

Traditions, progress and challenges Chiba Institute of Technology continues to evolve

By President Kazuhito Komiya

Japan's 2nd oldest technological university —educating global people since our founding

In the 1920's, a member of the imperial family, Prince Naruhiko Higashikuni [A], was in Europe. The prince lived a life of freedom for seven years in Europe, mostly in Paris, and in addition to studying politics and diplomacy at France's top educational institution, the École Polytechnique, he befriended artists and cultural figures, including Monet, Renoir, Degas and Clemenceau.



A

Prince Naruhiko Higashikuni
43rd Prime Minister of Japan

What the prince most strongly perceived during his studies abroad were the disparities between Europe's and Japan's engineering and technological capabilities. It was with that in mind that upon returning to Japan the prince sought to use his experiences studying overseas to establish a technical education institution in Japan that was equal to those in the West.

Educational reformer Mr Kuniyoshi Obara, Mr Satoru Mori of the Mori Group conglomerate, physicist and metallurgist Professor Kotaro Honda, philosopher Professor Kitaro Nishida, and author Mr Saneatsu Mushanokoji shared the prince's sentiments and established the Chiba Institute of Technology (CIT) in 1942 under the guidance of the Ministry of Education, Science and Culture. Professor Shigenao Konishi, former president of Kyoto Imperial University, was appointed the first president of CIT.

Only a few private universities were able to set up engineering faculties before the Second World War because the government rarely permitted engineering faculties outside national universities. Of these, only three private universities, Waseda University, Keio University, and CIT, were permitted to offer six-year engineering curricula comprising preparatory and regular courses before 1945 in Japan [B].

B Full-time engineering schools in Japan (before 1945)

Year of the est.	National Universities	Private Universities
1919	University of Tokyo Kyoto University Tohoku University Kyushu University	
1920		Waseda University
1924	Hokkaido University	
1929	Osaka University Tokyo Institute of Technology	
1939		Keio University
1942	Nagoya University	Chiba Institute of Technology

CIT's charter stated: 'We will train people who combine a fervent patriotism with a love of learning that leads them to seek knowledge around the world, charging themselves with the responsibility not only for our nation, but also for Asia, and rendering services to world culture.' The latter ideal has been rendered as 'Contributing to the world through technology' in our school motto, and everyone who has had anything to do with CIT unceasingly seeks, practices, and lives for that ideal.

CIT has sent more than 87 thousand graduates out into the world. Including a member of the National Diet, heads of major corporations, government officials and professors at the University of Tokyo, the University of Toronto etc., CIT graduates are/were active in diverse fields as leaders of society. All CIT members will also take on the responsibility to serve the ideal behind CIT's school motto and our inherited history. The university has also built large, powerful networks with society over many decades. Many companies, government agencies and citizens serve as the driving force behind CIT's strength. At CIT, students can receive the inspiration, motivation and education needed to acquire a wide-ranging point of view and a high degree of specialized expertise.

A diverse lineup that anticipates the future

Last year, CIT had 76,495 applicants for our entrance exam, a record since our establishment. This meant that we were ranked 9th of all 779 Japanese universities in terms of entrance exam applicants [C]. The thought that so many high-school students have their eyes on CIT brings us great pride. CIT has no intention of resting on its laurels, however. CIT will continue to make reforms to respond to the expectations of high-school students and people of the world. CIT stressed engineering education and research, the basis of technologies that would sustain Japan's modernization and growth, from the time of our establishment before the Second World War until Japan's period of high economic growth.

CIT subsequently was the first in Japan to establish various courses demanded by society, including design, project management and advanced robotics, changing into a university whose diverse content extended beyond science and technology.

