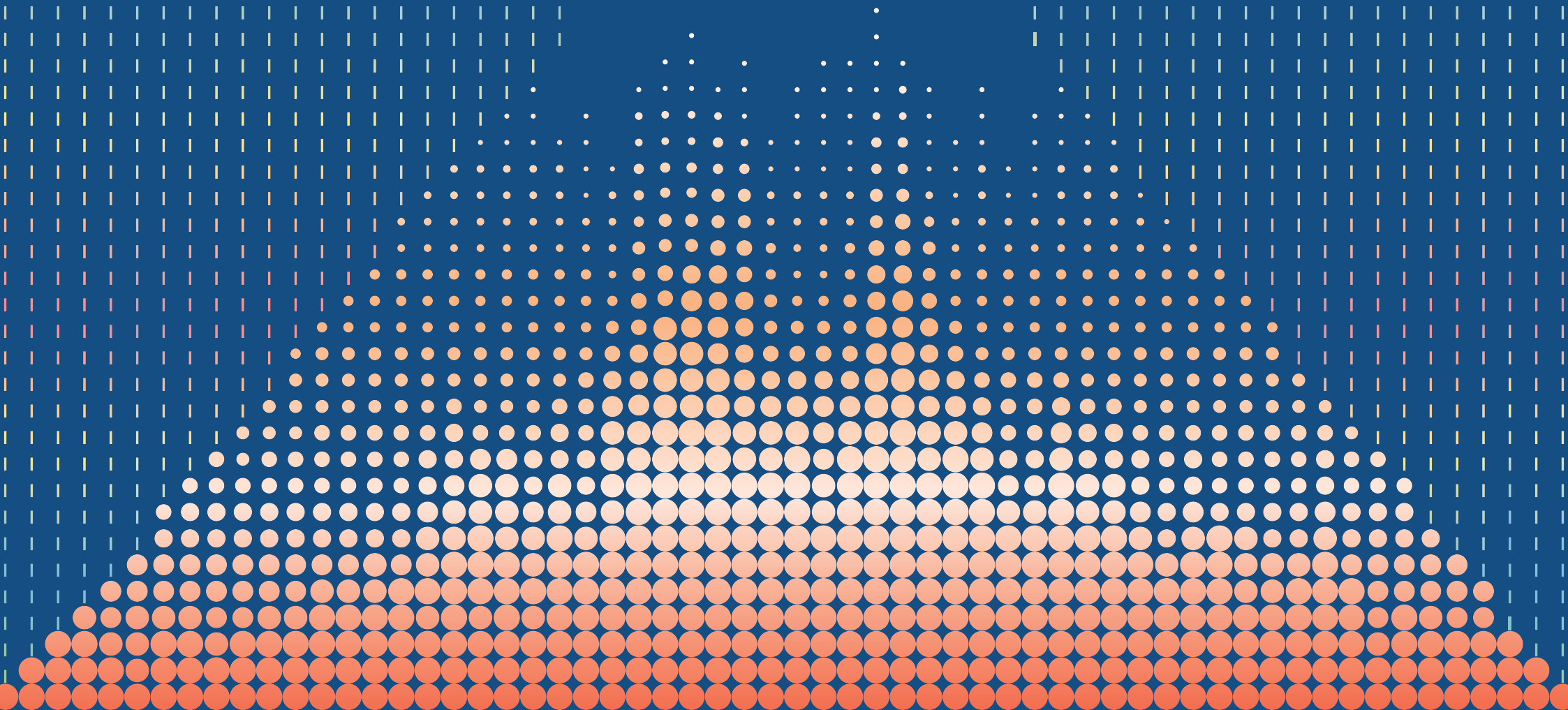
The University of Electro-Communications

– 2021 –

TOKYO JAPAN



About UEC

The Cutting-edge of Science and Technology

From the President

TANO Shunichi

This University has its roots in the Technical Institute for Wireless-Communications, founded in 1918 by the Wireless Association to train wireless communication engineers. Later, in 1949 the University of Electro-Communications was established according to the Japan's National School Establishment Law. It is notable the University is the only national university with undergraduate schools that does not include a place in its name. This is because the University was established based on the spirit of creating a university that is open to the whole of Japan.

Based on the purpose for establishing the University and its name, it is often thought that it only specializes in the fields of electricity and communication. However, the fields of specialization were expanded in line with Japan's rapid economic growth and evolution towards an advanced information-oriented society.

Now, in the 21st century, with the core of information, electricity, and communications, the University offers education programs and conducts research over a wide range of fields from basic science and engineering to applications, including physical engineering, material science, life science, optical science, electronics, robotics, mechanical engineering, and media.

Now, the Japanese Government is strongly promoting the establishment of a "super smart society" where cyberspace and the real world are highly integrated, in the form of a series of initiatives known as 'Society 5.0'. The University will work to realize a society with "Sustained independent evolution + Maximized diverse happiness" and functions that generate innovation". The basic and core technology fields required for the construction of this future society overlap with the majors of the University, thereby underscoring its strengths as well as the responsibility for achieving these goals.

The University has launched the "D.C. & I. Strategy" as a comprehensive strategy to respond to the mandate to realize 'Society 5.0'. Here, "D = Diversity (multiple diversity in fields, human resources, objectives)" as an indispensable foundation for value creation. "C = Communication (mutual understanding and interaction between various elements) mutual inspiration, and consequently alliances and collaborations)" to respect the spontaneous, practical, and diverse activities of all members, and then be locked into the existing framework. The aim is to promote "I=innovation" in value creation and human resource development by promoting wide-ranging collaboration and co-creation.

Based on the "D.C. & I. Strategy," the University will endeavor to be recognized globally for creating new value that nurtures innovative leaders for the construction of a sustainable society.

Message to International Students

UEC specializes in science and technology related to the "Comprehensive Communication Sciences", particularly in the areas of information sciences, computer sciences, telecommunications, electronics, mechatronics, robotics, optical technologies, physics, chemistry, biology, and offers 14 undergraduate programs, 14 master's programs, and doctral programs in 5 departments.
UEC is open to ambitious international students as well as a multitude of research collaborations.
We are more than happy to welcome you to join us.

The Mission of UEC

URL http://www.uec.ac.jp/eng/about/

Aiming for the creation and achievement of knowledge and skill to contribute to the sustainable development of humankind

Education and research at the cutting-edge of science and technology for the benefit of all humankind

Cultivating talented researchers and technologists who will be successful internationally to take the initiative in various fields

Creative engagement and cooperation with society in the pioneering of a new era of science and technology

"*Unique* and *Exciting Campus*"

UEC aims to become a "Unique and Exciting Campus" as our ideal university by implementation of UEC Vision. This means that we aspire to make UEC an exciting **campus** where **unique** students and researchers gather from around the world and are trained to be global leaders in the creation of **exciting** new knowledge.

Location of UEC Campus

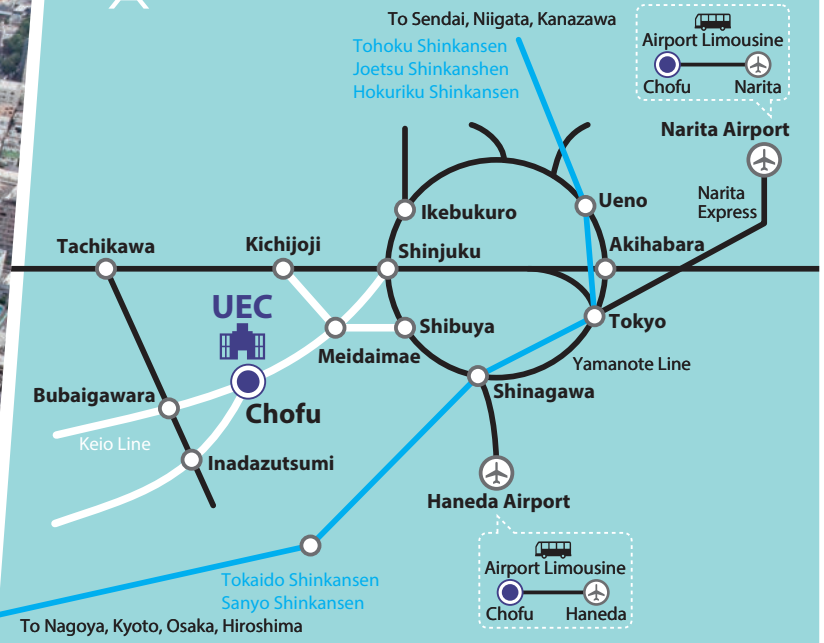
A tree-lined campus located in the west of Tokyo

UEC is located in Chofu City in the west of Tokyo. The approximately 164,600m^2 campus comprises undergraduate and graduate educational facilities along with a library and various research centers.

