	3,239,002	-	-	-	5,574,293	5,656,669	
Amounts due to donors	10	-	-	-	-	-	-	-	365,438,895	365,438,895	368,146,964	
Total current liabilities		117,539,002	9,129,636	42,439	226,795,614	14,485,117	29,605,329	-	365,438,895	763,036,032	745,540,946	
Non-Current liabilities												
Employee benefit obligations	9	14,796,609	-	-	1,106,125	-	-	-	-	15,902,734	17,338,998	
Total non-current liabilities		14,796,609	-	-	1,106,125	-	-	-	-	15,902,734	17,338,998	
Total liabilities		132,335,611	9,129,636	42,439	227,901,739	14,485,117	29,605,329	-	365,438,895	778,938,766	762,879,944	
Fund balances												
Endowment fund balances		-	-	142,724,615	-	-	-	-	-	142,724,615	142,052,215	
Capital funds balances		-	-	-	-	-	865,159,658	-	-	865,159,658	887,132,551	
General reserve		-	-	-	-	-	-	340,050,650	-	340,050,650	361,217,707	
Total fund balances		-	-	142,724,615	-	-	865,159,658	340,050,650	-	1,347,934,923	1,390,402,473	
Total liabilities and fund balances		132,335,611	9,129,636	142,767,054	227,901,739	14,485,117	894,764,987	340,050,650	365,438,895	2,126,873,689	2,153,282,417	

(in Bath)

STATEMENTS OF REVENUES AND EXPENSES CLASSIFIED BY FUNDS

	Note	Unrestricted Current fund	Unrestricted fund-General	Restricted funds		Unrestricted fund	Capital fund Property and equipment	Restricted fund - General reserve	Total	
				Endowment fund	Program fund				31 December 2018	31 December 2017
INCOME										
Tuition income and other fees		413,024,685	-	-	13,240,596	-	-	-	426,265,281	463,097,012
Research grants and contract service income		834,493	339,542	-	100,701,875	-	-	-	101,875,910	137,564,642
Support operations income		2,046,700	97,398,596	-	-	111,368,419	-	-	210,813,715	191,966,072
Training income		-	641,686	-	131,398,566	-	-	-	132,040,252	242,699,678
Other contributions		2,344,633	1,502,736	601,393	2,580,689	-	1,729,458	-	8,758,909	11,883,647
Faculty secondments income		-	24,129,190	-	-	-	-	-	24,129,190	32,202,420
Total income		418,250,511	124,011,750	601,393	247,921,726	111,368,419	1,729,458	-	903,883,257	1,079,413,471
EXPENSES										
Employee benefit expenses	11	246,683,659	34,880,134	-	109,027,002	12,057,387	-	-	402,648,182	451,956,392
Materials, supplies and services expenses		69,231,498	7,937,499	163,390	71,595,841	23,217,785	-	-	166,146,013	226,561,147
Contracted services expenses		50,386,133	23,558,905	-	40,950,609	75,894,243	-	-	190,789,890	192,133,897
Communication and travel expenses		9,536,693	3,069,559	-	20,898,364	703,201	-	-	34,207,817	45,704,884
Utilities and insurance expenses		8,696,955	1,019,725	-	38,422	53,022,781	-	-	62,777,883	54,379,144
Faculty secondments expenses		-	24,129,190	-	-	-	-	-	24,129,190	32,202,420
Total expenses		378,534,938	94,595,012	163,390	242,510,238	164,895,397	-	-	880,698,975	1,002,937,884
Income over (under) expenses before allocation		39,715,573	29,416,738	438,003	5,411,488	(53,526,978)	1,729,458	-	23,184,282	76,475,587
Allocation costs		(100,966,785)	32,275,269	-	-	68,691,516	-	-	-	-
Income over (under) expenses		140,682,358	(2,858,531)	438,003	5,411,488	(122,218,494)	1,729,458	-	23,184,282	76,475,587
Depreciation	7	-	-	-	-	-	(99,841,086)	-	(99,841,086)	(93,217,210)
Income over (under) expenses including depreciation		140,682,358	(2,858,531)	438,003	5,411,488	(122,218,494)	(98,111,628)	-	(76,656,804)	(16,741,623)
NON OPERATING INCOME AND EXPENSES										
Interest income		10,166,643	2,232,192	234,397	-	-	-	2,185,564	14,818,796	17,446,188
Gains (losses) on exchange rate		1,625,959	(753,808)	-	-	-	-	-	872,151	(5,558,863)
Income over (under) expenses		152,474,960	(1,380,147)	672,400	5,411,488	(122,218,494)	(98,111,628)	2,185,564	(60,965,857)	(4,854,298)

UNREALISE GAIN(LOSS) ON EXCHANGE RATE

Table 1 - Effects of Foreign Exchange Rate - AIT Main

Effects of exchange Rates on balances held in foreign currencies (AIT Main)	5,849.25	5,849.25	5,849.00
Loss(Gain) on AR	-1,203,372.55	(1,203,372.55)	(1,203,373.00)
Unrealised gain(loss) on exchange rate	-1,197,523.30	(1,197,523.30)	(1,197,524.00)

Table 2 - Effects of Foreign Exchange Rate - AIT Main and AITVN

CURRENCY ADJUSTMENTS			
FA, Beginning	94,620.79	94,620.79	94,621.00
Accum Depr., Beg	-86,990.34	(86,093.63)	(86,094.00)
Loss on currency Adj	-5,849.25	(5,849.25)	(5,849.00)
Effects of exchange rates on balances held in foreign currencies	-5,940,661.59	2,677.91	2,678.00

Table 3 - Changes in Accounts Receivable

Decrease in Accounts Receivable Add (deduct)	3,081,483.89	3,081,483.89	3,081,484.00
Decrease(inc) in Provision for Doubtful Accounts	1,188,672.87	1,188,672.87	1,188,673.00
Gain(loss) on AR	1,203,372.55	1,203,372.55	1,203,373.00
Currency Adj. on net book value	5,473,529.31	2,392,045.42	2,392,046.00

APPENDIX 2

AIT Administration

PRESIDENT

Dr. Eden Y. Woon
(from 1 September 2018)

Prof. Worsak Kanok-Nukulchai
(until 31 August 2018)

VICE-PRESIDENTS

Academic Affairs
Prof. Sivanappan Kumar

Administration
Prof. Kazuo Yamamoto
(until 30 June 2018)

Development
Mr. Surendra Shrestha
(until 30 June 2018)

DEANS

School of Engineering & Technology
Prof. Voratas Kachitvichyanukul

School of Environment, Resources & Development
Prof. Rajendra Prasad Shrestha

School of Management
Prof. M. Nazrul Islam, interim
(from 1 July 2018)

Prof. Lawrence S. Abeln
(until 31 August 2018)

EXECUTIVE DIRECTORS / DIRECTORS

RESPONSIBILITY CENTERS

AIT Extension
Dr. Jonathan L. Shaw

AIT Solutions
Dr. Naveed Anwar

AIT Center in Viet Nam (AITCV)
Dr. Fredric W. Swierczek

Special Degree and Online Programs
Prof. Nitin Kumar Tripathi

Internet Education & Research Laboratory (intERLab)
Dr. Mongkol Ekpanyapong

Regional Resource Centre for Asia and the Pacific (RRC-AP)
Mr. Naoya Tsukamoto
(from 15 July 2018)

Mr. Osamu Mizuno
(until 19 July 2018)

