



MEXT WISE Program
(Doctoral Program for World-leading Innovative & Smart Education)

Innovative Medicine CHIBA Doctoral WISE Program

革新医療創生CHIBA
卓越大学院

Ministry of Education, Culture, Sports, Science and Technology (MEXT)
Doctoral Program for World-leading Innovative & Smart Education (WISE)

Innovative Medicine CHIBA Doctoral WISE Program (iMeC-WISE)

Koutaro Yokote
President, Chiba University

Chiba University, guided by the philosophy of “Always Aim Higher”, is dedicated to nurturing individuals with high intellect and rich humanity who can excel as leaders in the global society, by providing excellent education as a premier academic institution. We have been selected for the “Program for Forming Japan’s Peak Research Universities”, which allows us to strategically enhance our strengths in fields such as immunology, vaccine studies, and preventive medicine research. We are expanding into various disciplines within the university while focusing on applying our research outcomes to benefit society. In April 2024, we also established the Graduate School of Informatics to cultivate talents capable of handling big data and artificial intelligence across various academic disciplines.

Our Inohana Campus, home to numerous research facilities including the Graduate School of Medical and Pharmaceutical Sciences, University Hospital, and Research Institute of Disaster Medicine, has been training global leaders in the medical-related fields. Since the launch of the program “Nurture of Creative Research Leaders in Immune System Regulation and Innovative

Therapeutics” in 2012, one of the “Program for Leading Graduate Schools”, we have been fostering world-leading therapeutic researchers. In 2022, we were selected as the “Synergy Institute for Futuristic Mucosal Vaccine Research and Development” under the Japan Agency for Medical Research and Development’s “Japan Initiative for World-leading Vaccine Research and Development Centers”, where we are developing effective, safe, and reliable mucosal vaccines. Building on these achievements, we have established comprehensive cooperation agreements with many foreign universities, such as the University of California, San Diego (UC San Diego) in the United States, enabling international faculty members to participate in research and doctoral training.

The rapid advancement of cutting-edge medical technologies has led to a paradigm shift in global healthcare. In Japan, with its rapidly aging society, the development of human resources is an urgent issue. Thus, in the “Innovative Medicine CHIBA Doctoral WISE Program (iMeC-WISE)”, we have established the Cluster-based CHIBA Education System based on the therapeutic researcher training program. By utilizing our university’s Center for Artificial Intelligence Research in Therapeutics, we aim to cultivate creators of new medical knowledge, innovators who develop revolutionary therapies and drugs, and leaders who address social disparities in healthcare.

Under this new Cluster-based CHIBA Education System, we have set up six educational research clusters, organized by faculty members from many research fields, to cultivate panoramic views, creativity, and practical skills. By studying in two or more clusters, students will be trained to become doctoral talents equivalent to those with double majors overseas. We also offer educational programs in collaboration with the world’s top research institutions. We expect graduates of this program to not only create new medical knowledge and innovate in healthcare but also actively strive for self-improvement and become leaders in global healthcare with multifaceted perspectives, flexible thinking, high ethical standards, an innovative mindset, and a spirit of resilience and fearlessness of failure.

Chiba University will continue to strategically allocate resources and focus on enhancing the educational and research environment to further strengthen this excellent graduate program. We sincerely ask for your continued, tremendous support in this endeavor.

Message from the Program Director

Haruaki Nakaya
Program Director
Executive Board Member



Since 2016, Chiba University has been recognized as a national university that promotes outstanding education, research, and social implementation of research achievements, and has strengthened its strategic functions. Starting from the 21st Century Center for Excellence (COE) Program adopted in 2006, followed by the Global COE Program (2008), and the Program for Leading Graduate Schools (2012), the university has continuously enriched education of the graduate schools in health and medicine related fields. Based on the experiences and achievements of these programs, the Innovative Medicine CHIBA Doctoral WISE Program (iMeC-WISE) was established in 2019. With the approval of the government, the program is now ready to start.

Developed countries including Japan have achieved increased longevity through the outstanding advances of cancer therapy, regenerative medicine, genomic medicine and diagnostics, and diagnosis and treatment using artificial intelligence. On the other hand, they are facing various problems such as the growth of medical expenditures, and health disparities and inequalities. In order to solve these problems, and to maintain a sustainable and healthy society, it is essential to unite separate disciplinary fields of “knowledge in medical

sciences”, and to create innovations that lead to novel, safe, and effective therapies or disease prevention methods.