As part of efforts to mark the centenary of UEC's founding in 2018, the university completed UEC Port, a new joint research facility with student accommodation facilities in 2017.

UEC is located in the Tama area (Chofu City), a part of Tokyo where many universities are located, and the campus environment is full of trees and greenery. Even among the many universities in the area, UEC is blessed with a prime location. It is only a five-minute walk from the nearest train station (Chofu Station), and just a 15-minute train ride from Shinjuku on the Keio Line.

Access Map



Time Required

15 minutes by train (Keio Line) from Shinjuku
Approx. 1-1.5hrs by Airport Limousine from Haneda Airport
Approx. 2hrs from Narita Airport

Basic Information

Organization, facts and figures about UEC

Undergraduate School of Informatics and Engineering

- **Cluster Ⅰ** Informatics and Computer Engineering
- **Cluster Ⅱ** Emerging Multi-interdisciplinary Engineering
- **Cluster Ⅲ** Fundamental Science and Engineering
- **Fundamental Program for Advanced Engineering**

Graduate School of Informatics and Engineering

- Department of Informatics
- Department of Computer and Network Engineering
- Department of Mechanical and Intelligent Systems Engineering
- Department of Engineering Science
- Joint Doctoral Program for Sustainability Research

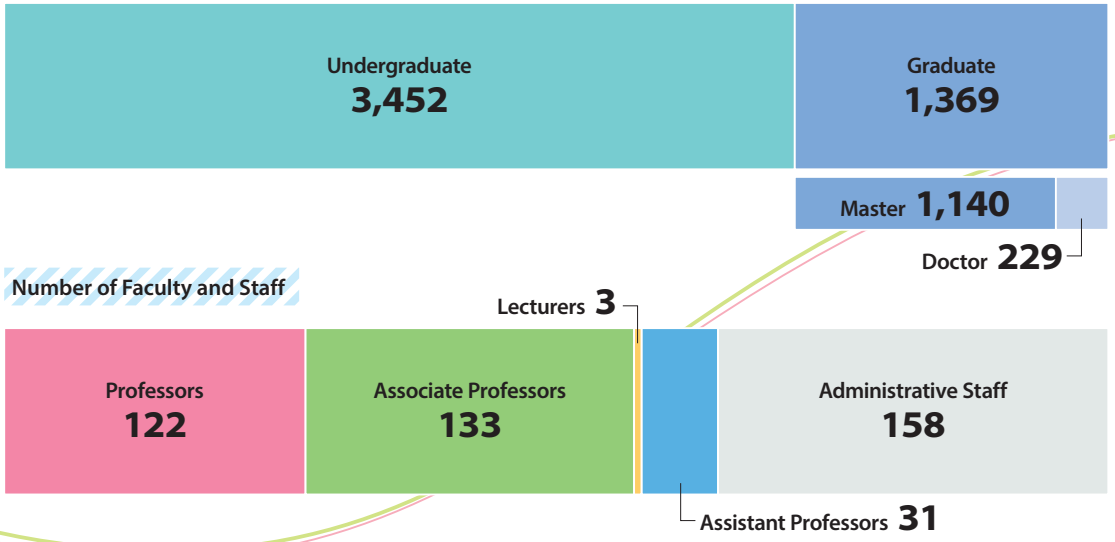
!! Research University

UEC was selected as one of 19 "Research Universities" by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan in 2013.

- System for Strengthening Research Activities
- Promotion of Internationalization
- Formation of International Photonics Research Center
- Reform of Undergraduate/Graduate Schools
- Strengthening Research Advertisement
- Reform of Personnel System and Talented Person Appointment

For Comprehensive Communication Sciences !!

Number of Students



Number of Faculty and Staff

Home Countries/Regions of International Students

CHINA	185	FRANCE	2	GHANA	1
KOREA	25	GERMANY	2	LAOS	1
VIETNAM	15	MONGOLIA	2	POLAND	1
INDONESIA	7	PAKISTAN	2	SOUTH SUDAN	1
MEXICO	6	TAIWAN	2	SWEDEN	1
BRAZIL	4	ALGERIA	1	TURKEY	1
MALAYSIA	3	ANGOLA	1		
THAILAND	3	BANGLADESH	1		

As of May 1, 2021

University Hubs and Exchange Expanding Across the World

: Satellite Office
▸ : International Partners
♦ : Student Exchange Agreement

As of May 1, 2021

GERMANY
- University of Stuttgart
- University of Bremen ♦

SWEDEN
- Blekinge Institute of Technology ♦

ESTONIA
- Tallinn University of Technology ♦

DENMARK
- Aarhus University

CZECH REPUBLIC
- Tomas Bata University in Zlin

FRANCE
- L'Ecole Nationale Superieure de Mecanique et des Microtechniques ♦
- Institut Superieur de Mecanique de Paris ♦
- Universite d'Orleans ♦
- Télécom ParisTech ♦

UNITED KINGDOM
- Department of Automatic Control and Engineering, The University of Sheffield

RUSSIA
- Moscow Institute of Physics and Technology
- P.N. Lebedev Physical Institute of the Russian Academy of Sciences
- Skolkovo Institute of Science and Technology
- Moscow Technical University of Communication and Informatics

UEC China Research and Education Center (UCREC)

CHINA
- University of Science and Technology of China ♦
- Shanghai Jiao Tong University ♦
- Harbin Engineering University ♦
- Beijing University of Posts and Telecommunications ♦
- University of Electronic Science and Technology of China ♦
- Wuhan University of Science and Technology
- South China University of Technology
- Shanxi University
- Shenyang University of Technology
- Beijing Institute of Technology
- Zhejian University of Technology ♦
- Nanjing University

INDIA
- University of Hyderabad
- National Institute of Science and Technology

KOREA
- Hanbat National University ♦
- Changwon National University ♦

BANGLADESH
- University of Rajshahi

TAIWAN
- Tamkang University ♦
- National Chiao Tung University ♦
- Fu Jen Catholic University ♦
- National Taipei University ♦

VIETNAM
- The Vietnam National University Ho Chi Minh City-University of Science ♦
- Ho Chi Minh City University of Technology
- Ho Chi Minh City University of Education
- Le Quy Don Technical University
- International Cooperation Department of the Ministry of Education and Training
- University of Science and Technology - The University of Danang
- Academy of Cryptography Techniques
- VNU University of Engineering and Technology
- National Hospital for Tropical Diseases
- Hanoi University of Science and Technology ♦
- Vietnam Goverment Information Security Commission
- FPT University
- Hanoi Medical University

UNITED STATES OF AMERICA
- University of Oklahoma ♦
- Kansas State University
- The State University of New York at Binghamton
- University of California, Berkeley

MEXICO
- Instituto Politecnico Nacional ♦
- Universidad Nacional Autonoma de Mexico ♦

UEC ASEAN Research and Education Center (UAREC)

MALAYSIA
- Multimedia University

THAILAND
- King Mongkut's Institute of Technology, Ladkrabang ♦
- King Mongkut's University of Technology,Thonburi ♦
- King Mongkut's University of Technology North Bangkok ♦
- National Science and Technology Development Agency
- Thammasat University ♦

INDONESIA
- Institut Teknologi Bandung ♦
- ICT Research and HR Development Agency, Ministry of Communication and Information Technology
- Universitas Sebelas Maret

AUSTRALIA
- University of Newcastle ♦
- Griffith University ♦
- University of Wollongong ♦

BRAZIL
- Universidade Estadual de Campinas ♦

Overseas Research and Education Center

UEC established two overseas research and education centers to promote in-depth research, foster highly skilled personnel, and implement dynamic activities and partnerships between industries and academic institutions

UEC ASEAN Research and Education Center (UAREC)
Location : KMUTT KX for Innovation Center, Bangkok, Thailand
Established : February 2014

UEC China Research and Education Center (UCREC)
Location : Beijing Advanced Innovation Center for Intelligent Robots and Systems, Beijing Institute of Technology, China
Established : October 2017

Short-term Exchange Study Program

UEC is offering an interdisciplinary program, the "Japanese University Studies in Science & Technology (JUSST)", to students from its exchange partner institutions. This program is specially designed for senior undergraduate (3rd or 4th year students) and graduate students in the field of Informatics, Science and Engineering.

