



ITTP at KAIST

Global IT Technology Program
(<http://ittp.kaist.ac.kr>)

Sponsored by

Ministry of Science, ICT and Future Planning

Republic of Korea

Korea Advanced Institute of Science and Technology (KAIST)

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I. Introduction

1.1 Director's Message

Since the IT industry has become a key asset for the competitiveness of a nation, developing human resources is of great importance for a nation. The Republic of Korea, as one of the leading countries in the IT industry, seeks to play a more active role to meet this demand of the time.

One of the efforts to meet this challenge is Global IT Technology Program (ITTP) offered at Korea Advanced Institute of Science and Technology (KAIST), starting from 2006 with an aim to build global network of IT leaders around the world.

ITTP, sponsored by the Korean Ministry of Science, ICT and Future Planning, offers a customized master's and doctoral degree program for government officials, employees of public institutions or senior-level researchers at national research centers working in the IT fields of foreign countries. All the students will receive scholarships, up to 2 years for master's students and up to 3 years for doctorate students.

This program focuses on transferring advanced technologies and business strategies of Korea to the global IT leaders of the next generation. After the education at KAIST, a distinguished university, the ITTP students will acquire not only all the accumulated know-hows of the IT industry of Korea but also the creative abilities to apply learned knowledge and skills to their own countries.

The graduates of the program will receive updates of current developments in the IT fields of Korea through annual or biannual newsletters, and remain networked through regularly scheduled workshops and forums.

Until now 142 of IT-related government officials from 54 different countries from all over the world have joined this program, and experts from more countries are expected to join in time to come.

You are invited to become a part of this great opportunity and achieve your dreams here at ITTP.

February 2015

Jae Jeung RHO, Director of ITTP

1.2 Vision

Vision	World's Top IT Education Program for Future Global IT Leaders
Mission	Educating IT experts, building a global ICT network and developing global collaborations among countries
Initiative	<ul style="list-style-type: none">- To improve the living condition of all the countries. Information and Communication Technology (ICT) is a driving force of the 21st Century.- To enhance the Digital Opportunity of all the countries. ICT means sharing literally.- To provide mutual benefits to all the countries. Collaboration is a key paradigm in the future global stage.

1.2 History

- 2006. 2: Global IT Technology Program Opened
- 2006. 2: The 1st Batch of ITTP Fellows (13 students)
- 2007. 2: The 1st Vietnam Hanoi International Conference
- 2007. 9: Uzbekistan International Conference (Tashkent Univ.)
- 2008. 2: The 1st ITTP Commencement Ceremony (7 Masters)
- 2008. 6: 2008 Tunisia International Conference
- 2009. 10: The 1st Seoul Global ICT Forum
- 2009. 11: 2009 ITTP&ITPP International Conference in Tunisia
- 2010. 2: “Next African Leader Program” with African Development Bank
- 2010. 7: Azerbaijan Workshop with the Azerbaijan Government
- 2010. 9: Received KOAFEC “Best Project Award”
- 2010. 11: 2010 International Conference, Tunisia
- 2011. 2: The 1st Ph. D. produced (5 Ph. D.s)
- 2011. 9: Ghana Government Contract Program opened
- 2012. 3: Indonesia Government Contract Program opened
- 2012. 3: 2012 Tunisia e-Government Workshop
- 2012. 6: The 2nd Indonesia Conference Held
- 2013. 11: The 6th Global ICT Seoul Forum
- 2014. 2: New recruit for Fall 2014(13 students including five AfDB beneficiaries)
- 2014. 6: 2014 Next African Leader e-Government Workshop, Tunisia

■ 2014. 8: The 13th Commencement Ceremony(3 Ph.D. s, 11 Masters)

■ 2014. 11: The 7th Global ICT Seoul Forum

1.3 International Student Status

■ Number of ITTP Fellows by Region(as of 2015 March)