At the time of our founding, CIT was a university with only 160 students in our first-year classes spread over three departments, Aeronautical, Materials, and Mechanical Engineering. CIT has grown steadily in tandem with the times, and today has approximately ten thousand students, making us an extremely large university not only for Japan, but also the world. Until 2015, students enrolled in eleven departments over three faculties, Engineering, Information and Computer Science and Social Systems Science [D], and in eight master's and three doctoral degree programs in three graduate schools,

CIT has been reorganizing its engineering faculty in anticipation of the era ahead, with a newly enhanced lineup that will include artificial intelligence, media and life sciences. In the spring of 2016, the Faculty of Engineering's six departments were reorganized into three faculties, Engineering, Creative Engineering and Advanced Engineering, with a total of twelve departments. CIT was reborn as a university with five faculties and seventeen departments [E]. CIT is a university that not only has traditions but also one that always takes on new challenges and continues to evolve.

C Rankings by number of applicants 2016

Rank	Universities	Applicants
1	Kinki University	119,915
2	Meiji University	108,500
3	Waseda University	108,039
4	Nihon University	104,558
5	Hosei University	101,976
6	Ritsumeikan University	94,930
7	Toyo University	84,886
8	kansai University	82,592
9	Chiba Institute of Technology*	76,495
10	Chuo University	74,423
11	Rikkyo University	60,693
12	Aoyama Gakuin University	59,850
13	Tokyo University of Science*	51,404
14	Doshisha University	50,147
...
17	Tokai University	45,207
18	Keio University	44,797

*Technological Universities

D Faculties and depts. at CIT (-2015)

Faculty of Engineering

- (1) Department of Mechanical Science and Engineering
- (2) Department of Electrical, Electronics and Computer Engineering
- (3) Department of Life and Environmental Sciences
- (4) Department of Architecture and Civil Engineering
- (5) Department of Design
- (6) Department of Advanced Robotics

Faculty of Information and Computer Science

- (7) Department of Computer Science
- (8) Department of Information and Network Science

Faculty of Social Systems Science

- (9) Department of Management Information Science
- (10) Department of Project Management
- (11) Department of Risk Science in Finance and Management

E Faculties and depts. at CIT (2016-)

Faculty of Engineering

- (1) Department of Mechanical Engineering
- (2) Department of Innovative Mechanical and Electronic Engineering
- (3) Department of Advanced Materials Science and Engineering
- (4) Department of Electrical and Electronic Engineering
- (5) Department of Information and Communication Systems Engineering
- (6) Department of Applied Chemistry

Faculty of Information and Computer Science

- (7) Department of Computer Science
- (8) Department of Information and Network Science

Faculty of Social Systems Science

- (9) Department of Management Information Science
- (10) Department of Project Management
- (11) Department of Risk Science in Finance and Management

Faculty of Advanced Engineering

- (12) Department of Advanced Robotics
- (13) Department of Life Science
- (14) Department of Advanced Media

Faculty of Creative Engineering

- (15) Department of Architecture
- (16) Department of Civil and Environmental Engineering
- (17) Department of Design

A LOOK BACK AT 2016

Monitoring Meteor Showers From Space to Begin (7th July)

The investigation spends two years recording meteor showers from June 2016 using a special camera installed in the International Space Station's window. Partners in the Meteor investigation include the Center for the Advancement of Science in Space (CASIS), Southwest Research Institute (SwRI) in San Antonio and Japan's Planetary Exploration Research Center (PERC) at Chiba Institute of Technology.



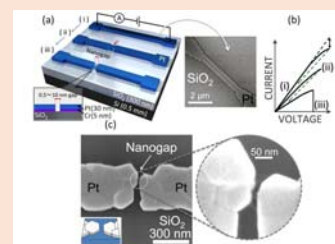
Ferromanganese Nodules Found in Japanese Exclusive Economic Zone (26th August)

Chiba Institute of Technology, University of Tokyo and JAMSTEC found a dense field of ferromanganese nodules at a depth of 5,500 m-5,800 m on seafloor of the Japanese Exclusive Economic Zone around Minamitori Island during research cruises in April 2016.



Broke Through The High-temperature Barrier of Nonvolatile Memory (11th October)

A recent materials, based on resistance switching in polycrystalline Pt nanogaps, breakthrough by researchers at Chiba Institute of Technology, NIMS and AIS has permitted current to keep reservation information recorded in a nonvolatile memory at temperatures exceeding 600°C.