The JUSST program also provides the opportunities to the students to acquire knowledge and develop practical skills, international understanding and cooperation through Science, Technology and Culture. Students admitted to this program can enjoy our exciting cross-cultural study and experience in Japan.

There are numbers of advanced laboratories with the latest technologies on the campus. These are attractive environment for students to study sciences and engineering. Furthermore, JUSST program enables students to learn sciences and engineering at UEC without interrupting their ongoing major studies at their home institution.

URL http://www.fedu.uec.ac.jp/en/future_students/jusst/

100 years of Revolutionary Change Spanning Centuries of Turbulence

—and further toward the future ahead

History of UEC

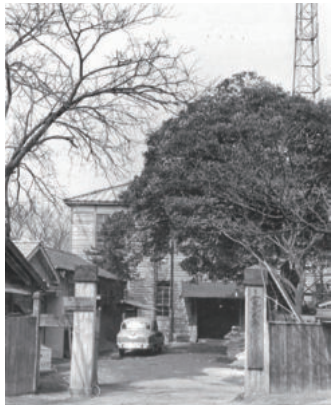
December 8, 1918	The Technical Institute for Wireless-Communications founded by the Wireless Association of Japan. Temporary campus located at Iikura, Azabu-ku, Tokyo.
December 15, 1920	New campus opened in Shimomeguro, Meguro-mura, Ebara-gun, Tokyo.
April 1, 1942	The Technical Institute for Wireless-Communications becomes part of the Ministry of Communications.
April 1, 1945	The Technical Institute for Wireless-Communications renamed as the Central Technical Institute for Wireless-Communications.
August 1, 1948	The Central Technical Institute for Wireless-Communications becomes part of the Ministry of Education.
May 31, 1949	The University of Electro-Communications is established.
December 15, 1957	All the campus moves to Chofu City, Tokyo.
April 1, 2004	The University of Electro-Communications incorporated as a National Corporation University under the National University Corporation Act.
December 8, 2018	100th anniversary

History

The origins of UEC go back to 1918, when the Technical Institute for Wireless-Communications was founded by Wireless Association to train wireless communications engineers.

In 1949, under the new system of education established by the National School Establishment Act, the institute was transformed into the University of Electro-Communications. UEC expanded its areas of specialization in the midst of Japan's rapid economic growth and the development of an advanced information society that occurred at the same time as that growth.

In 2004, the University of Electro-Communications was incorporated under the National University Corporation Law.



UEC Vision

UEC Strategy: centennial and beyond

URL http://www.uec.ac.jp/eng/about/uecvision.html

The paradigm shift of knowledge is brought about by borderless mutual inspiration of deeply engrained wisdom and a firm foundation of knowledge, under constantly changing environments with pluralistic diversity, that is, the dynamism of comprehensive communication sciences. While respecting the activities of individual, we will continue to be the base for creating knowledge dynamism of education and research related to comprehensive communication sciences and continue to return this knowledge to the global society. In addition, we, as a university internationally recognized for excellence in education and research, will train innovation leaders who will contribute to the construction of a sustainable development society by collaboration that is not bound by existing frameworks.

Education and Research

As an institution with world-class educational and research capabilities, we provide an environment where global and unique students and researchers can gather to pursue their activities in a borderless manner. Within the dynamism of comprehensive communication sciences, we will train human resources capable of leading the advancement of science and technology, with interdisciplinary and pluralistic thinking power, while keeping their own expertise, and also will create “fusion-border” based academic disciplines that are not bound by established concepts.

Circulation of Knowledge

As an internationally recognized university, we will actively promote practical education and research activities harmonized with society by collaborating with organizations, regions, and industries. We will play a reliable role for the realization of sustainable society for the benefit of all mankind.

UEC International Strategy

① Developing Global Opportunities

1. Building strategic partnerships focusing on key countries/regions and institutions.
2. Enhancing collaborative relationships with overseas universities, industries, and the government through the UEC ASEAN Research and Education Center and UEC China Research and Education Center.

② Strengthen activities of global education and research

1. Enhancing international exchange programs such as the “Global Alliance Laboratory”, “UEC Global Leadership Training Program”, and others.
2. Promotion of international student exchanges by accepting talented students, especially doctoral students, from overseas and expanding study abroad programs for UEC students.
3. Enhancing international joint research based on “D.C. & I. Strategy”.
4. Greater support for researchers, especially young researchers, for international collaboration.
5. Enhancing international publicity of research findings.

③ Enhancing the framework to support international education and research activities

1. Enhancing administrative functions to promote international cooperation.
2. Encouraging greater international awareness amongst our faculty and staff.
3. Developing the framework to provide support and opportunities for international students and researchers.
4. Conducting outreach activities to enhance interaction with the UEC international alumni community.

What is Comprehensive Communication Sciences?

UEC has been advocating "Comprehensive Communication Sciences" as a core philosophy to promote academic activities for education and research.

URL http://www.uec.ac.jp/eng/about/comprehensive_communications.html

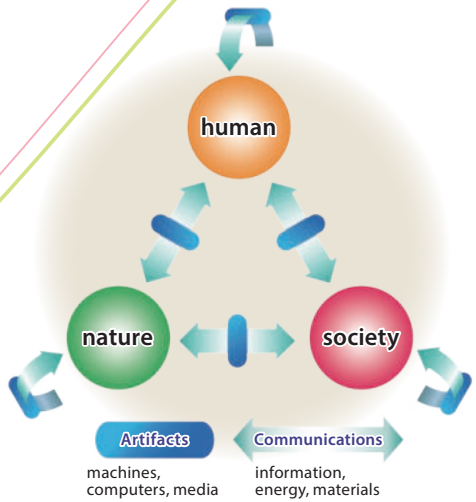


Fig. 1. Scheme of tripartite communication among humans, societies and the natural environment.

Scientific and Engineering Research in the 21st Century

Up to and including the 20th century, individual disciplines matured somewhat independently of other disciplines. Even isolated researchers might have been able to contribute to the progress of science and engineering without any help from researchers in other fields. In the 21st century, however, it is difficult to make new discoveries and/or develop innovative technology without any collaboration with experts in other complementary fields, because outstanding research achievements tend to only occur as a result of integrating elemental technologies of high quality. In other words, every researcher needs to cooperate with other excellent researchers with special knowledge and technologies that they are unfamiliar with.

This implies that we should have the capability of sharing ideas with people who work outside our own expertise, and that we should remain interested in what is happening in other fields. All innovations in the 21st century require interactions among researchers working in different disciplines, including social studies and humanities. It is most important for us to exchange ideas and technologies between researchers, i.e., communication and interaction between different research fields.

What is Comprehensive Communication Sciences?

There are various kinds of exchanges of information, energy and materials between humans and societies, humans and the natural environment, and societies and the natural environment. The word "communication" is generally used to represent the verbal or nonverbal exchange of ideas among humans. Here we expand the concept of "communication" and redefine it to mean all exchanges of information, energy and materials, as shown in Figure 1. Today, the exchanges are often mediated by manufactured artifacts. The use of the word "communication" in the phrase "Comprehensive Communication Sciences" refers to this redefined "communication".