Region	No. of Country	No. of Student	Current Country	Current Student	No. of Graduates/Enrolled Students per Country
Asia	13	45	3	3	Nepal(4/1), Laos(3/0), Mongolia(6/1), Myanmar(1/0), Bangladesh(3/0), Vietnam(5/0), Bhutan(3/0), Sri Lanka(3/0), Afghanistan(2/0), Indonesia(6/0), Cambodia(2/0), Thailand(1/1), Pakistan(2/0),
Central and South America	7	16	1	1	Dominica(2/0), Brazil(3/0), Ecuador(1/0), Chile(2/0), Costa Rica(2/1), Colombia(1/0), Peru(4/0)
Eastern Europe and CIS	7	16	1	2	Moldova(1/0), Bulgaria(1/0), Azerbaijan(2/0), Uzbekistan(4/2), Czech(1/0), Kazakhstan(3/0), Kyrgyzstan(2/0)
Africa	22	58	9	16	Ghana(3/1), Nigeria(5/4), South Africa(2/0), Rwanda(3/0), Morocco(1/0), Algeria(2/0), Ethiopia(3/2), Egypt(2/0), Kenya(2/1), Tunisia(3/0), Burundi(1/1), Sudan(0/3), Uganda(2/2), Swaziland(1/0) Lesotho(2/0), Zambia(1/1), Tanzania(1/0), Zimbabwe(1/0), Malawi(1/0), South Sudan(1/0), Guinea Bissau(1/0), Liberia(0/1)
Middle East	5	7	-	-	Jordan(2/0), Syria(1/0), Oman(1/0), Qatar(1/0), Yemen(2/0)
Total	54Countries	142Students	14 Countries	22 Students	

1.4 About KAIST

■ Establishment

Korea Advanced Institute of Science and Technology (KAIST) was established in 1971 as the nation's first graduate school specializing in science and engineering education and research. The school's founding was a catalyst for Korea's rapid rise from a producer of light industry goods to a world leader in high-technology industries.

The political leadership in the 1960s and 1970s singled out education, work ethics and technological advancement as the means of transforming Korea from an underdeveloped agrarian society into an emerging economy equipped with technological and industrial competitiveness. KAIST was founded under a special law with government funding and initially staffed with a number of Korean engineering and science faculty educated in the United States.

Research emphasis from the outset has been put on both theoretical and applied studies. KAIST continues to be Korea's foremost center for mid- to long-term strategic R&D projects with national and international significance. The University has pioneered the establishment of competitive graduate school programs in Korea.

Over the past four decades, KAIST has evolved into a global research university. The University's strong faculty conducts internationally recognized research in cooperation with academic institutions and industries all over the world. KAIST offers generous grants and fellowships to international students, promoting Korea as a global educational power.

The University has in recent years been recruiting distinguished scholars from overseas. The current KAIST President, Dr. Nam-Pyo Suh, former administrator and chair of the Department of Mechanical Engineering at MIT, is an authority in axiomatic design theory. His predecessor, Dr. Robert Laughlin, a Nobel laureate and physics professor from Stanford University, was the first international scholar to head a Korean university. All lectures at KAIST are given in English in principle to better serve a growing number of graduate and undergraduate students from overseas.

The merger of KAIST and Information and Communications University in March 2009 further expanded KAIST's academic asset in both research and education and enhanced its role as the major provider of high-tech manpower for Korea's ever-growing economy. ICU had been established in 1997 as the nation's only information technology research university jointly funded by the Korean government and some IT industrial organizations. Before the merger, ICU had 109 faculty members for bachelor's, master's and doctoral programs in its School of Engineering and School of IT-Business to a student-faculty ratio of 10 to 1, the lowest in Korea.

■ Educational System

KAIST has a unique, autonomous and flexible academic system. Other Korean colleges and universities are required to abide by government-directed admissions and curriculum requirements. KAIST's "open major system" for the undergraduate program allows a student to take classes for three terms before choosing a discipline that suits their aptitude and interest. In addition, undergraduate students are free to change their major at anytime.