Center of Excellence in Nanotechnology (CoE-Nano)
Prof. G. Louis Hornyak

Geoinformatics Centre (GIC)
Dr. Manzul Hazarika

Language Center
Dr. Freek Olaf de Groot

AIT International School (AITIS)
Mr. Kevin Mauritson

AIT Assets
Mr. Wanchai Sophonsakulrat

Asian Center of Innovation for Sustainable Agriculture Intensification (ACISAI)
Dr. Abha Mishra

AIT Artificial Intelligence Technology Center (AIT² Center)
Prof. Matthew N. Dailey and Dr. Mongkol Ekpanyapong
(from October 2018)

SERVICE CENTERS

Office of the Secretary to the President (OPRE)

Ms. Chotiros Mongkolchotirat

Office of the Institute Secretary (OIS)
Mr. Karma Rana

Office of Academic Administration (OAA)
Ms. Izel Ann Mojado-Dante

Office of Finance (OFIN)
Mr. Noppadon Rittipongshusit

Office of Human Resources Services (OHRS)
Ms. Maybel Diopenes, acting
(from 24 August 2018)

Mr. Jiraphong Bumpenyoo, interim
(until 30 November 2018)

Office of Student Affairs (OSA)
Ms. Laarni B. Roa

AIT Library (LIB)
Ms. Watcharin Intha
(from 1 July 2018)

Ms. Pranee Kiriyanant
(until 30 June 2018)

Office of Host Country Relations (OHCR)
Ms. Chalita Lertwinyu

Office of Advancement (OADV)
Mr. Sanjeev Jayasinghe

Office of External Relations (OEXR)
Mr. Shawn P. Kelly

Office of Media and Communications (OMCO)
Mr. Bajinder Pal Singh

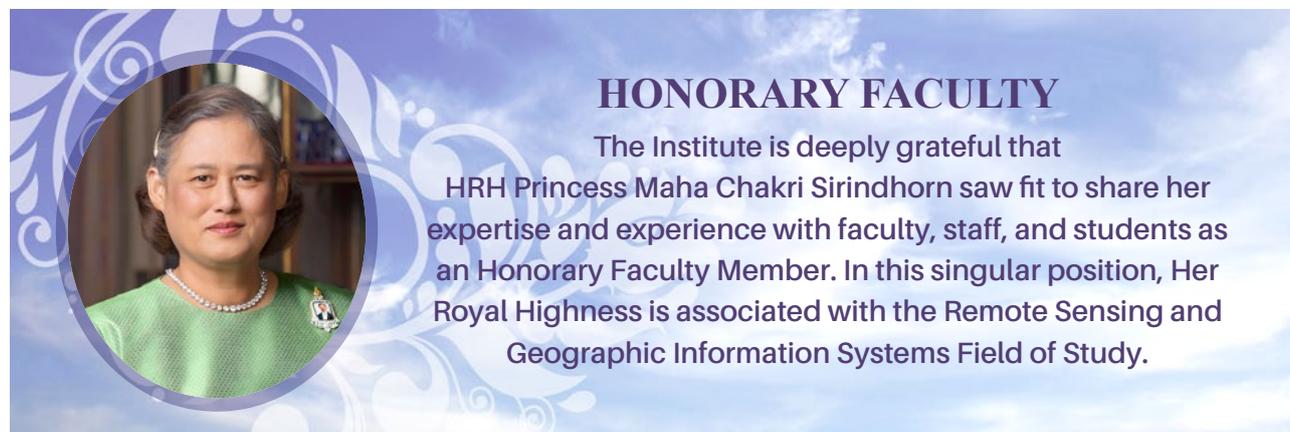
Office of Facilities and Assets Management (OFAM)
Mr. Wanchai Sophonsakulrat

Office of Procurement, Inventory and Assets (OPIA)
Ms. Pakkamol Dherapongsthada
(until 30 June 2018; interim from 1 October 2018)

Mr. Vasvan Songpitakchai, acting
(from 1 July 2018 to 30 September 2018)

APPENDIX 3

Faculty Members



HONORARY FACULTY

The Institute is deeply grateful that HRH Princess Maha Chakri Sirindhorn saw fit to share her expertise and experience with faculty, staff, and students as an Honorary Faculty Member. In this singular position, Her Royal Highness is associated with the Remote Sensing and Geographic Information Systems Field of Study.

EMERITUS PROFESSORS

Amin, A.T.M. Nurul

B.B. M.A., Univ. of Dhaka, Bangladesh;
M.A., Ph.D., Univ. of Manitoba

Annachhatre, Ajit P.

B.Tech., Ph.D., Indian Inst. of Tech.,
Kanpur

Balasubramaniam, A.S.

B.Sc., Ceylon Univ., Sri Lanka; Ph.D.,
Cambridge Univ.

Bergado, Dennes

B.S.C.E., Mindanao State Univ.,
Philippines; M.Eng. AIT, Thailand; Ph.D.,
Utah State Univ., USA

Edwards, Peter

B.Sc., Liverpool Univ., UK; Ph.D., Univ. of
Texas., USA

Exell, Robert H.B.

B.A., M.A., D.Phil., Oxford Univ.

Gupta, Ashim Das

B.Eng., Assam Engineering College, India;
M.Eng.; D.Eng., AIT

Jindal, Vinod

B.Sc. A.E., Pantnagar, India; M.S.,
University of Nebraska (Lincoln), USA;
Ph.D., Pennsylvania State Univ., USA

Kanok-Nukulchai, Worsak

B.Eng., Chulalongkorn Univ., Thailand;
M.Eng., AIT, Thailand; Ph.D., Univ. of
California (Berkeley), USA

Karasudhi, Pisidhi

B.Eng., Chulalongkorn Univ., Thailand;
M.Eng., Chulalongkorn-SEATO Graduate
School of Engineering, Thailand; Ph.D.,
Northwestern Univ., USA

Nutalaya, Prinya

B.A.; M.S., Ph.D., Univ. of Colorado, USA

Oanh, Nguyen Thi Kim

Dip.Eng., Odessa Hydrometeorology Inst.,
Ukraine; M.Eng., D.Eng., AIT, Thailand

Polprasert, Chongrak

B. Eng., Chulalongkorn Univ., Thailand;
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Washington, USA.

Routray, Jayant K.

B.Sc. (Hons.). Ravenshaw College, India;
M.Sc., Ph.D., Utkal Univ., India; M.R.P.,
Indian Inst. of Tech., Kharagpur, India

Shrestha, Ram M.

B.E., Univ. of Baroda, India; B.L.L.,
Tribhuvan Univ., Nepal; M.Eng., D.Eng.,
AIT, Thailand

Singh, Gajendra

B.Sc. A.E, Pantagar; M.S., Rutgers; Ph.D.,
Univ. of California (Davis), USA.

Tabucanon, Mario T.

B.S.E.E., B.S.M.E., Cebu Inst. of Tech.;
M.Eng., D.Eng., AIT, Thailand

Tingsanchali, Tawatchai

B.Eng, Chulalongkorn Univ.; M.Eng.,
D.Eng., AIT, Thailand

Weber, Karl E.

M.A., Dr. Phil, Heidelberg Ruperto-Carola
Univ., Germany.

FULL-TIME FACULTY

Abeln, Lawrence S.

B.A., Univ. of Pennsylvania, USA; M.Phil,
Ph.D., Cambridge Univ., UK

Professor and Dean (International
Economics; International Labor; Cross
Cultural Management; Collective
Intelligence; Smart Data as next generation
to Big Data)

Dean (until 31 August 2018): School of
Management

Abeykoon, A.M. Harsha S.