The basic philosophy of "Comprehensive Communication Sciences" is that there are two purposes of "communication": (1) communication as a communication-oriented scientific and engineering research target and (2) communication as a tool for promoting research collaboration. It is important that individuals participating in a research team have projecting expertise, a wide range of interests and strong communication skills to make the team stronger.

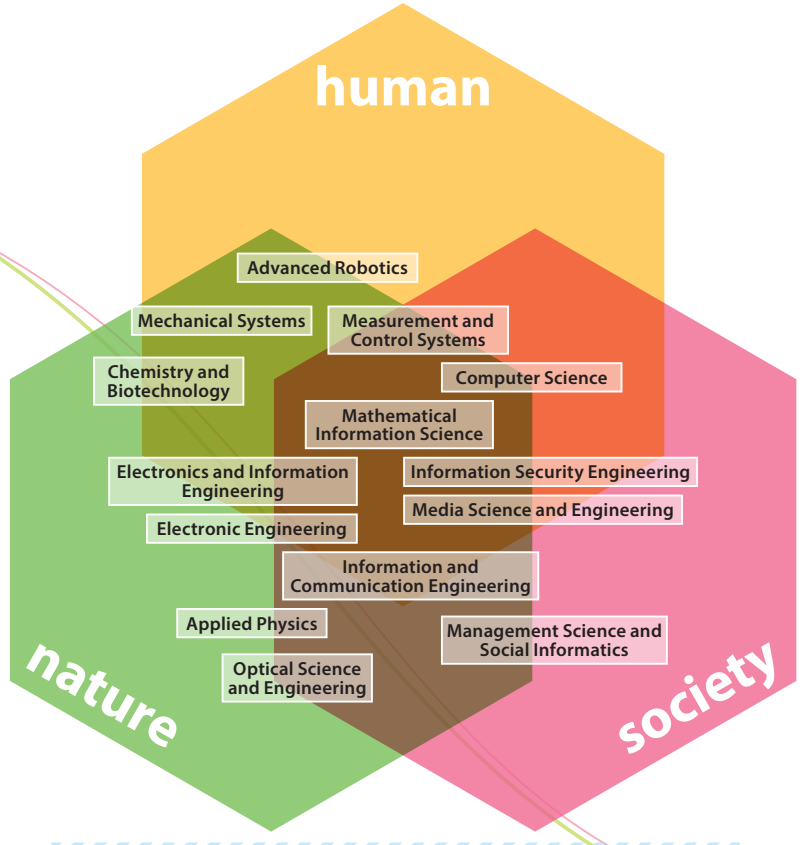


Fig. 2. Scatter plot of 14 education programs based on tripartite communication.

These faculties provide people with solid bases on which they can interact synergistically to achieve individual targets that are coherently directed towards the common objective of a team. At present, UEC provides 14 education programs for undergraduate and graduate students to become innovative engineers with those faculties. Figure 2 is a scatter plot of the 14 education programs based on tripartite communication. Thereby the students will be able to play active roles in the world after graduation.

Thus, on the basis of the philosophy of Comprehensive Communication Sciences, UEC is promoting research and education to contribute to making a more pleasant and sustainable societies.

Research Centers

9 Research centers promoting advanced research

Center for Neuroscience and Biomedical Engineering

Within the Center for Neuroscience and Biomedical Engineering (CNBE), researchers from fields such as neuroscience, information engineering, biological engineering, ergonomics, robotics, and optics are collaborating to develop technologies to support welfare and medical care.

Innovation Research Center for Fuel Cells

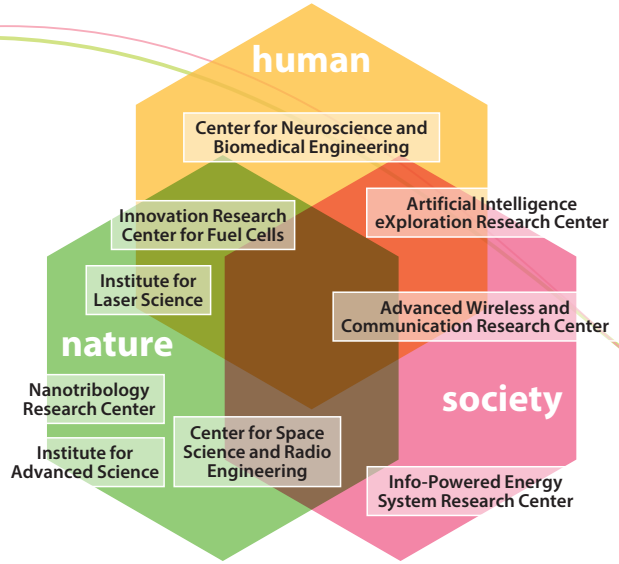
The Innovation Research Center for Fuel Cells (ICFC) is conducting evaluations and materials research for next-generation fuel cells. The ICFC is pursuing research with a new beamline BL36XU that can measure in real-time changes in catalysts, installed at the SPring-8 Synchrotron Radiation Facilities in Hyogo Prefecture.

Institute for Laser Science

The Institute for Laser Science (ILS) is a research facility unique in Japan in conducting research in fields such as laser physics based on controlling light and atoms, atomic physics, astronomy, and quantum technology.

Nanotribology Research Center

The Nanotribology Research Center is a focal point for education and research in fields related to nanotribology which aims to elucidate frictions at the atomic and molecular levels.



Institute for Advanced Science

The Institute for Advanced Science is pursuing the enhancement of research capabilities in physics fields and photochemistry fields, and striving to cultivate human resources that will play important roles in the future.

Artificial Intelligence eXploration Research Center

The Artificial Intelligence eXploration Research Center (AIX) is aiming at realizing Artificial General Intelligence (AGI) vital for AI to co-exist with humankind, and collaborating with industry as it pursues its research.

Advanced Wireless and Communication Research Center

The Advanced Wireless and Communication Research Center (AWCC) is pursuing the research and development of leading-edge technologies in wireless communications and the cultivation of human resources that can contribute internationally.

Info-Powered Energy System Research Center

The Info-Powered Energy System Research Center (i-PERC) is tackling solutions to energy and environmental issues such as the expanded use of renewable energy.

Center for Space Science and Radio Engineering

The Center for Space Science and Radio Engineering (SSRE) is pursuing the measurement of electromagnetic waves and their modelling. At Sugadaira Kogen in Nagano Prefecture, the Sugadaira Space Radio Observatory measures extraterrestrial radio waves.

!! e-Bulletin(UEC Research Portal)

The UEC e-Bulletin is a quarterly on-line publication launched in March 2014 providing regular updates of research being conducted at the UEC, Tokyo. The e-Bulletin includes short “video profiles” of UEC researchers describing their latest findings on topics ranging from materials science to digital expression technology; atmospheric physics to soft-robots; and the latest laser technology for next generation communications networks.

URL http://www.ru.uec.ac.jp/e-bulletin/

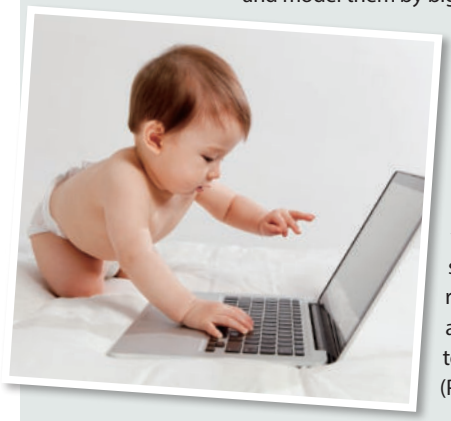
!! Industry-UCB-UEC Workshop

The Industry-UCB-UEC Workshop (IUUWS) is a workshop that UEC and collaborative partner University of California, Berkeley (UCB) hold jointly. The workshop has participation from UEC, UCB, and industry. The workshop has been held since 2017 with the objective of building a collaborative platform and service technologies for the realization of "Society 5.0" in cooperation with industry, UCB and UEC.