With its test-free admission system, first in Korea, KAIST recruits students on the basis of their overall high-school grades, math and science grades, teacher recommendations, study plan, personal statement, and other data that demonstrate their excellence. Scores from the state-run scholastic aptitude test are not considered. KAIST is currently making changes in the admissions policy with special emphasis on personality, responsibility, and creativity. This multi-pronged and flexible admission procedure enables KAIST to recruit students of well-rounded personality.

KAIST has produced many young doctors in their 20s through the Integrated Master's and Doctoral Program and Early Completion System. KAIST requires candidate students to publish their papers in globally renowned academic journals to ensure high quality of their doctoral dissertation. KAIST students take strongly research-oriented classes in which teaching and research activities are simultaneously conducted.

Scholarships are given to all students in the bachelor's, master's and doctorate programs. Doctoral students are exempted from Korea's compulsory military service duty. On-campus dormitories are provided for all students who wish to use them.

■ Research Institute

Research at KAIST focuses on basic science and technological innovation that will have the greatest impact on industrial society. Eight KAIST Institutes (KIs) have been set up to concentrate the University's research capabilities in advanced fields. Each KI is operated as an independent research center at the level of a college, receiving financial and facility support. The eight research institutes are

KI for BioCentury, KI for Information Technology Convergence, KI for Design of Complex Systems, KI for Entertainment Engineering, KI for the NanoCentury, KI for Eco-Energy, KI for Urban Space and Systems, and KI for Optical Science and Technology.

KAIST is currently conducting research projects commissioned by the government and private businesses with research grants totaling 463 billion won (US\$320 million). In terms of ownership of intellectual property rights, KAIST holds 2,694 domestic patents and 723 international patents.

■ International Exchanges

A goal of KAIST is to globalize academic and research activities and produce creative global leaders equipped with international experience. KAIST has a wide range of international exchange and cooperation programs, hosts international academic conferences, workshops and symposiums, exchanges professors, research personnel and students with overseas universities, and conducts international joint research projects.

Memorandums of understanding and other forms of agreements have been signed with 102 universities in 30 countries for academic collaboration and exchanges. Approximately 600 students are exchanged annually with overseas partner universities. Among them are the Georgia Institute of Technology (USA), the University of Waterloo (Canada), the University of Melbourne (Australia) and INSA de Lyon (France).

II. Education

2.1 Curriculum

ITTP specially designed a customized curriculum to meet the demands of multinational government officials and help them acquire extensive knowledge in all the IT fields which global IT leaders must have. Students are able to choose their major either Engineering or IT management according to their interests. ITTP provides not only abundant opportunities to build up a network with Korean IT companies but also master's course and doctor's course.

.Major Requirements are composed of two core subjects, one selected from the engineering field and one from the IT-business field to produce global IT leaders who are equipped with superior management capabilities as well as comprehensive technological skills in the field of IT.

.Major Electives are representative courses of ITTP focusing on Korea's IT technologies and strategies. Professors from the Engineering and IT-Business tracks will jointly develop courses, creating a framework that combines Korea's IT technology and business models. In addition, two or three professors teach one course sequentially in order to effectively present various issues related to the specific field of technology in Korea's IT industry.

.Common Basics are designed to enhance comprehensive understanding of other culture, history and languages. To further improve English language proficiency, various English courses are offered. Also the Korean traditional martial art, Taekwondo, will be taught.

