Guide to Chiba Institute of Technology

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

By President Kazuhito Komiya

1st June 2020

The Japan's 2nd oldest university of technology —educating global people since our founding

A

Prince Naruhiko Higashikuni
43rd Prime Minister of Japan

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, Degas and Clemenceau. 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 culture 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

In 2020, CIT had 105,023 applicants for our entrance exam, a record since our establishment. This meant that we were ranked 6th of all 786 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.

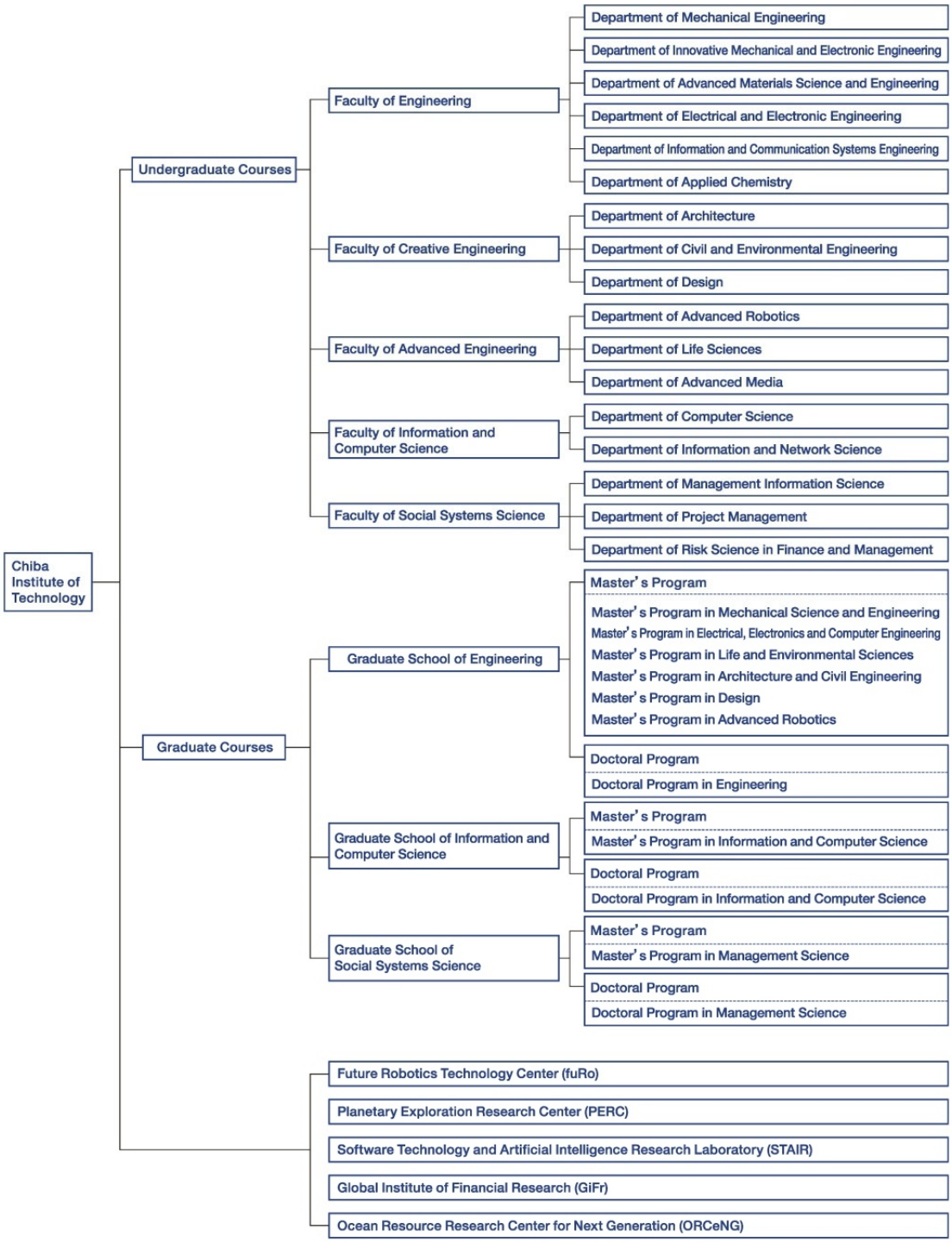
C Rankings by number of applicants

*Technological Universities

2020		2019	
Rank	Universities	Rank	Universities
1	Kinki University*	1	Kinki University*
2	Nihon University	2	Toyo University
3	Waseda University	3	Hosei University
4	Ritsumeikan University	4	Meiji University
5	Housei University	5	Waseda University
6	Chiba Insttute of Technology*	6	Nihon University
7	Meiji University	7	Ritsumeikan University
8	Toyo University	8	Kansai University
9	Kansai University	9	Chuo University
10	Chuo University	10	Chiba Institute of Technology*
11	Rikkyo University	11	Rikkyo University
12	Aoyama Gakuin University	12	Tokyo University of Science*
13	Tokyo University of Science*	13	Aoyama Gakuin University
14	Tokai University	14	Tokai University
...	...	...	...
19	Doshisha University	18	Doshisha University
22	Keio University	22	Keio University

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.

D Education and Research Organizations



Now students enrolled in seventeen departments over five faculties, in eight master's and three doctoral degree programs in three graduate schools and five research centres [D]. CIT is a university that not only has traditions but also one that always takes on new challenges and continues to evolve.