Broad Range of Fields in **Science** and **Technology**

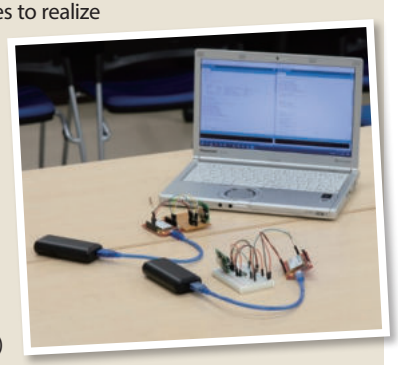
1 Infant's Language acquisition

This study analyzes infant vocabulary acquisition processes and model them by big data analysis which has not been used so much in the psychology field so far. Furthermore, the purpose of this study is to create a vocabulary test and vocabulary training system using the results of our research, and to provide them to speech therapists.
(Prof. MINAMI Yasuhiro)



2 High speed, high reliability wireless Communications

In the future, a massive number of wireless devices communicate with each other while sharing the same limited radio resource. It is inevitable to allocate adaptively and efficiently limited radio resources to wireless devices to realize high speed and reliable communication systems. To tackle such a difficult problem, we are studying wireless machine learning (WiML). WiML can realize autonomous resource allocation so as to adapt to dynamically changing wireless environment.
(Assoc. Prof. ADACHI Koichi)



3 Snake Robots

Snake robots are effective for inspection of narrow spaces and search-and-rescue operation in disaster sites. However, it is difficult to control snake robots because they have so many joints. We aim to achieve not only motion similar to a snake but also motion exceeding a snake by deriving a mathematical model and designing a controller.
(Prof. TANAKA Motoyasu)

4 Cryptographic control technology

My laboratory has been studying the emerging area of encrypted control, an expected cybersecurity measure for automatic control systems. The encrypted control provides the secure implementation of a digital controller and a control system configuration. As one of the pioneers of this technology, we have worked to develop a computational framework, control-theoretic methods, and experimental systems for implementation and application of motion control systems.
(Assoc. Prof. KOGISO Kiminao)

5 Optical frequency comb

"Optical Frequency Combs" is composed of large numbers of equally spaced, optical frequency modes, which has been known as the most precise "optical ruler" ever made by human-beings. Based on this technology, we are developing a fundamental technologies for controlling broad aspects of optical waves as an "optical synthesizer", and exploring broad innovative applications, such as environmental and medical sensing, characterization of materials and devices properties, ultrafast three-dimensional imaging, and high-accuracy long distance measurements, which are expected to be a powerful tools for science, industry, and society.
(Prof. MINOSHIMA Kaoru)

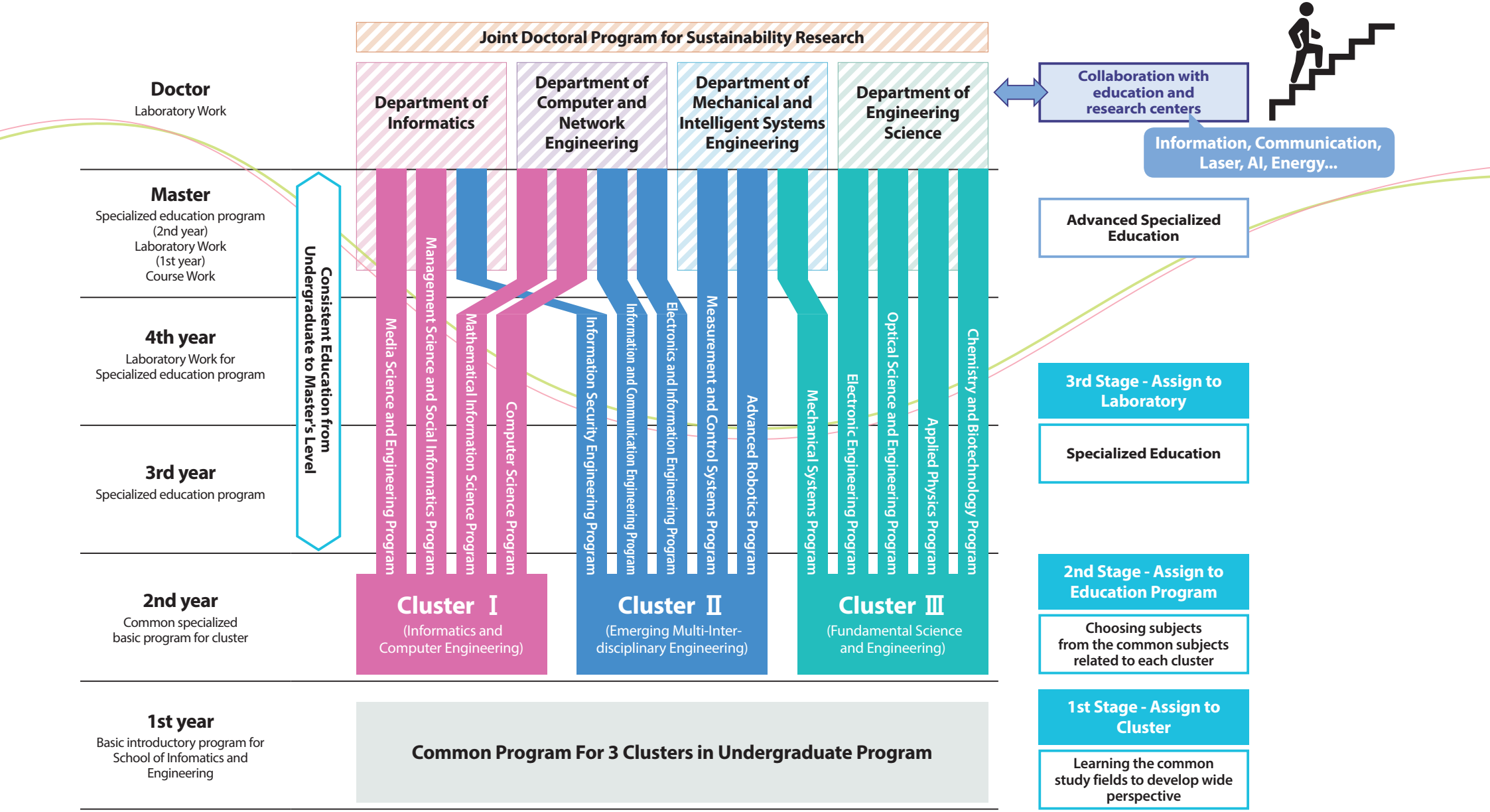
6 In vivo visualization technology using light emission

Bioluminescence—exhibited by fireflies—is suited for in vivo visualization because it has high luminescence efficiency and does not generate heat. But the maximum bioluminescence wavelength (max) of 560nm limits deep tissue imaging. UEC's innovative NIR luciferins (max=675nm) are products: Akalumine[1], TokeOni[2], SeMpai[3]. Akaluc[4] is a specialized luciferase for AkaLumine and TokeOni. The system "AkaBLI[4]" is the de facto standard for NIR in vivo imaging.
(Assoc. Prof. MAKI Shojiro)

1) Tetrahedron, 69, 3847-3856 (2013).
2) Nature Communications, 7, 11856 (2016).
3) Bulletin of the Chemical Society of Japan, 92 (3), 608-618, (2019).
4) Science, 359, 935–939 (2018).