2.2 Course List

Classification	Course No/Course Title		L:E:C	Required Credits (Non-Thesis/ Thesis/Ph.D.)
Mandatory General	CC500	Scientific Writing	3:0:3	3/3/3
	CC020	Ethics and Safety I	1AU	
Major Requirements	ITP610	Introduction to the Latest IT Technology R&D in Korea	3:0:3	6/6/6
	ITP620	Introduction to IT Technology Management/Policy in Korea		
Electives	<u>(Engineering Major Field)</u>		3:0:3	21/18/24
	ITP700	Wireless Communications in Korea		
	ITP701	Ubiquitous Computing In Korea		
	ITP702	Software Engineering in Korea		
	ITP703	BcN Technology in Korea		
	ITP705	Research Design and Methods for Engineers		
	<u>(Management Major Field)</u>			
	ITP750	ICT Economics and Management		
	ITP751	Internet Business and Management		
	ITP752	Financial and Accounting Management in IT Industry		
	ITP753	IT Technology Management and Policy		
	ITP755	Digital Convergence Strategy		
	ITP757	Methods to Implement Information(e-Government) Project)		
ITP800	Special Topics in Global IT			

	<u>(Liberal Arts Field)</u> ITP500 Korean Conversation (to take at 1 st semester) ITP505 Korean Reading (to take at 1 st semester) ITP510 Korean Grammar (to take at 1 st semester) ITP511 Intermediate Korean I (to take at 2 nd semester) ITP512 Intermediate Korean II (to take at 3 rd semester) ITP515 Advanced Korean (to take at 4 th semester) ITP525 Advanced English Conversation and Presentational Skills ITP530 Advanced English Writing ITP540 Korean Culture and History I ITP541 Korean Culture and History II ITP550 Taekwondo I ITP551 Taekwondo II ITP552 Taekwondo III ITP553 Taekwondo IV	3(2):0:1	8/8/8
Research	ITP960 Research for M.S. Thesis ITP965 Individual Study(for M.S. Non-Thesis) ITP980 Research for Ph.D. Dissertation ITP966 M.S. Seminar ITP986 Ph.D. Seminar	0:0:0 2:0:1	9/12/36
Total Required Credits			47/47/77

2.3 Degree Requirements

■ Degrees to be Granted

Master of Science (Thesis)

Master of Science (Non-thesis)

Master of Arts (Thesis)

Master of Arts (Non-thesis)

Doctor of Philosophy

■ Degree Requirements

	Master's	Doctorate
Required Credits	47	77
Research Paper	Country report or Thesis	Dissertation
English Proficiency	TOEIC 720, TOFEL(IBT) 83, IELTS 6.5 or higher	TOEIC 720, TOFEL(IBT) 83, IELTS 6.5 or higher
GPA (Grade Point Average)	3.0 or better out of the maximum 4.3	

2.5 Special Programs

■ Invited Seminar

Every semester 7 or 8 of Korean IT professionals are invited and give a lecture on the current IT issues covering a variety of practical topics which cannot be learnt from classes. Also this seminar provides ITTP fellows with more network opportunities with Korean governments or industries such as Samsung Networks, KT, ETRI, NIA, etc.

■ Summer Internship

In the summer, 8 weeks internship program is held in ETRI(Electronics and Telecommunications Research Institute), the No. 1 IT research institute of Korea or PPS(Public Procurement Service). Each participant is assigned to a research team of his/her interest, being supported by one research advisor and one mentor system. Through this internship program, ITTP fellows are able to discuss their countries' IT problems with the world top Korean IT researchers while building a close network with them. At the end of internship, "Global Day", a networking culture activity is held to introduce each other's culture and status of IT technologies.

■ Industry Visits/Korean Culture Tours

Industry visits are held to take a view of the scene of current IT industry of Korea such. Also ITTP offers several field trips to Korea's traditional sites to experience and understand Korean culture and history.

III. Global Network

3.1 Collaboration with Industry

■ Hosting Conference/Workshop

ITTP co-organizes an international conference with international institutions every year with an aim to expand its global ICT network and boost collaborations among countries while sharing ITTP research accomplishments with others. Since 2006, ITTP has continued to hold international conferences in Vietnam, Uzbekistan, Tunisia and Egypt.