The Chancellor of The Exchequer Philip Anthony Hammond Visited (15th December)

The Chancellor Philip Anthony Hammond PC MP visited the Tokyo SKYTREE TOWN Campus, Chiba Institute of Technology, interacting with the researchers/students who actually make the robots. Following to this inspection, the Chancellor expected collaboration with research-intensive nations like Japan to remain a high priority.



A wide range of initiatives in response to globalization

CIT has enthusiastically collaborated with famous overseas universities for thirty-five years [F]. In just the last three years, in fact, we have entered into new exchange agreements with more than twenty universities that are in the top ten percent in their countries or regions to enhance our study abroad and overseas internship programs. Moreover, CIT

is transforming its campuses into places that provide a connection to the rest of the world with classes taught in English, the establishment of the Global Café and the Global Lounge (where only English can be used), and arranging interactions with students from other countries in student dormitories. There are no national borders in science and technology. CIT hopes students will be able to cultivate friendships and abilities here at CIT that help students survive in global society, because CIT has always maintained strong connections to the rest of the world.

F International exchange-agreements

Institut Teknologi Bandung
Royal University of Phnom Penh
National Taiwan University
National Taipei University of Technology
Vietnam National University, Hanoi University of Engineering and Technology
Vietnam National University, University of Languages and International Studies
Hanoi University of Science and Technology
Harbin Institute of Technology
Jilin University
Amity University
Universite de Technologie de Compiègne
Swedish Royal Institute of Technology
King's college London
University of Colorado at Boulder
Tennessee Technological University
The Pennsylvania State University
University of Toronto
etc

Outstanding research achievements

CIT has provided society with numerous outstanding research achievements. CIT received wide coverage in news programs, newspapers and magazines for robots it developed that were used to investigate the Fukushima Dai-ichi nuclear power plant, since people were unable to enter due to high amounts of radiation and the need to collect large amounts of data [G].

G Fukushima NPPs



Only CIT's robots succeeded in detecting high levels of radioactivity. CIT's robots searching inside Fukushima NPPs in a clean-up operation following the 2011 disaster.

CIT has started monitoring meteor showers from space. The investigation will spend two years recording meteor showers from July 2016 using a special camera installed in the International Space Station (ISS) Window Observational Research Facility (WORF).

Furthermore, CIT is a world leader in many research fields, including life sciences and acoustics etc. As a result, CIT is always high in the national rankings of government subsidies allocated for scientific research, an indication of our university's high research standards. CIT will continue to contribute to society through research.

CIT is ranked 801–980 in the Times Higher Education World University Rankings 2016/17. The Times Higher Education World University Rankings list the 980 top universities in the world, making it biggest international league table to date. It is the only global university performance table to judge world-class universities across all of their core missions: teaching, research, knowledge transfer and international outlook. The rankings list CIT as 8th of all 604 Japanese private universities and 39th of all 779 Japanese universities.

The entire university works to meet students' expectations

Students can acquire a broad education and highly specialized expertise in CIT's cheerful, dynamic environment through lectures, seminars, extracurricular activities and other academic programs. CIT has well-established graduate schools for all its faculties, too, providing an environment in which students can gain specific expertise in an integrated fashion, from the undergraduate level to graduate school. CIT's campuses are also lovely and well equipped [H]. Students, staff, and all members who join here can experience a fulfilling time at university.



CIT cannot talk about productive education and research if it leaves out passion. The considerable amount of time the CIT faculty devote to education and research is proof of that fact. As stated in the introductory text of CIT's educational goals, the spirit of students and teachers learning and growing together, when teachers use their own time unstintingly for students so they can excel together, has been part of CIT's academic culture since our establishment. The current interests of CIT are wide, encompassing engineering, information/computer science, robotics, life science, architecture, design, management and space/planetary sciences. If you are interested in engaging in collaborative research, or joining the CIT as a student or visitor, you may wish to contact us.

<http://www.it-chiba.ac.jp/english/>

<http://www.ce.it-chiba.ac.jp/komiya/komiya-e.html>