B.Sc., Univ. of Moratuwa, Sri Lanka; M.Sc.,
Ph.D., Keio Univ., Japan

Assistant Professor (Mobile robotics;
bilateral control; motion control; active
vibration suppression and haptics)

Department of Industrial Systems
Engineering, School of Engineering &
Technology

Ahmad, Mokbul Morshed

B.Sc, M.Sc., Dhaka Univ., Bangladesh;
M.Sc., Chulalongkorn Univ. Thailand;
Ph.D., Univ. of Durham, UK

Associate Professor (Economic geography;
regional and rural development planning;
community development; Non-
Governmental Organizations; civil society;
globalization; climate change adaptation)

Department of Development &
Sustainability, School of Environment,
Resources and Development

Anal, Anil Kumar

Doctor of Veterinary Medicine, Univ. of
Agriculture, Pakistan; M.Sc, Ph.D, AIT,
Thailand

Associate Professor (Food Engineering & Bioprocess Technology Field of Study, Food and Pharmaceutical Biotechnology, Dairy and Meat Process Technology, Food Colloids and Biopolymers, Functional Foods, Risk Analysis and Safety in Food Supply Chain and Processing; Bionano encapsulation; Nanotechnology Applications in Food Industries; Bionanotechnology; Agriculture & Food Technology; Functional Properties of Proteins and Polysaccharides)

Department Head, Department of Food, Agriculture, & Bioresources, School of Environment, Resources & Development

Anutariya, Chutiporn

B.S., Chulalongkorn Univ., Thailand; M.Sc., Ph.D., AIT, Thailand

Associate Professor (Database and Information Systems; Learning Technologies; Knowledge Representation and Knowledge Management; Open Data and Open Government Data; Semantic, Ontology and Linked Data Technologies)

Department of Information & Communication Technologies, School of Engineering & Technology

Babel, Mukand S.

B.Eng., Rajasthan Agricultural Univ., India; M.Eng., D.Eng., AIT, Thailand

Professor (Hydrologic and water resources modeling as applied to integrated water resources management; Watershed modeling and management; Water resources allocation and management; Water resources and socioeconomic development; Water supply system and management; Climate change impact and adaptation; Groundwater resources management; and Flood and drought analysis, forecasting and management; Drought Forecasting and Management)

Department of Civil & Infrastructure Engineering, School of Engineering & Technology

Badir, Yuosre F.

B.Sc., Univ. of Garyounis, Lybia; M.Sc., Univ. of Putra, Malaysia; M.Sc., Swiss Federal Inst. of Tech., Lausanne, Switzerland

Associate Professor (Managing Technology; Innovation & New Product Development)

Head of Doctoral Programs, School of Management

Bhujel, Ram C.

B.Sc., Institute of Agriculture and Animal Science, Nepal; M.Sc., Ph.D., AIT, Thailand

Research Associate Professor (Biostatistics and Research Design; Curriculum Development; Women in Aquaculture;

Broodstock Nutrition; Management and Fry Production; Technology Transfer/ Extension)

Department of Food, Agriculture, & Bioresources, School of Environment, Resources & Development

Chao, Kou-Chieh

B.Sc.; National Chung-Hsing Univ., Taiwan; M.Sc., Ph.D., Colorado State Univ., USA

Associate Professor (Expansive and collapsible soils evaluation; soil improvement methods; unsaturated soil modeling; sustainability; landslide and debris flow investigation, soil behavior under dynamic loading; construction and design defect investigation, and tailings reclamation)

Department of Civil & Infrastructure Engineering, School of Engineering & Technology

Charoenngam, Chotchai

B.Eng., King Mongkut's Inst. of Tech., Thailand; M.S., Univ. of Kansas, USA; Ph.D., Univ. of Texas, USA

Associate Professor (Project Planning; Scheduling and Controls; Construction Productivity Improvement; Public Private Partnership Project; Project Financing)

Department of Civil & Infrastructure Engineering, School of Engineering & Technology

Chatterjee, Joyee

B.A., Delhi Univ., India; M.A., Ph.D., Univ. of Southern California, USA

Assistant Professor (Gender and Development; Communication; Global Health Communication; Gender; Culture and Social Issues in South Asia)

Department of Development & Sustainability, School of Environment, Resources & Development

Dailey, Matthew N.

B.S., M.S., North Carolina State Univ. USA; Ph.D., Univ. of California (San Diego), USA

Professor (Machine Vision & Learning; Robotics; Software Engineering; Open-source Software Development)

Department Head, Department of Undergraduate and Department of Information & Communication Technologies; School of Engineering & Technology; co-Director, AIT Artificial Intelligence Technology Center

Datta, Avishek

B.Sc., M.Sc., Bidhan Chandra Krishi Viswavidyalaya, India; Ph.D., Univ. of Nebraska (Lincoln), USA

Associate Professor (Agricultural Environments; Crop Productivity

Management; Crop Ecophysiology and Modeling; Advanced Agricultural Experimentation)

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Dhakal, Shobhakar

B. Eng., National Institute of Technology, Surat, India; M.Eng., AIT, Thailand; Ph.D., Univ. of Tokyo, Japan

Associate Professor (Modeling of Energy and Carbon Emissions; Scenarios Policy Analyses)

Department Head, Department of Energy, Environment & Climate Change, School of Environment, Resources & Development

Doneys, Philippe

B.A., Univ. of Toronto, Canada; M.A., Univ. of London, UK; Ph.D., Institut d'Études Politiques de Paris, France

Associate Professor (Empowerment; Gender and Politics; Gender and Migration; Gender and technologies; Masculinity; Gender-based Violence)

Department of Development & Sustainability, School of Environment, Resources & Development

Duc, Hoang Nguyen

B.Eng., Water Resources Univ., Viet Nam; M.Sc., UNESCO-IHE Institute for Water Education, Delft, The Netherlands; Ph.D., Tokyo Metropolitan Univ., Japan

Assistant Professor (River & Estuarine Hydrodynamics and Engineering; Wetland and Coastal Zone Management; Meteo-Hydrological Monitoring and Management; Mathematical Modelling; Flood and Drought Risk Management; Climate Change)

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M.Sc., Ph.D., Univ. of Tech., Dresden, Germany

Professor (Computer and Network Security; Autonomous Computing; Logic Programming; Artificial Intelligence)

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Ekpanyapong, Mongkol

B.Eng., Chulalongkorn Univ., Thailand; M.Eng., AIT, Thailand; M.Sc, Ph.D, Georgia Institute of Technology, USA

Associate Professor (Embedded Systems; Computer Architecture, VLSI design – Low power design; Physical VLSI design; High Performance Computing; GPGPU; DSP)

Department of Industrial Systems Engineering, Department Head; Department of Industrial Systems Engineering, School of Engineering & Technology; Director, Internet Education & Research Laboratory; co-Director, AIT Artificial Intelligence Technology Center

Esichaikul, Vatcharaporn

B.Acc., Chulalongkorn Univ., Thailand; M.B.A., Oklahoma State Univ., USA; Ph.D., Kent State Univ., USA

Associate Professor (Electronic Commerce/Electronic Business; Web-based Information Systems, Hypermedia; Electronic Government)

Department of Information & Communication Technologies, School of Engineering & Technology

Faysse, Nicolas

B.Sc., École Polytechnique, Paris, France; M.Sc., École Nationale de Génie Rural, des Eaux, et Forêts, Paris, France; Ph.D., Univ. of Paris X Nanterre, France

Visiting Assistant Professor (Governance of Natural Resources; Rural Sociology; Participatory Scenario Design)

Department of Development & Sustainability, School of Environment, Resources & Development

Giao, Pham Huy

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Hadikusumo, Bonaventura H.W.