2007. 2. 26	ITTP-ITPP-MPT International Worksop	Hanoi, Vietnam
2007. 9. 27	ITTP-ITPP-Tashikent Univ. International Workshop	Tashikent, Uzbekistan
2007. 11. 6	ITTP-ITPP-MPT International Worksop	Hanoi, Vietnam
2008. 6. 24	ITTP-ITPP Tunisia & Egypt Workshop	Tunis, Tunisia & Cairo, Egypt
2008. 10	ITTP-ITPP UN Univ. Workshop	Seoul, Korea
2009. 10	Seoul Global IT Forum	Seoul, Korea
2009. 10	ITTP-ITPP-TunisiaConference	Hammamed, Tunisia
2010.07	ITTP-ITPP Azerbaijan Conference	Baku, Azerbaijan
2010.11	ITTP-ITPP Tunisia Conference	Hammamet, Tunisia
2010.12	ITTP-ITPP Seoul Global ICT Forum	Seoul, Korea
2011.06	ITTP-ITPP International Conference in Indonesia	Lombok, Indonesia
2011.12	ITTP-ITPP Global ICT Forum	Seoul, Korea
2012.03	ITTP e-Government Workshop	Tunis, Tunisia
2012.07	ITTP-ITPP International Conference in Indonesia	Lombok, Indonesia

2013.11	ITTP-ITPP Global ICT Seoul Forum	Seoul, Korea
2014.06	ITTP Next African Leader, Tunisia Conference	Tunis, Tunisia
2014.11	ITTP-ITPP Global ICT Seoul Forum	Seoul, Korea

■ Cooperation with Korean companies/organizations

- 1:1 Business meeting with companies exporting e-Government

While ITTP-NIPA workshop, meetings between ITTP students and Korean IT related companies were arranged.

Total 12 Korean IT related companies participated the 1:1 business meeting and introduced their capability to government officials from developing countries.

- Mentor matching with companies exporting e-Government

Experts and selected companies/organizations for 9 Korean e-Government models provided high quality information and various advices through a mentoring program for a month

- Attending events hosted by Korean organization as a representative of each country

ITTP helps International students to experience high technology of Korea and build up global network with Korean IT companies by sponsoring students to participate global conference and workshop. ITTP students attend these conferences and workshops as potential buyers or business collaboration partners and Korean companies get opportunities to get into foreign target markets.

3.2 Global IT Seoul Forum

ITTP network will be tightly formed and strengthened through Seoul Global IT forum which invites ITTP alumni to Korea even after graduation. In Global IT Forum, ITTP alumni give presentation on their study and activities after they return to their country and students in school give presentation on their research.

3.3 International Government Consigned Education

ITTP gained recognition of its academic excellence and was accepted as official education program of ITU(International Telecommunication Union) in 2006, the first year of ITTP. ITU dispatches official documents to member countries when selecting new students. Recently, requests of consigned education from foreign government and international organization

■ Next African IT Leader Program(supported by African Development Bank)

- Selected as a IT human resource education project of KOAFEC(Korean-Africa Economic Cooperation). Select new projects every 2 years
- 2010 Spring semester: Enrolled 2 students
Fall semester: Enrolled 4 students
- 2011 Spring semester: Enrolled 2 students
- 2012 Fall semester: Enrolled 2 students
- 2013 Spring semester: Enrolled 5 students
- 2014 Fall semester: Enrolled 5 students
- Total Budget: USD 1,139,440(2010.02~2014.08, 14students)
USD 800,000 (2013.03~2016.02, 10students) Confirmed

■ Ghana

- Supported by the Ministry of Information and Communication of Ghana
- 2011 Fall semester: Enrolled 1 student
- Total Budget: USD 80,000(2 years)

■ Indonesia

- Supported by the Ministry of Information and Communication of Indonesia
- 2012 Spring semester: Enrolled 2 students
- Total Budget: USD 80,000(2 years)