Educational System

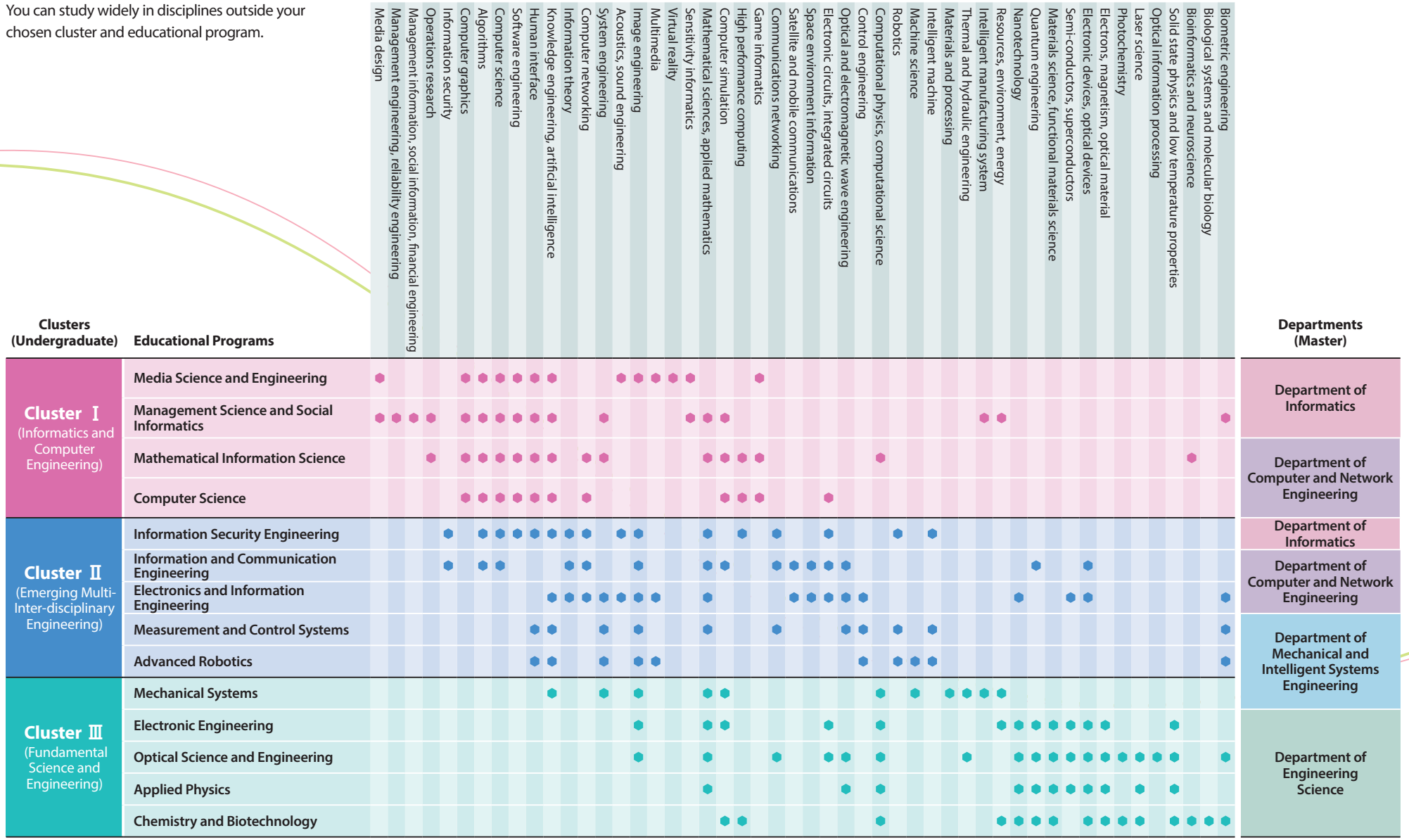
Beyond teaching the basics, the information engineering curriculum enhances expertise



Disciplines

Clusters and educational programs: disciplines to study

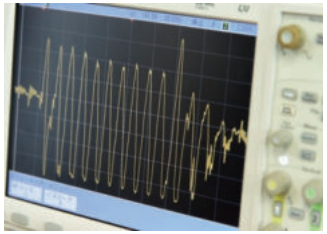
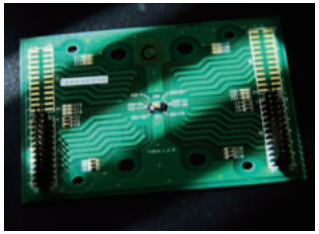
You can study widely in disciplines outside your chosen cluster and educational program.



Research Activities in Graduate School

Practice distinctive research activities in 5 majors

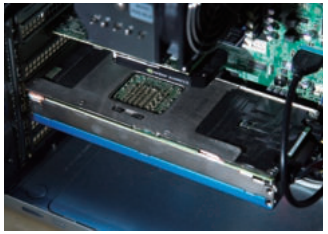
Department of Informatics


Utilize information technology to create sophisticated applications in the media, management and security fields.

- Media Science and Engineering Program
- Management Science and Social Informatics Program
- Information Security Engineering Program

Department of Computer and Network Engineering



Leap ahead in information, communications, and network technologies, the foundations of advanced communications society.

- Mathematical Information Science Program
- Computer Science Program
- Information and Communication Engineering Program
- Electronic and Information Engineering Program

KENYI MANZU GERALD SIMON

Department of Informatics
2nd year master's student
Home country/area : South Sudan

Making social media information beneficial to society

When a disaster occurs, many people send out information through social media, but few people realize how important such information is to society. With this point in mind, I aim to study data related to floods on Twitter, collect and categorize scattered personal information, and provide it as useful information for society.

The University of Electro-Communications has a history of more than 100 years as a science and technology university, and is a leader in the Information Society of the 21st century and beyond. It is also a quiet environment where I can concentrate on my research, and I am proud to be able to study here. In the future, I would like to continue my research at a university in South Sudan and contribute to the realization of an Information Society in Africa.

CHALEUNSOUK BOUNPASITH

Department of Computer and Network Engineering
2nd year master's student
Home country/area : Laos

Aiming for higher quality wireless communications

I chose the University of Electro-Communications as a university that offers the perfect environment to support the research I want to do. At the university, I can conduct in-depth study of various fields including not only the fields of electricity and communications, but also robotics and mechanical engineering. In addition, the warm support from the professors and the university staff has helped me in my research and university life.

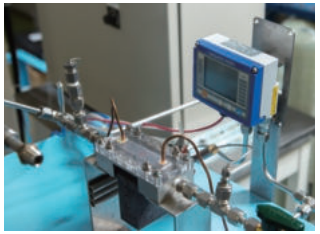
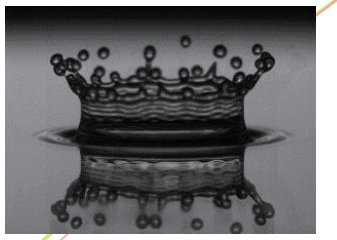
At the Advanced Wireless and Communications Research Center (AWCC), I currently conduct research on minimizing the degradation of communication quality between multiple users while sharing the same frequency band. I am happy that I can experience growth through my research. I would like to use the knowledge and experience I have gained here to help create a society in which everyone can live fulfilling and comfortable lives.

!! Joint Doctoral Program for Sustainability Research

URL https://www.uec.ac.jp/eng/education/ie_graduate/sus/index.html

The Joint Doctoral Program for Sustainability Research is an integrated program jointly offered by Tokyo University of Foreign Studies, Tokyo University of Agriculture and Technology, and the University of Electro-Communications. This program was established on the idea that the mission and significance of sustainability research is to work towards solving the global challenges facing humanity today, especially those related to development, environment and peace.

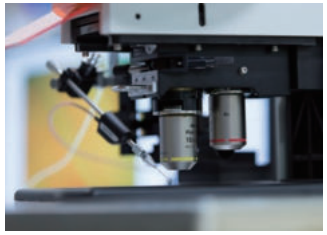
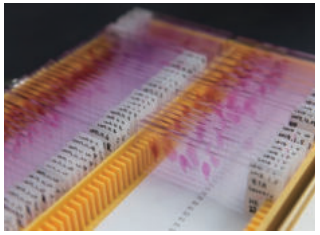
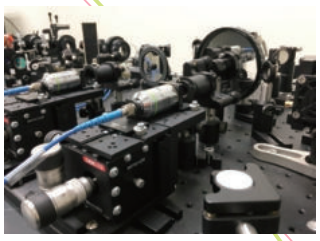
Department of Mechanical and Intelligent Systems Engineering

Combining measurement, control, robotics, mechanical engineering and promoting "monozukuri" in harmony with humankind and the environment.

- Measurement and Control Systems Program
- Advanced Robotics Program
- Mechanical Systems Program

Department of Engineering Science

Aiming to create revolutionary next generation element technologies such as functional materials, energy, information processing, and information communications.