B.Eng., Univ. of Diponegoro, Indonesia; M.Eng., AIT, Thailand; Ph.D., Univ. of Hong Kong, China SAR

Associate Professor (Construction Information Technology; Construction Project Management; Construction Site Safety, Virtual Reality application in construction; Web-based project design and management; System Dynamic Simulation in Construction; Construction site safety)

Department of Civil & Infrastructure Engineering, School of Engineering & Technology

Hornyak, Gabriel Louis

B.A., Univ. of California (San Diego), USA; BA, MA, Univ. of Colorado, USA; Ph.D., Colorado State Univ., USA

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Department of Industrial Systems Engineering, School of Engineering & Technology; Director, Center of Excellence in Nanotechnology

Islam, M. Nazrul

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Adjunct Faculty (Technology, Innovation and Knowledge Management, International Technology Transfer, Information, & Communication Technology in Service Industry)

Acting Dean (from 1 August 2018); School of Management

Kachitvichyanukul, Voratas

B.S., National Taiwan Univ.; M.Eng., AIT, Thailand; Ph.D., Purdue Univ., USA

Professor (Simulation; ERP; Scheduling, Metaheuristics; Parallel Computing Planning and Scheduling Systems; Enterprise Resource Planning Systems; Supply Chain Modeling and Analysis; Discrete Event Simulation Software Development; Manufacturing System Simulation; Manufacturing Decision Support Systems; Just-in-Time Manufacturing Systems)

Dean: School of Engineering & Technology

Kanitpong, Kunnawee

B.S., Chulalongkorn Univ., Thailand; M.S., Univ. of Maryland (College Park), USA; Ph.D., Univ. of Wisconsin (Madison), USA

Associate Professor (Road Traffic Safety; Accident Data Analysis; Highway Materials and Construction; Pavement Design and Analysis; and Pavement Management System)

Department of Civil & Infrastructure Engineering, School of Engineering & Technology

Keun, Song Weon

B.Eng., Yonsei Univ., South Korea; M.Eng., Ph.D., Moscow Science & Technology Univ., Russia

Visiting Faculty (Nonlinear dynamic analysis and nonlinear control for mechanical systems and space vehicles, specially the orbit control of satellites)

Department of Industrial Systems Engineering, School of Engineering & Technology

Kim, Sohee Minsun

B.A., Tama Art Univ., Japan; M.Sc., Ph.D., Univ. of Tokyo, Japan

Assistant Professor (Urban-Rural Sustainable Land-use Planning)

Department of Development & Sustainability, School of Environment, Resources & Development

Koomsap, Pisut

B.Eng., Thammasat Univ. Thailand; M.Sc., Univ. of Louisville, USA; Ph.D., Pennsylvania State Univ., USA

Associate Professor (Sensing and Control for Manufacturing Processes and Systems; Laser Applications in Manufacturing; Rapid Prototyping; Condition-Based Maintenance; Continuous Improvement)

Department Head, Department of Industrial Systems Engineering (until 30 September 2018), School of Engineering & Technology

Koottatep, Thammarat

B.Eng., Chiang Mai Univ., Thailand; M.Eng., D.Eng., AIT, Thailand

Professor (Decentralized Waste and Wastewater Treatment Systems; Eco-engineering Technology for Waste and Wastewater Treatment and Management; Environmental Health and Sanitation)

Department of Energy, Environment & Climate Change, School of Environment, Resources & Development

Kumar, Sivanappan

B.E., Univ. of Madras, India; M.Eng., AIT, Thailand; Ph.D., Institut National Polytechnique, Toulouse, France

Professor (Renewable Energy Resources and Technologies; Climate Change and Greenhouse Gas Mitigation; Energy and Sustainable Development)

Department of Energy, Environment & Climate Change, School of Environment, Resources & Development, AIT Vice-President for Academic Affairs

Kusakabe, Kyoko

B.A., Sophia Univ., Japan; M.Sc., Ph.D., AIT, Thailand

Professor (Gender; Cross-border Labor Migration and Mobility; Women in the Informal Economy; Gender issues in borderlands; Gender Issues in Aquaculture and Fisheries; CBDRM & Gender Issue)

Department Head, Department of Development & Sustainability, School of Environment, Resources & Development

Kuwornu, John K. M.

B.A., Univ. of Ghana; M.Sc., Ph.D., Wageningen Univ., The Netherlands

Associate Professor (Agribusiness Management; Agricultural Marketing and Trade; Agricultural Development; Agricultural Policy; Marketing Channels; Consumer Behavior; Supply Chain Management; Commodity Futures Markets; Climate Change; Agrobiodiversity; and Stock Markets)

Department of Food, Agriculture, & Bioresources, School of Environment, Resources & Development

Luong, Huynh Trung

B.Eng., Ho Chi Minh City Univ. of Technology, Viet Nam; M.Eng., D.Eng., AIT, Thailand

Associate Professor (Emergency Inventory Policies and Inventory Policies for Perishable Products; Supply Chain Design; Measures of Bullwhip Effect in Supply Chains; Availability-based and Reliability-based Maintenance; Fuzzy Quality Control Charts; Statistical Design of Experiments; Network Flows Related Problems)

Department of Industrial Systems Engineering, School of Engineering & Technology

Miyazaki, Hiroyuki

B.A., Keio Univ., Japan; M.Sc., Ph.D., Univ. of Tokyo, Japan

Visiting Faculty (Geospatial Science and Technology; Applications of Geospatial and Space Technology for Sustainable Development)

Department of Information & Communication Technologies, School of Engineering & Technology

Mohanty, Brahmanand

B.Sc., SAICE, India; M.Sc., AIT, Thailand; Ph.D., Institut National Polytechnique, Toulouse, France

Visiting Faculty (Integrated Approach to Energy System Analysis; Cleaner Production and Eco-efficiency; Green Buildings and Industries)

Department of Energy, Environment & Climate Change, School of Environment, Resources & Development

Nagai, Masahiko

B.Sc., St. Cloud State Univ., USA; M.Sc., AIT, Thailand; Ph.D., Univ. of Tokyo, Japan

Visiting Associate Professor (Spatial Information Engineering: Remote Sensing, GIS, Image Processing, GPS and Mobile Mapping and Environmental Information Science: Data Interoperability, Ontology, Standardization and Database Management)

Department of Information & Communication Technologies, School of Engineering & Technology

Nakamura, Tai

B.S., Univ. of Tokyo, Japan; M.S., Stanford Univ., USA; M.E., Ph.D., Univ. of Tokyo, Japan

Visiting Faculty (Avionics Rocket Systems; Spacecraft Dynamics & Control; International Space Station Utilization; Utilization of Drones for Disaster Monitoring)

Department of Information & Communication Technologies, School of Engineering & Technology

Nguyen, Loc Thai

B.Sc., Can Tho Univ., Viet Nam; M.Sc., AIT, Thailand; Ph.D., Ohio State Univ., USA

Assistant Professor (Non-thermal Food Processing Technologies; Mathematical Simulation in Food Engineering; Transport Phenomena of Food Processes; Integrated Electrochemistry-based Biosensors; Novel Sensing Platforms Based on Nanomaterials)

Department of Food, Agriculture, & Bioresources, School of Environment, Resources & Development

Nguyen, Thi Phuoc Lai

B.A. Univ. of Hue, Viet Nam; M.Sc., Univ. of Bologna, Italy; Ph.D., Univ. of Sassari, Italy

Assistant Professor (Coupled Human-Environment Systems; Social Dimensions of Climate and Environmental Changes; Agri-environmental Policy, Water Governance)

Department of Development & Sustainability, School of Environment, Resources & Development

Ninsawat, Sarawat

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Assistant Professor (WebGIS; OGC Web Services & Specifications; SensorWeb; LBS; Mobile GIS Application)