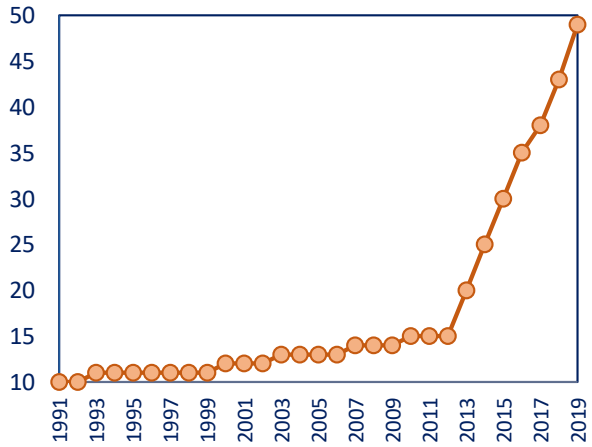
A wide range of initiatives in response to globalization

CIT has enthusiastically collaborated with famous overseas universities for forty years [E]. In just the last six years, in fact, we have entered into new exchange agreements with more than thirty 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 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.

E International exchange-agreements

King's college London
The University of British Columbia
The Pennsylvania State University
University of Colorado at Boulder
Swedish Royal Institute of Technology
National Taiwan University
Ruhr University Bochum
Harbin Institute of Technology
Missouri University of Science and Technology
Rund University
Chulalongkorn University
Jilin University
Amity University
Institut Teknologi Bandung
Universiti Sains Malaysia
National Taipei University of Technology
University of the Philippines
National University of Mongolia
Royal University of Phnom Penh
National University of Rwanda
Hanoi Institute of Technology, etc.

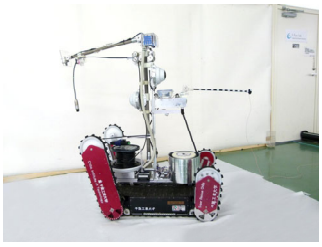
Total number of overseas MOU partner universities of CIT



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

F 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.

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 [F].

CIT is ranked in the Times Higher Education World University Rankings 2016/17, 2018, 2019 and 2020. The rankings list the 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, 18th, 15th and 18th of all 611 Japanese private universities and 39th, 72nd, 52nd and 44th of all 786 Japanese universities in the 2016/2017, 2018, 2019 rankings respectively.

CIT has been ranked in the Times Higher Education World University Rankings 2016/17, 2018, 2019 and 2020.

	CIT/All Japanese universities	CIT/Japanese private universities
2016／2017 = 801~980	39/779 → top 5%	8/604 → top 1%
2018 = 1001~1103	72/779 → top 9%	18/604 → top 3%
2019 = 1001~1258	52/783 → top 7%	15/608 → top 2%
2020 = 1001~1397	44/786 → top 6%	18/611 → top 3%

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 [G]. 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.ce.it-chiba.ac.jp/komiya/komiya-e.html

Recent CIT's Initiatives and Achievements

Japan's Chiba Institute of Technology Won the Child-sized Humanoid Football at The RoboCup World Championships Seven Years in a Row since 2012.

President Kazuhito Komiya and the team of the CIT Future Robotics Technology Centre (fuRo) were invited to the trial to test the performance of the robot in the tunnel environment with high levels of radiation at the European Organization for Nuclear Research (CERN) (June 2015).

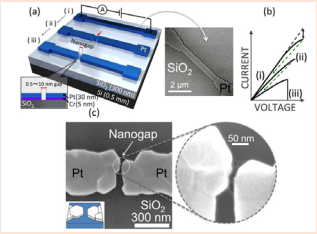
Monitoring Meteor Showers From Space to Begin (July 2016)

Meteor—a camera for observing meteors jointly developed by CIT and NASA—was installed in the International Space Station. 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 (August 2016)

The media widely reported that a research team consisting of members of CIT, the University of Tokyo and other parties had discovered a large deposit of Ferromanganese nodules—spherical rocks that contain rare earth elements—in the sea bottom around Minamitori Island, an exclusive economic zone of Japan.

Broke Through The High-temperature Barrier of Nonvolatile Memory (October 2016)

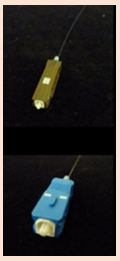


CIT's development of an innovative nonvolatile memory element that can function in 600℃ temperatures made front-page headlines. There is hope that this technology can be applied to aircraft and space probes.

The Chancellor of The Exchequer Philip Anthony Hammond Visited (December 2016)

The Chancellor Philip Anthony Hammond PC MP visited the Tokyo SKYTREE TOWN Campus of 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.

CIT and Partners Set Fiber Capacity Record (August 2017)



CIT and six partners have set a new transmission capacity record of 118.5 Tbps over conventional thickness optical fiber. CIT's graduate student developed pluggable connectors based on existing MU-type or SC-type interfaces in this project. These connectors included rotational alignment features to ensure that the four cores are correctly positioned.

UK Government Chief Scientific Advisor Dr Patric Vallance Visited (October 2018)

The UK Government's Chief Scientist Dr Patrick Vallance visited the Tokyo SKYTREE TOWN Campus of CIT, to hear about CIT's approach to innovation, and to see the robots. He expressed that he came away during the visiting with clear vision of how increased implementation of robots in society.

A Robotic Vacuum Cleaner Was Demonstrated (November 2018)

A prototype of robotic vacuum cleaner jointly developed by the fuRo of CIT and the Panasonic Corporation was demonstrated. The cleaner with state-of-the-art robotics and AI technologies can climb up onto a rug, it generates maps and senses people close by, and it can even follow people around like a pet!

"The Road Ahead: Reimagining Mobility" at the Cooper Hewitt, Smithsonian Design Museum in New York presented the CIT fuRo's "CanguRo" (January 2019), as a way of looking at the more significant topics around the future of mobility and the urban environment. CanguRo nominated Beazley Transport Design of the Year 2019.