- Electronic Engineering Program
- Optical Science and Engineering Program
- Applied Physics Program
- Chemistry and Biotechnology

HOANG THI YEN

Department of Mechanical and Intelligent Systems Engineering
1st year PhD's student
Home country/area : Vietnam

Assisting medical care sites with non-invasive measurements

My research aims to assist doctors in determining the heart beats and respiration rates of patients based on the output signal of the medical radar, which is a non-invasive monitoring device. Recently, the spread of novel coronavirus infections has caused a tendency to require non-contact methods for patients, and this research can meet such needs.

I decided to study abroad because I was drawn to the University of Electro-Communications due to its professors who are very passionate about research and provide strong support to students. I believe that no matter where you work or study, you should maximize your potential. I feel that studying here will broaden my horizons and allow me to learn more research methods.

GRECE FABIOLA

Department of Engineering Science
2nd year master's student
Home country/area : Indonesia

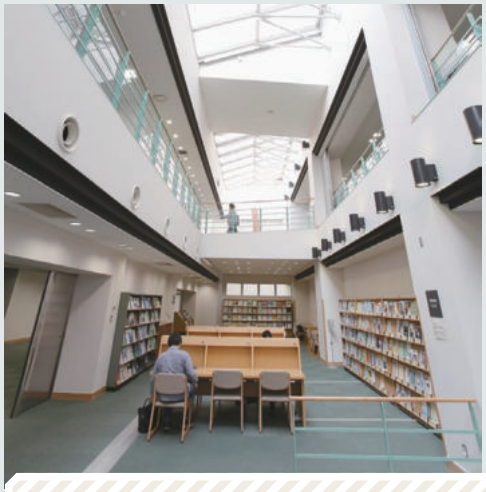
Using Silicon Photonics to advance the next generation

Silicon photonics is an emerging technology that uses silicon wafers as the platform for the integration of active and passive photonic circuits. Recently, many researchers are focusing on silicon photonics because of its ability to use the complementary metal oxide semiconductor process and compatible fabrication technologies that result in high-volume production at low cost. Through this research, I have experienced the development process for semiconductor devices, including the development of the material for waveguide using simulation and more.

The University of Electro-Communications has a system to support international students, such as assisting with visa renewal procedures, which allows me to live my life as a student with peace of mind.

Campus Life

UEC campus is compact with the entire university, including the graduate school, concentrated in one location.
The university is surrounded by a lush green environment.



A University Library

The University Library is the academic information foundation that supports the creative research and education at UEC. Its collection of over 300,000 books is focused on natural sciences and engineering but also covers a wide range of topics with documents related to philosophy, social sciences, languages, and literature that can be searched and used. The library also offers electronic journals and databases that can be used online and can be accessed on campus. It also provides an environment for viewing audio-visual materials.

!! A study space for group work UEC Ambient Intelligence "Agora"

Agora is a space that blends IoT and AI to create different styles of learning spaces by using LCD projectors to project onto LCD monitors and tables for large seminars as well as for smaller brainstorming sessions, and individual study. It can accommodate over 270 people.

B Information Technology Center

The Information Technology Center manages and maintains the information technology of UEC and promotes the computerization of education and research, and the efficient operation of the university-wide information sharing system. In addition to the devices and servers used in lectures, etc. it also provides cloud-type file synchronization services and on-campus SNSs. A total of 264 education devices have been installed in the seminar rooms in the Information Technology Center as well as in the self-study rooms in the library (Building E-3,1F, 2F, 3F).

C UEC Museum of Communications

Historical equipment and documents related to wireless communications equipment and computers are collected, stored, and displayed at the UEC Museum of Communications. It provides a broad view of UEC's research accomplishments and provides a historical background of Comprehensive Communication Sciences Initiatives.

D Center for International Programs and Exchange (CIPE)

The goal of the center is to promote the internationalization of UEC through activities such as planning various strategies for internationalizing research and education, enhancing the international education provided to international and Japanese students, and making local and international contributions.

E Student Activities Center

In addition to rooms for each club activity, there is also an athletic training room, a music practice room, and a meeting room, etc.

F University Center

There is a small shop and barber on 1F, as well as a cafeteria and restaurant on 2, 3F. There is also a multi-purpose hall, a music practice room with a piano, a meeting room, a Japanese-style room, and a lobby.

G Co-op shop (1F)

H Co-op cafeteria (2F)

I Restaurant Harmonia (3F)

J West Cafeteria (West Campus)

K Communication Park

It is used as a place of interaction for students, faculty members, local residents, and visitors. There are also other free spaces available on campus for meetings, conversations, reading, studying, etc.

L 100th Anniversary Campus "UEC Port"

Located on the south side of the university, there are student dormitories, buildings for joint research, and other facilities. It was named in the hopes that it would continue to be a gateway (or Port) for the Comprehensive Communication Sciences Initiatives.

Dormitory

UEC PORT

UEC PORT Dorm KIZUNA/ TOMODACHI

Type: Studio, Shared Kitchen & Bathroom
For: Regular student
Total unit number: 400
Monthly Rent:
JPY 47,700 (Studio),
JPY 40,700 (Shared Kitchen & Bathroom)

GOSHIRYO

Type: Shared Kitchen & Bathroom
For: Regular and Non-regular student
Total unit number: 120
Monthly Rent:
JPY 14,500

International House

Type: Studio (Single), One-bedroom (Couple) , Two-bedroom (Family)
For: International student
Single: Non-regular student
Couple, Family: Regular student
Total unit number: 59
50(Single), 6(Couple), 3 (Family)
Monthly Rent:
JPY 23,770 (Single),
JPY 31,320 (Couple),
JPY 39,070 (Family)

Off-Campus facilities

Sugadaira Seminar House

Student Hostel (Hamami Ryo)

Annual schedule of UEC and **Education system** in Japan

Annual schedule of UEC

Spring semester

Early April
- **Entrance ceremony**
- **New academic year and spring semester begin**

Early June
- **Laboratories open day**

Mid-July
- **University open day**

Mid-August
- **End of spring semester**
- **Summer recess begins**

End of September
- **End of summer recess**

Autumn semester

Early October
- **Autumn semester begins**

Late November
- **Chofu-Sai (University festival)**
- **University open day**

Late December
- **Winter holidays begin**

Early January
- **End of winter holidays**

Late February
- **End of autumn semester**
- **Spring recess begins**

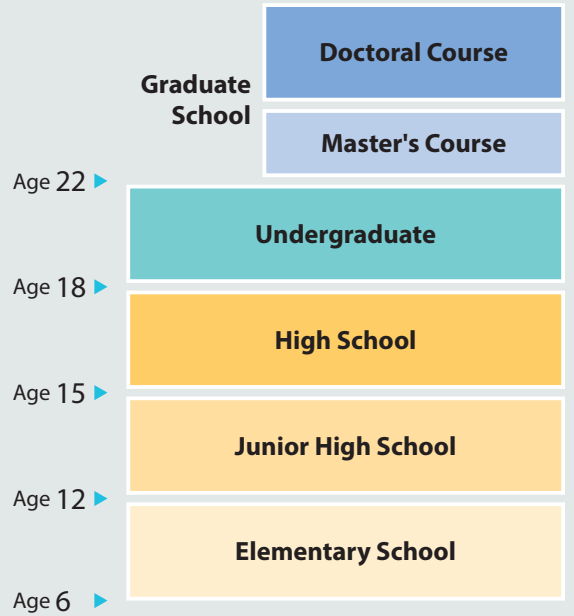
Late March
- **Graduation ceremony**

Education system in Japan

In Japan, 6 years of elementary school and 3 years of junior high school are compulsory. After completing compulsory education, many students choose to study in high school for three years. At the higher education level, universities offer 4-year undergraduate program, 2-year Master's program and 3-year doctral program.

There are about 800 universities in Japan.
- **86 National Universities**
- **94 Public Universities**
- **615 Private Universities (in 2020)**

* from the Basic School Survey (by MEXT)
* UEC is one of National Universities



!! Tuition Exemption

UEC has tuition waiver for its students, and many international students get full or half tuition exemption.