Department of Information & Communication Technologies, School of Engineering & Technology

Nitivattananon, Vilas

B.Eng., Chulalongkorn Univ., Thailand; M.A., Thammasat Univ., Thailand M.Eng., AIT; Ph.D., Univ. of Pittsburgh, USA

Associate Professor (Management of Infrastructure and Services; Waste Recycling and Systems Management; Urban Environmental Management; Water Engineering and Management; Economic and Environmental Assessment; Climate Change Risk Assessment and Adaptation; Disaster Management in Urban Infrastructure Planning)

Department of Development & Sustainability, School of Environment, Resources & Development

Ongsakul, Weerakorn

B.Eng., Chulalongkorn Univ., Thailand; M.S., Ph.D., Texas A&M Univ., USA

Professor (Artificial Intelligence Applications to Power Systems; Parallel Processing Applications; Power System Operation & Control; Power System Deregulation & Restructuring)

Department of Energy, Environment & Climate Change, School of Environment, Resources & Development

Pal, Indrajit

B.Sc., Jadavpur Univ., India; M.A., Garhwal Univ., India; M.Sc., Jadavpur Univ.; Ph.D. Vidyasagar Univ., India

Assistant Professor (Disaster Preparedness; Mitigation and Management, Disaster Risk Governance; Disaster Risk Reduction; Hazard, Risk and Vulnerability Assessment; GIS & Remote Sensing Applications in Disaster Risk Management; Climate Change Adaptation; Incident Command System and Participatory Disaster Risk Management)

Department of Civil & Infrastructure Engineering; Department of Development & Sustainability; Joint appointment with the School of Engineering & Technology and School of Environment, Resources & Development

Parnichkun, Manukid

B.Eng., Chulalongkorn Univ., Thailand; M.Eng., Ph.D., Univ. of Tokyo, Japan

Professor (Robotics Control and Measurement; Design and Development of Hardware and Software of Mechatronic Devices; New Robot Mechanisms; Novel Control Algorithms; Innovative Measurement Concepts)

Department of Industrial Systems Engineering, School of Engineering & Technology

Pravinvongvuth, Surachet

B.Eng., Chulalongkorn Univ., Thailand; M.Eng., AIT, Thailand; Ph.D., Utah State Univ., USA

Assistant Professor (Traffic Simulation; Intelligent Transportation Systems; Travel Demand Forecasting; Discrete Choice Modeling; Transportation Infrastructure Investment)

Department of Civil & Infrastructure Engineering, School of Engineering & Technology

Roy, Joyashree

B.A.; M.A., North Eastern Hill Univ., India;
Ph.D., Jadavpur Univ., India

Bangabandhu Chair Professor (Resource and Environmental Economics, Economics of Climate Change, Sustainable development, Water quantity and quality demand, water pricing, energy demand modelling, Applied Quantitative Economics, Valuing ecosystem services, Coastal ecosystem, Natural Resource accounting)

Department of Energy, Environment & Climate Change, School of Environment, Resources & Development

Salam, P. Abdul

BSc. Eng.(Hons), Univ. of Peradeniya, Sri Lanka; M.Eng., D.Eng., AIT, Thailand

Associate Professor (Bioenergy; Renewable Energy; Energy Conservation and Efficiency; Energy, Environment, and Climate Change Issues; Heat Recovery Systems)

Department of Energy, Environment & Climate Change, School of Environment, Resources & Development

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Associate Professor (Smart Energy Grids; Optimal Energy Scheduling; Smart Grid Communications Using Cognitive Radio-based Spectrum Sensing for Cognitive Radio Systems; MIMO-OFDMA Cooperative Relay Systems; Cognitive Radio-based Wide Coverage Rural Broadband on TV White Spaces; Resource Allocation for MIMOOFDMA Systems; Digital Image Processing)

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Department of Energy, Environment & Climate Change, School of Environment, Resources & Development

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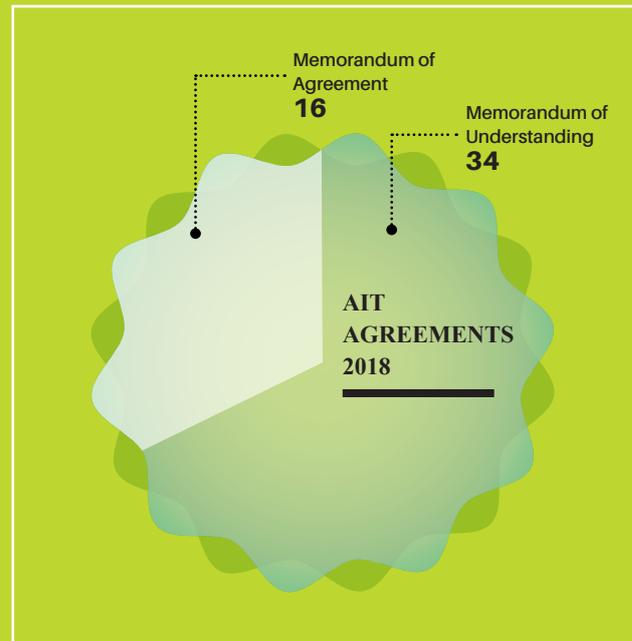
Head of MBA Program, School of Management

APPENDIX 4

Partnership Agreements and International Affairs 2018

In 2018, the Office of External Relations (OEXR) organized, facilitated, hosted, and assisted 212 official visits and meetings with universities, institutions, organizations, and governments to discuss and plan collaboration, cooperation, and Institute-level strategic partnerships.

AIT signed **34 Institute-level Memorandums of Understanding (MoU)** and **16 Memorandums of Agreement (MoA)** with partners from all around the world. A total of 50 Institute-level agreements were signed during the year.



JANUARY

The Office of External Relations (OEXR) facilitated, hosted, and supported visits and exchanges from or with ten (10) universities, institutions, organizations, and governments from seven (7) countries to discuss possible areas of collaboration, cooperation, and strategic partnerships aligned to the goal of raising AIT's international visibility and reputation. Three (3) Institute-level partnership agreements were signed.

COUNTRY	INSTITUTION	AGREEMENT TYPE	DETAILS	DATE OF SIGNING AND EXPIRY
Japan	Asia Air Survey Co. Ltd.	MoU	<ul style="list-style-type: none"> ● Exchanging personnel, researcher(s) and engineer(s) ● Providing lectures and training to users and researcher(s) for promotion of technologies and both institutions ● Collaborating on innovative technologies and solutions for real-world application development ● Promoting joint research and businesses in the field of Geoinformatics and applications 	Signed on 8 January 2018, valid for 3 years
Japan	Miyagi University of Education (MUE)		<ul style="list-style-type: none"> ● Collaborative research projects and publication activities carried out by researchers from both institutions. ● Exchange of researchers, lecturers, and students ● Appointment and secondment of lecturers as adjunct faculty to engage in lecturing and student supervision ● Sharing facilities and resources between the two institutions for research activities ● Mutual assistance in the establishment of new educational programs ● Training of technical and administrative staff ● Both institutions to jointly organize training programs, seminars, workshops, colloquia, and symposia following emerging and needs-based national or international crisis areas 	Signed on 8 January 2018, valid for 3 years
Thailand	Department of Industrial Works (DIW), Government of Thailand	Memorandum of Understanding (MoU)	<p>Establishes a new strategic partnership between the two organizations</p> <p>Concrete activities planned under MoU</p> <ul style="list-style-type: none"> ● Consultation of project activity plan with DIW ● Coordinating with DIW, visits to selected industry will be conducted to prepare dioxin sampling ● Conduct dioxin sampling in selected industry ● Sharing of project's key findings with DIW through presentation and workshop 	26 January 2018, valid for 1 year

FEBRUARY

The Office of External Relations (OEXR) facilitated, hosted, and supported visits, exchanges, and missions from or with nine universities, institutions, organizations, and governments from eight countries to discuss possible areas of collaboration, cooperation, and strategic partnerships aligned to the goal of raising AIT's international visibility and reputation. One Institute-level partnership agreement was signed.