Establishing the Six Specialized Field Education System in cooperation with top-tier domestic and overseas universities, research institutes and corporations, iMeC-WISE fosters “human resources who will work on creation of medical innovations with comprehensive insights, flexible intelligence, challenging spirits, resilience, and innovative mind”. Besides our faculty members, we asked our visiting professors, who gathered from 24 domestic and overseas corporations, four government organizations, and 20 overseas universities and research institutes, for their cooperation to engage in the education of highly talented graduate students with diverse backgrounds. Program students will major in one of six specialized fields, and choose a minor in another field. Students in the Double Degree Course have chances to gain a PhD degree from University of California, San Diego as well as one from Chiba University. We hope that motivated students will participate in iMeC-WISE to become global leaders who create innovative medicines in the near future. As we all are willing to commit ourselves to the success of this program, we kindly ask for your support and cooperation.

Nurture of World-leading Medical Innovators

Tetsuichiro Saito
Program Coordinator
Professor, Vice President



The coronavirus disease 2019 pandemic has underscored the vulnerability of the global health system and the vital importance of both basic science and medicine. The rapid development of mRNA vaccines against the virus has been realized by persistent basic research. In addition to this global crisis, Japan, which is a super-aging country, must grapple with various issues. One pressing issue is to nurture leaders of medical innovation to build a sustainable healthier society where people live to be centenarians.

Chiba University has produced many talented doctors who have made significant contributions to medicine worldwide. Among these are Prof. Komei Nakayama, who invented esophageal cancer surgery, and Prof. Tomio Tada, who expanded immunology. Based on this tradition of human resource development, the Innovative Medicine CHIBA Doctoral WISE Program (iMeC-WISE), which commenced education in 2020, aims to foster outstanding researchers who will create novel knowledge in medicine, innovators who will utilize that knowledge to develop new therapeutic agents and treatments that are safer and more efficacious, and policy makers who will apply AI and other technologies to correct social inequalities through various approaches.

The iMeC-WISE is engaging in international collaboration in partnership with eight corporations and three research institutions including RIKEN, and four overseas universities including the University of California San Diego. Moreover, the iMeC-WISE has established a hub for human resource exchanges and joint research, bringing together educational and research expertise of the world’s highest level, organizing the Chiba Innovative Therapeutics International Program (CITIP), a global educational framework consisting of 20 overseas institutions, and the Chiba Innovative Therapeutics Industry Consortium (CITICO), a cross-sectoral educational framework with industry-government-academia collaboration, which includes 24 corporations and three government agencies.

Students in the program are required to undertake independent study and research, and they take the initiative in planning and participating in scientific seminars and hands-on training in corporations and international organizations such as WHO. The iMeC-WISE provides students with generous financial support so that they can successfully complete either the Double Major PhD Course or the International Double Degree PhD Course. We sincerely welcome applications from motivated and dedicated students from various fields.



Innovative Medicine CHIBA Doctoral WISE Program

Outlines

Chiba University has launched “Innovative Medicine CHIBA Doctoral WISE Program (iMeC-WISE)”, which consists of a two-year Master’s Program with nine majors: Medical Sciences, General Pharmaceutical Sciences, Mathematics and Informatics, Earth and Environmental Sciences, Advanced Science and Engineering, Creative Engineering, Fundamental Engineering, Environmental Horticulture, and Nursing, and a four-year Doctoral Program of Frontier Medicine and Pharmacy in the Graduate School of Medical and Pharmaceutical Sciences.

Based on the Chiba University’s more than 100-year history in the fields of medicine and pharmaceutical sciences, iMeC-WISE aims to foster the next generation of world-class researchers and innovators, who will contribute to the development of medical sciences, pave the way to novel therapies and drugs, and develop sustainable healthcare systems.

The iMeC-WISE program is characterized by innovative comprehensive training with a focus on multidisciplinary close mentoring by internationally renowned faculty from academia and industry. The program’s Cluster-based CHIBA Education System provides excellent platforms for research and training using a wide range of state-of-the-art technologies in Biomedicine, Medical Engineering, Therapeutics, Drug Discovery, Sustainable Health Sciences, and Medical Informatics. Students are required to study in two out of the six specialized fields so that they can acquire highly advanced research abilities as well as a broader perspective in an international environment.

The program has two courses:

1. iMeC-WISE Double Major Course in Chiba University
2. iMeC-WISE International Double Degree Course, in which students earn PhD degrees from Chiba University and University of California San Diego.

Students are required to cultivate basic skills and knowledge on medical sciences in the Master’s Program and then to accomplish at least two projects, equivalent to double majors, in different specialized fields in the Doctoral Program.

iMeC-WISE provides students with financial support and the career development office as well as subsequent post-graduate employment positions to maximize each student’s potential and build the foundation for career success. Graduates are expected to be leaders in various fields.

Admission Policy: Applicants are required to have a broad perspective based on basic knowledge, flexible thinking, motivation, and a commitment to creating innovative medicine.

Curriculum Policy: The program provides students with opportunities to conduct research in cooperation with researchers in different fields beyond the framework of industry, government, and academia to achieve their own goals, to take the initiative in creating new knowledge and values, and to acquire the ability to contribute to society.