3.4 MOU Contract Establishment

■ International Organization

- ITU: International Telecommunication Union
- CERT: Information Communication Institute under the Ministry of Information and Communication of Tunisia
- SUPCOM: National University under the Ministry of Information and Communication of Tunisia
- UNU-IIST: UN University in Macau
- Unisinos: Brazil State University
- CITU : Thammasat University
- TUIT: Tashkent University of Information Technologies

■ Korean Organization

- Public Procurement Service: supporting export of “Korea On-line E-Procurement System”
- National Information Society Agency: supporting e-Government system promotion
- National IT Industry Promotion Agency: supporting for overseas expansion of Korean IT companies
- Korea Association of RFID/USN Convergence: supporting for overseas expansion of RFID/USN associated companies
- Korea Information Technology Service Industry Association: supporting for overseas expansion of Korean IT Software companies
- Encore Korea: A meeting of senior executives of the Ministry of Science and Technology supporting activities of developing countries.

IV. Scholarship

All the ITTP fellows will receive scholarships up to 2 years for master's degree fellows and up to 3 years for doctoral degree fellows.

4.1 Scholarship Details

- Tuition fee
- One-way airfare (Economy class)
- Living cost (1,500,000 Korean won per month)
- National medical insurance
- Initial moving and re-location expenses

* 1,100 Korean won = (approximately) 1.00 US dollars (as of 2015).

Number of Scholarship Recipients

(Unit: KRW)

		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total Budget /Produced Students	
Budget	MSIP	1.34B	1.65B	1.7 B	1.75B	1.7 B	1.1B	1.1 B	1.05B	1.03B	1.4B	13.82B	14.92B
	AfDB					563M	538M	184M	800M			929M	
	Ghana/ Indonesia							170M				170M	
Enrolled	Master	20	10	6	12	10	10	19	5	10	5	107	
	Ph. D	4	6	8	4	3	3	3	-	3	1	35	
Total		24	16	14	16	13	13	22	5	13	6	<u>142</u>	
Graduates	Master	-	1	20	8	7	12	10	8	20	5	91	
	Ph. D	-	-	-	-	-	7	7	6	6	2	28	
Total		-	1	20	8	7	19	17	14	26	7	<u>119</u>	

V. Campus Life

5.1 ITTP Facilities

ITTP provides the state-of-the-art facilities for ITTP fellows including laboratory, video-conference room, cyber classrooms and global lounge.

- Each fellow will be provided an individual desk and computer of best quality in the ITTP lab.
- Cyber classrooms are equipped with topnotch online education environment that offer students a chance to review lectures as needed even after graduation.
- Global lounge is specially arranged next to the ITTP lab as a space of rest and networking among ITTP fellows, and also as a exhibition place for traditional souvenirs from ITTP countries.

5.2 Dormitory

- School dormitory housing will be arranged for the students, but the rent will not be included in the scholarship.
- The dormitory building is located on Hwa-am campus and is 10 minutes away from Munji campus (Main Building). The university provides shuttle services for the students staying at the Hwa-am dormitory.
- Each unit is shared by two occupants of the same sex and furnished with a desk, a bookcase, chair, bed, and closet. In addition, each unit is equipped with a phone (1 line), LAN (2 lines), heating and cooling systems, and a bathroom.
- Phone calls on campus and within Daejeon area are free, and LAN services are also provided for free.

- The common amenities include a laundry room on each floor, a kitchen with a microwave, oven, and sink on every other floor, a recreation room with table tennis and pool tables, and a lounge.

VI. Admissions

6.1 Qualifications

- Government officials, employees of public institutions or senior-level researchers at national research centers working in the IT-related fields
(※ Employees from private institutions cannot apply.)
- Educational Background: A bachelor's or master's degree in the IT-related area
- English Proficiency: TOEFL (PBT 500/CBT 173) / IELTS(5.0) score or the equivalent