COUNTRY	INSTITUTION	AGREEMENT TYPE	DETAILS	DATE OF SIGNING AND EXPIRY
USA / Asia-Pacific HQ, Bangkok	FHI 360	MOU	<ul style="list-style-type: none"> ● Internship opportunities for students ● Joint research proposals ● ICT, Big Data, and Food Engineering 	February 2018

MARCH

The Office of External Relations (OEXR) facilitated, hosted, and supported visits and exchanges from, to, and with sixteen (16) universities, institutions, organizations, and governments from nine (9) countries to discuss possible areas of collaboration, cooperation, and strategic partnerships. Three (3) Institute-level partnership agreements were signed.

COUNTRY	INSTITUTION	AGREEMENT TYPE	DETAILS	DATE OF SIGNING AND EXPIRY
Spain	University of Granada	Erasmus+ Inter-institutional agreement 2017-2019 between institutions from Programs and Partner Countries	Agreement renewal for Higher Education Students and Staff Mobility	Signing date: 13 March 2018 Expiry date: December 2019
Lithuania	Vilnius Gediminas Technical University	Erasmus+ Inter-institutional agreement 2017-2019 between institutions from Programs and Partner Countries	Agreement renewal for Higher Education Students and Staff Mobility	Signing date: 13 March 2018 Expiry date: December 2019
Afghanistan	Kabul Polytechnic University (KPU)	MoU	This inter-Institute partnership MoU will enable specific agreements to follow, which will see capacity building support for KPU departments such as ICT, Energy, and Water Irrigation and Management	30 March 2018, valid for 5 years

APRIL

The Office of External Relations (OEXR) facilitated, hosted, and supported visits and exchanges from, with, and to thirteen universities, institutions, organizations, and governments from 15 countries to pursue possible areas of collaboration, cooperation, and strategic partnerships. Two Institute-level partnership agreements were signed.

COUNTRY	INSTITUTION	AGREEMENT TYPE	DETAILS	DATE OF SIGNING AND EXPIRY
Colombia	Universidad Del Valle	MoU	Collaboration in academic programs and research in environmental engineering and sanitation and water systems technology This is the only inter-Institute partnership AIT has with a university in South America	Signed on 8 January 2018, valid for 3 years
Sri Lanka	University of Jaffna (UoJ)	MoU	Initiated by the Office of Advancement. The objective of the Program is to provide for human resources development at the Doctoral level (full-time or split-site program) to the staff of the University of Jaffna, Sri Lanka to pursue their higher education and research in the School of Environment, Resources and Development, AIT.	Signed on 8 January 2018, valid for 3 years

MAY

The Office of External Relations (OEXR) facilitated, hosted, and supported visits and exchanges from, with, and to) 22 universities, institutions, organizations, and governments from 16 countries to discuss possible areas of collaboration, cooperation, strategic partnerships. Seven (7) Institute-level partnership agreements were signed.

COUNTRY	INSTITUTION	AGREEMENT TYPE	DETAILS	DATE OF SIGNING AND EXPIRY
France	CIRAD	Special Memorandum of Understanding (MoU) and Employment Contract	Owner: SERD For the one-year contract renewal of SERD faculty member Dr. Nicolas Faysse, a senior scientist at CIRAD, France. This is the final extension of the faculty exchange and secondment arrangement with CIRAD. A meeting was scheduled with CIRAD (Southeast Asia) leadership in October 2018 to discuss the next stage of partnership with AIT.	16 May 2018 Contract extension valid for 1 year: September 1, 2018- September 1, 2019
Republic of Korea	GEO C & I Co. Ltd	Memorandum of Understanding (MoU)	Owner: GIC This technology firm is located in Daegu, South Korea. The tie-up will enable GIC to work with GEO C & I Co. Ltd to formulate joint R&D proposals to KOICA, the World Bank, and the Asian Development Bank on disaster mitigation and climate change adaptation	16 May 2018 Valid for 5 years
Japan	Graduate Program in Sustainability Global Leadership Initiative - University of Tokyo	Memorandum of Agreement (MoA)	Owner: SERD This is a one-year partnership for data collection and analysis in the Greater Mekong Sub-region, in partnership with other universities, regarding sustainability issues. The work for this project with the University of Tokyo is funded through an existing partnership and projects with ASEAN CSR Network (Singapore), resulting in a tripartite arrangement. The MoA falls under an existing MoU with the University of Tokyo.	4 May 2018 Valid for 1 year
Japan	Ministry of Environment, Government of Japan	Memorandum of Agreement (MoA) and Employment Contract	Owner: RRC-AP This is a renewal agreement to support the secondment of a new Director for RRC-AP, financially supported and delegated by the Ministry of Environment of Japan (MoEJ) to work at AIT. The new Director will assume duties on 15 July 2018. This 3-year renewal is fully endorsed by the MoEJ in Tokyo.	28 May 2018 Contract extension valid for three years from 15 July 2018 to 15 July 2021
Thailand	International Union for Conservation of Nature - IUCN (Asia-Pacific H.Q., Bangkok)	Memorandum of Understanding (MoU)	Owner: RRC-AP This MoU will allow for work toward the establishment of a HIMEK (Himalaya-Mekong) Alliance at AIT. This entity will concern itself with climate change issues, notable air pollution and forest cover R&D across the two adjacent Asian sub-regions. There is no financial obligation. The details and modalities for the envisioned HIMEK Alliance will be covered in a subsequent MoA.	16 May 2018 Valid for 3 years
Thailand	Mangroves for the Future (MFF) / IUCN	Memorandum of Agreement (MoA)	Owner: SERD This agreement allowed for USD 61,518 to be transferred to AIT under the existing project SERD-2018-2TR to organize a regional Trainers' Training Program at AIT on 25-27 July 2018.	23 May 2018 Valid for 1 year.
Thailand	Human Development Forum Foundation (Hdff)	Memorandum of Understanding (MoU)	Owner: AIT Extension Hdff is a notable Thai NGO with an extensive network and broad-based support in society. Collaborative activities and training opportunities will be possible in sectors such as international security, anti-terrorism, disaster risk reduction, poverty reduction and livelihood, and more.	4 May 2016 Valid for 5 years.

JUNE

The Office of External Relations (OEXR) facilitated, hosted, and supported visits and exchanges from, with, and to seven (7) universities, institutions, organizations, and governments from seven (7) countries to discuss possible areas of collaboration, cooperation, and strategic partnerships. Seven (7) Institute-level partnership agreements were signed, involving partners in seven (7) countries.