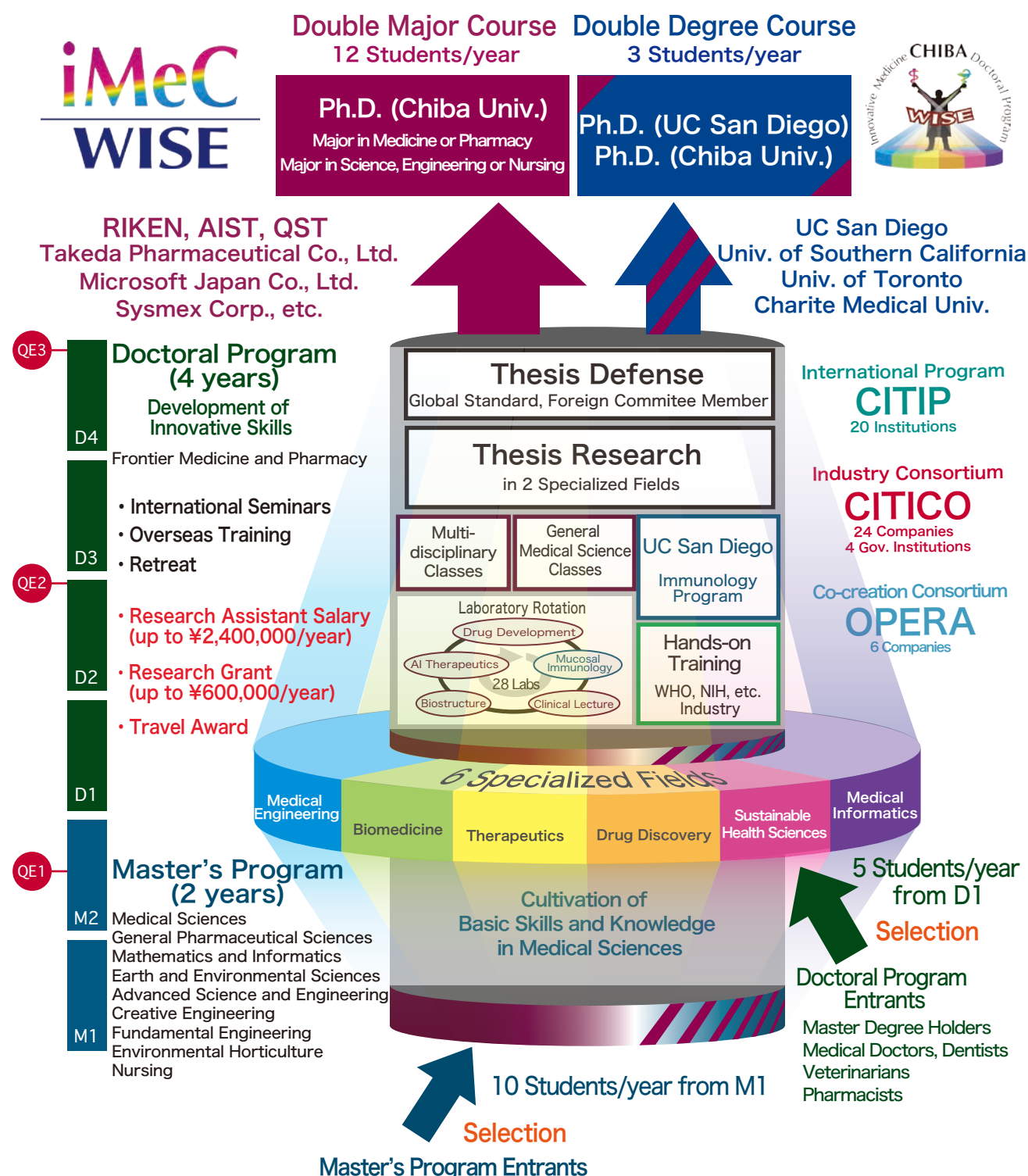
Innovative Medicine CHIBA Doctoral WISE Program

Nurture of World-leading Medical Innovators for

New Medical Discovery

New Drug Innovation

Sustainable Healthcare



Features

1. New graduate program that develops the ability to establish innovative medicine

Under the **Cluster-based CHIBA Education System**, students major in two fields from Therapeutics, Medical Engineering, Biomedicine, Drug Discovery, Sustainable Health Sciences, and Medical Informatics. Students are required to present their research achievements in their two fields. Three professors from different fields provide each student with multidimensional detailed instructions and support.

2. Global education in cooperation with various institutes and corporations

Professors from various organizations including government agencies, research institutes, and companies engage in the education. Chiba University has educational partnerships with University of California San Diego, University of Toronto, University of Southern California, and Charité – Universitätsmedizin Berlin, as well as 11 industrial and government organizations including RIKEN and Takeda Pharmaceutical Company. In addition, Chiba University has developed cutting-edge education programs such as the **Chiba Innovative Therapeutics International Program (CITIP)** for global education and the **Chiba Innovative Therapeutics Industry Consortium (CITICO)** for industry-government-academia collaborative education.