!! Scholarships

There are many scholarship programs for international students, offered by Japanese government (Monbukagakusho: MEXT), Japan Student Service Organization (JASSO), and private foundations.
Center for International Programs and Exchange (CIPE) of UEC helps students to apply for the scholarships from the private Foundations.

Privately-Funded International Students for **Undergraduate Program**, School of INFORMATICS & ENGINEERING (IE)

- Be sure to check the following URL for the details and latest outline of the entrance exam and schedule in Japanese.

  URL http://www.uec.ac.jp/admission/ie/exam_international.html

Application Requirement

An applicant must be a holder of a high school diploma or equivalent to 12 or more years of formal education outside of Japan or must expect to complete a minimum of 12 years of formal education by March 31 of the year of the enrollment.
Also, an applicant must take the TOEFL (excluding TOEFL - ITP) or TOEIC L&R (excluding TOEFL - IP) after April 2020 and meet the following score.

TOEFL : 453 points or higher (PBT)
46 points or higher (iBT)
TOEIC : 450 points or higher (L&R)

* UEC does not accept TOEFL "My Best Score".
* You must submit either your original TOEIC score certificate or TOEFL examination score report with your application.

Schedule

UEC academic year begins in April and ends in March. The first semester lasts from April to September, and the second semester lasts from October to March.

November:	Distribution of application guidelines
January:	Application period
February 25:	Written examination
February 27:	Oral examination
March:	Announcement of results
April	Enrollment

Screening Methods

A comprehensive screening will be conducted based on the applicant's performance on oral and written examinations, the Examination for Japanese University Admission for International Students (EJU "日本留学試験"), and academic transcripts from previous schools.

EJU (Examination for Japanese University Admission for International Students "日本留学試験"):

Subjects:	Japanese
	Sciences (Physics and Chemistry)
	Mathematics (Course 2)

Written Examination at UEC:

Subjects:	Mathematics
	Physics and Chemistry
	Japanese

* The mathematics and science portions of written examinations for privately-funded foreign students are the same as those in the School of IE standard entrance examination administered on the same day.
* Please see the following link for information about the contents of past written examinations other than the Japanese proficiency test:

  URL http://www.uec.ac.jp/admission/ie/exam.html

Oral Examination:

You will be asked questions such as reason for applying, motivation for study and others.

Tuition and Fees

Screening fee	**17,000JPY**
Admission fee	**282,000JPY**
Tuition	**535,800JPY** (per academic year)

Details are subject to change.

Privately-Funded International Students for **Master's Program** in Graduate School of INFORMATICS & ENGINEERING (IE)

- Be sure to check the following URL for the details and latest outline of the entrance exam and schedule in English.

  URL http://www.uec.ac.jp/eng/admission/ie_graduate/exam.html
  URL http://www.uec.ac.jp/eng/admission/ie_graduate/schedule.html

- Be sure to contact your potential academic supervisor to discuss your prospective research plan before filling out an application. Refer to the following URL for contact:

  URL http://www.uec.ac.jp/education/graduate/faculty_member.html (Faculty Members/JP)
  URL https://cf.arc.uec.ac.jp/labsearch/ (Laboratory Search/JP)
  URL http://kjk.office.uec.ac.jp/scripts/websearch/index.htm?lang=en (Researcher/EN)
  URL https://www.uec.ac.jp/eng/research/introduction/ (Introduction to Laboratories/EN)

Application Requirement

- An applicant must hold a bachelor's degree or equivalent or must expect to receive a bachelor's degree by September 30 of the year of enrollment for October enrollment or March 31 of the year of enrollment for April enrollment.
- Proof of document of Japanese proficiency is required.

Schedule

July:	Application period
August:	Examinations
September:	Announcement of results Enrollment procedure for October enrollment
October:	Enrollment
March:	Enrollment procedure for April enrollment
April:	Enrollment

Examination Methods

A comprehensive examination will be conducted based on the evaluation of the applicant's performance on the oral and written examinations and submitted application documents.

1. English:

Your original certificate of TOEFL-iBT, TOEFL-iBT Home Edition/Special Home Edition, or TOEIC L&R is required to evaluate your English ability. Please submit score sheets dated within 2 years of the month of the UEC entrance examination. TOEFL-ITP and TOEIC-IP score sheets will not be accepted. Your application will not be completed unless all required documents are submitted.

2. Specialized Subject:

The contents of the entrance examination vary depending on the major you wish to apply for. Please refer to application guidelines (only available in Japanese) or the admission overview website.

3. Oral Examination:

Your academic achievement in your specialized subject, and research plan will be discussed during the oral examination. International students' Japanese language skills will be tested also.

Tuition and Fees

Screening fee	**30,000JPY**
Admission fee	**282,000JPY**
Tuition	**535,800JPY** (per academic year)

Details are subject to change.

!! Student Development Program for Multifaceted International Collaboration Hubs (MICH)

Fusion of AI and Quantum Sciences for Developing Innovative Human Resources: Global Education Program in the COVID-19 Era (AiQuSci)

URL http://www.fedu.uec.ac.jp/en/future_students/mich/
URL http://www.fedu.uec.ac.jp/en/future_students/aiqusci/

Privately-Funded International Students for **Doctoral Program** in Graduate School of INFORMATICS & ENGINEERING (IE)

- Be sure to check the following URL for the details and latest outline of the entrance exam and schedule in English.

  URL http://www.uec.ac.jp/eng/admission/ie_graduate/exam.html
  URL http://www.uec.ac.jp/eng/admission/ie_graduate/schedule.html

- Be sure to contact your potential academic supervisor to discuss your prospective research plan before filling out an application. Refer to the following URL for contact:

  URL http://www.uec.ac.jp/education/graduate/faculty_member.html (Faculty Members/JP)
  URL https://cf.arc.uec.ac.jp/labsearch/ (Laboratory Search/JP)
  URL http://kjk.office.uec.ac.jp/scripts/websearch/index.htm?lang=en (Researcher/EN)
  URL https://www.uec.ac.jp/eng/research/introduction/ (Introduction to Laboratories/EN)

Application Requirement

An applicant must hold a master's degree or related technical degree or must be a candidate to obtain a master's degree by September 30 of the year of enrollment for October enrollment or March 31 of the year of enrollment for April enrollment.

Schedule

(1) August Screening for October or April enrollment

July:	Application period
August:	Oral examination
September:	Announcement of results Enrollment procedure for October enrollment
October:	Enrollment
March:	Enrollment procedure for April enrollment
April:	Enrollment

(2) February Screening for April enrollment

January:	Application period
February:	Oral examination Announcement of results
March:	Enrollment procedure
April:	Enrollment

Examination Methods

Comprehensive examination will be conducted by UEC based on English ability, the evaluation of performance on oral examination, and submitted application documents.

1. English Ability:

Your original certificate of TOEFL-iBT, TOEFL-iBT Home Edition/Special Home Edition, or TOEIC L&R is required to evaluate your English ability. Please submit score sheets dated within 2 years of the month of the UEC entrance examination. TOEFL-ITP and TOEIC-IP score sheets will not be accepted. Your application will not be completed unless all required documents are submitted.

2. Oral Examination:

Your academic achievement in your specialized subject, master's thesis, and research plan will be discussed during the oral examination. International students' Japanese language skills will be tested also.

Tuition and Fees

Same as Master's Program (P17).

Details are subject to change.

The "Student Development Program for Multifaceted International Collaboration Hubs (MICH)" and "Fusion of AI and Quantum Sciences for Developing Innovative Human Resources: Global Education Program in the COVID-19 Era (AiQuSci)" are a pair of new International Graduate Programs offered by the UEC. Having been selected as part of the prestigious Japanese Government (MEXT) Special Scholarship Program, MICH started in Academic Year of 2020 and AiQuSci in 2021. These programs foster engineers and scientists who bridge gaps between fields of specialization, between industry and academia, and across national borders, forming networks of trained individuals who collectively contribute to SDGs, higher education in developing countries, etc. MICH and AiQuSci recruit excellent international students interested in Informatics and Engineering. They are joined by Japanese students studying under the same curriculum, and together they are expected to become global leaders with broad perspectives.

National University

The University of Electro-Communications

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