COUNTRY	INSTITUTION	AGREEMENT TYPE	DETAILS	DATE OF SIGNING AND EXPIRY
India	Indian Institute of Technology (IIT) Roorkee	MoU Ownership: President's Office	The purpose of this is MoU to enable cooperation between IITR and AIT for further exchange of students and faculty and to develop joint research projects in order to advance scientific research and educational, and cultural understanding and to contribute to the mutual benefits and development of the two institutions	Signed on 22 June 2018, valid for five (5) years
Bhutan	Druk Green Power Co. Ltd. (DGPC)	MoU Ownership: AIT Extension	This agreement will enable specific cooperation with AIT Schools and AIT Extension in R&D projects and Capacity Building Training and for staff to study for PhDs at AIT. Doctoral students will complete theses with specific benefits to Druk Green Co. Ltd operations and benefit Bhutan's energy sector at large.	Signed on 25 June 2018, valid for five (5) years
Thailand	CAT Telecom Public Co. Ltd.	MoU Ownership: AIT Interlab	This agreement involves an education component to assist the development of the Internet Of Things (IOT) and Big Data Applications for innovation in ecology and web-based education in Thailand.	June 2018, valid for three years. Can be extended for an additional 3 years subject to mutual approval.
China	Beijing Piesat Co. Ltd.	MoU Ownership: AIT GIC	The partner, based in Beijing, is a leading private sector satellite applications service provider, specializing in remote sensing and navigation satellite technology R&D. This is a general commitment to work together on projects involving RS-GIS and to establish a relationship via the exchange of scientists, conferences and trainings.	June 2018, valid for 5 years.
Philippines	Philippines School of Business Administration (PSBA), Manila	MoU Ownership: SERD & SET/ DPMM	The partner has a disaster preparedness unit within its business school. The Agreement does not involve AIT's School of Management. Disaster education and capacity building trainings and workshops with DPMM is the primary focus.	June 2018, valid for 5 years
Malaysia	University Sains Malaysia	MoU Ownership: SERD & SET/ DPMM	The partner is one of top universities in Malaysia and Southeast Asia. The institute-level agreement allows for inter-institute cooperation on Disaster Risk Management in issues - though it is not limited to DPMM and therefore could serve as basis for other programs at AIT.	June 2018, valid for 5 years
Canada	International Development Research Center (IDRC)/ Government of Canada	Sponsored Project - Contract Ownership: SERD/GDS	IDRC Grant of CAD 72,850 (1,633, 890 THB) for a 3-year project to examine the extent of women's political participation in Myanmar. Partners are the Gender Equity Network and McGill University, Canada.	28 June 2018, 3-year project

JULY

The Office of External Relations (OEXR) facilitated, hosted, and supported visits and exchanges from, with, and to thirteen (13) universities, institutions, organizations, and governments from nine (9) countries to discuss possible areas of collaboration, cooperation, and strategic partnerships. One (1) Institute-level partnership agreements were signed.

COUNTRY	INSTITUTION	AGREEMENT TYPE	DETAILS	DATE OF SIGNING AND EXPIRY
Republic of Korea	Green Technology Center (GTC)	MoU	<ul style="list-style-type: none"> ● Exchange of information and personnel ● Exchange of information in the form of publications and journals, reference materials, and other outcomes of research and training ● Recruitment of the graduates of AIT to GTC as postdoctoral researchers, student researchers, or interns ● Participation of officials, faculty members, and researchers in the other party's lectures, seminars, and workshops ● Joint research projects and commissioning of research studies ● Development and implementation of collaborative research projects ● Commissioning of research studies ● Other collaborative activities ● Joint workshops and seminars addressing global needs with regards to green climate technology 	Signed on 6 July 2018, valid for 5 years

AUGUST

The Office of External Relations (OEXR) facilitated, hosted, and supported visits and exchanges from, with, and to eight (8) universities, institutions, organizations, and governments from nine (9) countries to discuss possible areas of collaboration, cooperation, and strategic partnerships. Five (5) Institute-level partnership agreements were signed involving partners in five Asian countries.

COUNTRY	INSTITUTION	AGREEMENT TYPE	DETAILS	DATE OF SIGNING AND EXPIRY
India	Tamil Nadu Dr. J. Jayalalithaa Fisheries University (TNJFU)	MoU Owner: SERD	To undertake the following activities in the areas of Aquaculture & Aquatic Resources Management, Climate Change, and Sustainable Development, Remote Sensing and Geographic Information Systems, Environmental Engineering & Management, Food Engineering and Bioprocess Technology, and related subjects:	Signed by AIT President on 8 August 2018, valid for 5 years
Bhutan	Collage of Science and Technology, Royal University of Bhutan (RUB)	MoU Owner: OEXR	<ul style="list-style-type: none"> ● Joint Academic Programs for Masters, PhD, Post-graduate Diploma, and Certificate courses on Disaster Risk Management and Community Development Studies ● Joint Academic Programs for Masters and PhDs in other allied areas supporting Disaster Risk Reduction ● Short term courses, training programs, and capacity building projects ● Student and Faculty Exchanges for Disaster Risk Management-related courses ● Joint Supervision for Masters and Doctoral research ● Joint Research Projects on Disaster Risk Management and Community Development Studies 	Signed on 14 August 2018, valid for 5 years
Japan	Japan Earthquake Science Exploration Agency Co. Ltd. (JESEA)	MoU Owner: GIC	<ul style="list-style-type: none"> ● Collaboration in research in innovative technologies and solutions ● Promotion of joint research and capacity building training programs ● Develop businesses and spin-off innovation in areas of mutual interest ● Exchanging personnel; researcher(s) and engineer(s). 	Signed on 30 August 2018, valid for 5 years
Thailand	UNDP (BRH), Bangkok Regional Hub	MoU Owner: AIT Solutions	To jointly develop a portfolio of online learning platforms on Sustainable Development Goals (SDGs), specifically MOOCs on the 17 SDGs targeting the Asian-Pacific Region. AIT Solutions is taking the lead to develop this project along with UNDP (BRH).	Signed on 30 August 2018, valid for 2 years and can be renewed by mutual consent
Myanmar	Department of Highways, Ministry of Construction, Government of Myanmar	MoA Owner: School of Engineering and Technology (SET)	To launch the Professional Masters in Project Management Construction (MPM) offered by Construction Engineering and Infrastructure Management, SET following the MPM program launched in 2015. This is an expansion to the Department of Highways. Classes will be conducted in Yangon, Mandalay, and Nay Pyi Taw.	Signed on 31 August 2018, valid for 3 years

SEPTEMBER

The Office of External Relations (OEXR) facilitated, hosted, and supported visits and exchanges from with, and to sixteen (16) universities, institutions, organizations, and governments from ten (10) countries to discuss possible areas of collaboration, cooperation, and strategic partnerships. Two (2) Institute-level partnership agreements were signed.

COUNTRY	INSTITUTION	AGREEMENT TYPE	DETAILS	DATE OF SIGNING AND EXPIRY
Thailand	Khon Kaen Municipality, Sila Town Municipality, Muang Kao Sub-District Municipality, Samran Sub-District Municipality, Tha Phra Sub-District Municipality, and College of Local Administration Khon Kaen University	Memorandum of Understanding (MoU) Owner: AIT Solutions 1. Hon. Teerasak Teekayuphan Mayor of Khon Kaen Municipality 2. Mr. Pongjet Pornkuna Permanent Secretary of Sila Town Municipality 3. Ms. Podjanart Kardeevee Permanent Secretary of Tha Phra Sub-District Municipality College of Local Administration, Khon Kaen University 1. Assoc. Prof. Dr. Supawatana-korn Wongthanasu Dean 2. Assoc. Prof. Dr. Peerasit Kamnuansilpa, Advisor for Research and Global Corporate Affairs	The purpose of this MoU is to support of the Khon Kaen Smart City initiative. The activities under the scope of this MoU will focus on jointly conducting any or all of the following activities based on relevant research need under the Khon Kaen Smart City initiative: <ul style="list-style-type: none">● Bringing together researchers and practitioners from several institutions on the subject of smart cities to support the goal of establishing Khon Kaen as leader in smart city development in Thailand and the region● Promoting the exchange of best practices and knowledge transfer on sustainable urban development with the goal of scaling up the effective utilization of smart city technologies so that all members of society may benefit from development in Khon Kaen● Establishing a strategic roadmap that identifies and develops smart city indicators to track progress toward achieving the UN's Sustainable Development Goals (SDGs) in Khon Kaen Municipality, Sila Town Municipality, Muang Kao Sub-District Municipality, Samran Sub-District Municipality, and Tha Phra Sub-District Municipality● Research and development specific to urban mobility, sustainable housing, clean energy, waste management, ICT, and local governance	September 21, 2018, valid for five (5) years
Thailand	A.T.E. Maskati Co. Ltd.	Research Agreement Owner: AIT SERD	To conduct research on Extraction and Evaluation of High Value Bioactive Compounds from Dried Betelnut Value: 400,000 THB	September 25, 2018

OCTOBER

The Office of External Relations (OEXR) facilitated, hosted, and supported visits and exchanges from, with, to thirty (30) universities, institutions, organizations, and governments from ten (10) countries to discuss possible areas of collaboration, cooperation, and strategic partnership. Five (5) Institute-level partnership agreements were signed.

COUNTRY	INSTITUTION	AGREEMENT TYPE	DETAILS	DATE OF SIGNING AND EXPIRY
Afghanistan	Kabul Polytechnic University (KPU)	MoU	<ul style="list-style-type: none"> To build capacity among KPU faculty and staff members of KPU in AIT's Masters and Doctoral degree programs and short-term professional training programs To work on joint research activities, curriculum upgrade, learning infrastructure, and other capacity-building activities To jointly organize and participate in seminars, workshops, conferences and academic meetings To identify other areas of possible interest and collaboration 	Signed by AIT in March 2018 and by KPU in October 2018, valid for 5 years
Japan	Asian Disaster Reduction Center	MoU	<ul style="list-style-type: none"> Collaborate in research in innovative technologies and solutions related to DRR Collaborate in securing joint international projects Develop international training and capacity building programs and implement these jointly Develop businesses in areas of mutual interests 	Signed on 29 October 2018, valid for 5 years
Malaysia	Universiti Teknologi Petronas (UTP), Malaysia	MoU Renewal	Academic cooperation and student exchanges	MoU renewal under discussion
Lithuania	Vilnius Gediminas Technical University	Erasmus+ KA107 Inter-institutional Agreement 2018-2020 VGTU-AIT	Fully funded faculty and student mobility under the Erasmus+ KA107 Mobility Program	Endorsed by AIT President and VGTU Vice Rector for Strategic Partnership on 25 October 2018
Spain	University of Granada	Erasmus+ KA107 Inter-institutional Agreement 2018-2020 UGR-AIT	Fully funded faculty and student mobility by the Erasmus+ KA107 mobility program	AIT President endorsed the Agreement, the original Agreement has been delivered to the UGR and awaits endorsement

NOVEMBER

The Office of External Relations (OEXR) facilitated, hosted, and supported visits and exchanges from, with, and to more than fifty (50) universities, institutions, organizations, and governments from fifteen (15) countries to discuss possible areas of collaboration, cooperation, and strategic partnerships. Seven (7) Institute-level partnership agreements were signed.

COUNTRY	INSTITUTION	AGREEMENT TYPE	DETAILS	DATE OF SIGNING AND EXPIRY
Nigeria	Kaduna State University	MoU OWNER SERD /AIT	The purpose of this MoU is to enable cooperation between AIT and KASU for overall internationalization of KASU faculty and staff for institutional capacity building, training programs, and educational activities, specifically for academics, research and development, human resources training programs, and educational activities	5 November 2018, valid for 3 years
Taiwan	Geosense Inc.	LoI OWNER GIC	<ol style="list-style-type: none"> 1. Key public disaster related data will be made available. Suggestions or consultations will be deployed on the open source-based federation and Big Data platform. 2. Joint activities will be held to advance the awareness and adoption of disaster prevention applications 3. Joint promotion of global or regional collaboration will be held for open data standards, technologies, or platforms 4. Both parties further agree to establish connection between the ROC and Thailand water disaster prevention service and the Asian open data platform 5. Hold quarterly meeting through teleconference 	Signed by AIT on 21 November 2018, valid for 2 years
Taiwan	Industrial Technology Research Institute (ITRI)	LoI OWNER GIC	<ol style="list-style-type: none"> 6. Key public disaster prevention data will be made available. Suggestions or consultations will be deployed on open source-based federation and Big Data platform 7. Joint activities will be held to advance the awareness and adoption of disaster prevention applications 8. Joint promotion of global or regional collaboration will be held for open data standards, technologies, or platforms. 9. Both parties further agreed to establish links between the ROC's and Thailand's water disaster prevention service and open data platform 	Signed by AIT on 21 November 2018, valid for 2 years
Pakistan	Lahore College for Women University (LCWU)	Partnership Agreement for student research exchanges hosted at AIT	<ol style="list-style-type: none"> 1. Doctoral degree program (3.5 years) 2. Masters leading to doctoral degree program (5 years) 3. Masters degree program (22/24 months) 4. Diploma Program (12 months) 5. Certificate Program (6 months) 6. Research Fellowships (2-3 months) 7. Exchange of students 8. Exchange of staff and faculty members 9. Short-term training programs 10. Joint research Programs 	Signed on 22 November 2018 for 5 years

COUNTRY	INSTITUTION	AGREEMENT TYPE	DETAILS	DATE OF SIGNING AND EXPIRY
Netherlands	IHE Delft Institute for Water Education	Partnership Agreement for student research exchanges hosted at AIT OWNER: SERD	To allow graduate students on Masters Program at IHE Delft to spend specific periods of time at AIT to conduct research	20 November 2018
USA	Department of the Interior (DOI) of the Government of the United States of America	Memorandum of Understanding (MoU) OWNER: SET	To facilitate US Agency funding of USD 127,187 and to avail of DOI expertise accessed through DOI's International Technical Assistance Program (DOI-ITAP) To provide technical assistance through DOI, in partnership with AIT, that builds capacity among local actors on priority topics concerning Water Resource Management in the Mekong River Basin	30 November 2018
Thailand	Hydro and Agro Informatics Institute, Thailand	MoU OWNER SET	<ul style="list-style-type: none"> To apply science and technology in the field of Community Water Resource Management (CWRM), including technical exchanges and technology transfer To promote the exchange of information data, experience, and knowledge regarding CWRM along the Mekong River basin on the Thai side of the border To identify and develop joint activities in the areas of training, capacity building, and sharing of good practices, research, and development for sustainable development 	30 November 2018

DECEMBER

The Office of External Relations (OEXR) facilitated, hosted, and supported visits and exchanges from, with, and to 16 universities, institutions, organizations and governments from 16 countries to discuss possible areas of collaboration, cooperation, and strategic partnerships. Four (4) Institute-level partnership agreements were signed.

COUNTRY	INSTITUTION	AGREEMENT TYPE	DETAILS	DATE OF SIGNING AND EXPIRY
India	Indian Institute of Technology, Kanpur	Memorandum of Understanding (MoU)	Cooperation on Academics, Research and Outreach	21 December 2018
Myanmar	Department of Highways, Ministry of Construction	Memorandum of Agreement (MoA)	Implementation and delivery of the Professional Masters Program in Project Management and Construction in 2019	20 December 2018
Bangladesh	Noakhali Science and Technology University (NSTU)	Memorandum of Understanding (MoU)	To enable AIT to provide capacity building mentoring for NSTU faculty and staff to earn Masters and Doctoral degrees through various third-party financing mechanisms	17 December 2018
Japan	University of Tsukuba	MoU and MoA renewal	Academic cooperation and student exchange	MoU and MoA renewal



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