3. The Center for Artificial Intelligence Research for Therapeutics

Chiba University’s Center for Artificial Intelligence Research for Therapeutics plays a core role in the development of new treatments, pharmaceuticals, and high-precision diagnostics as well as the creation of new industries related to the information technology and internet of things based on innovative medical data science.

4. Three-step promotion system that assures the quality of academic degree

The quality of the degree is assured by the three-step qualifying examinations (QEs): QE1, before completing the Master’s Program; QE2, middle of the Doctoral Program; QE3, before completing the Doctoral Program. Each dissertation committee includes at least one foreign professor to ensure that the degree is based on international standards.

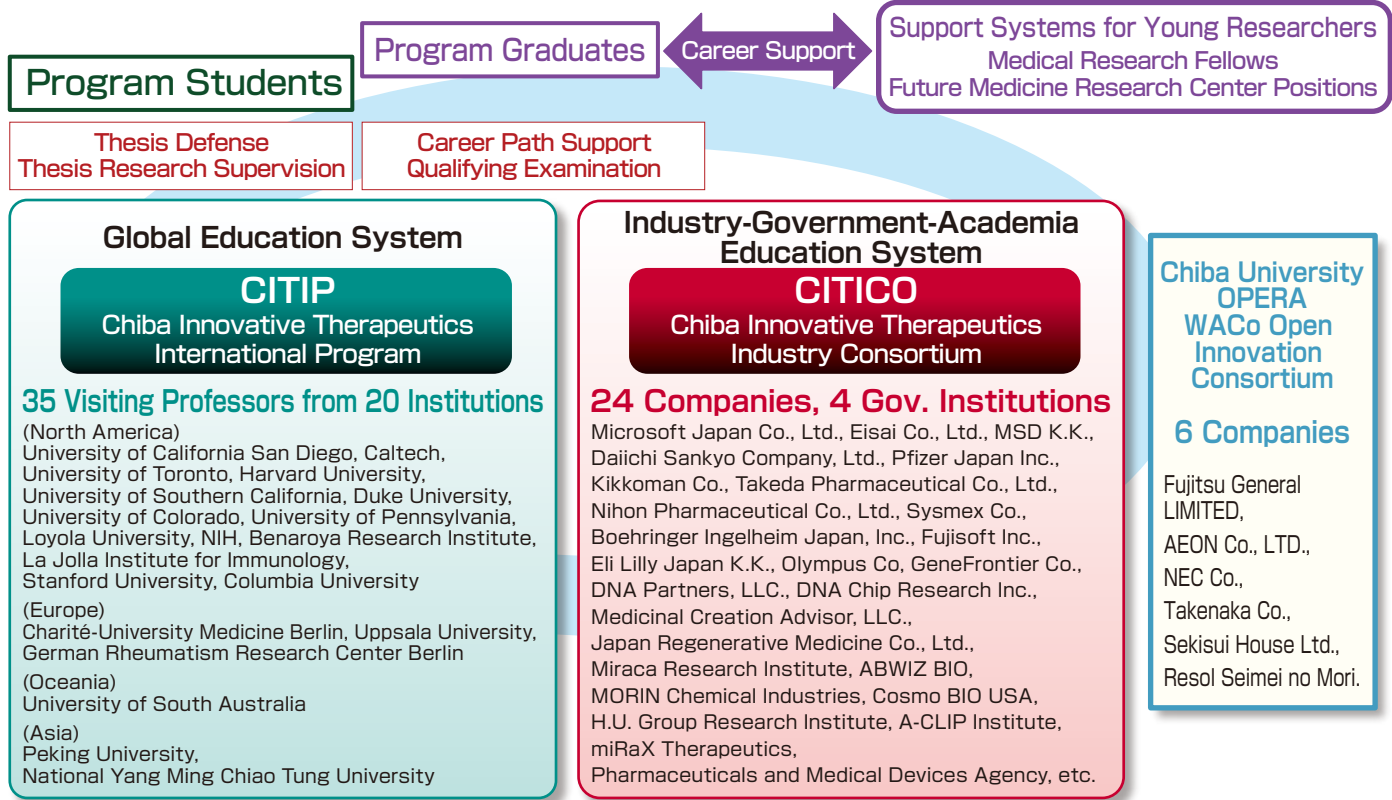
5. Education and support that encourage student initiatives

Students take the initiative in planning iMeC-WISE seminars, retreats, and hands-on training. Support available in this program includes the research assistant positions, research grants, hands-on training travel expenses, and career development support after graduation.

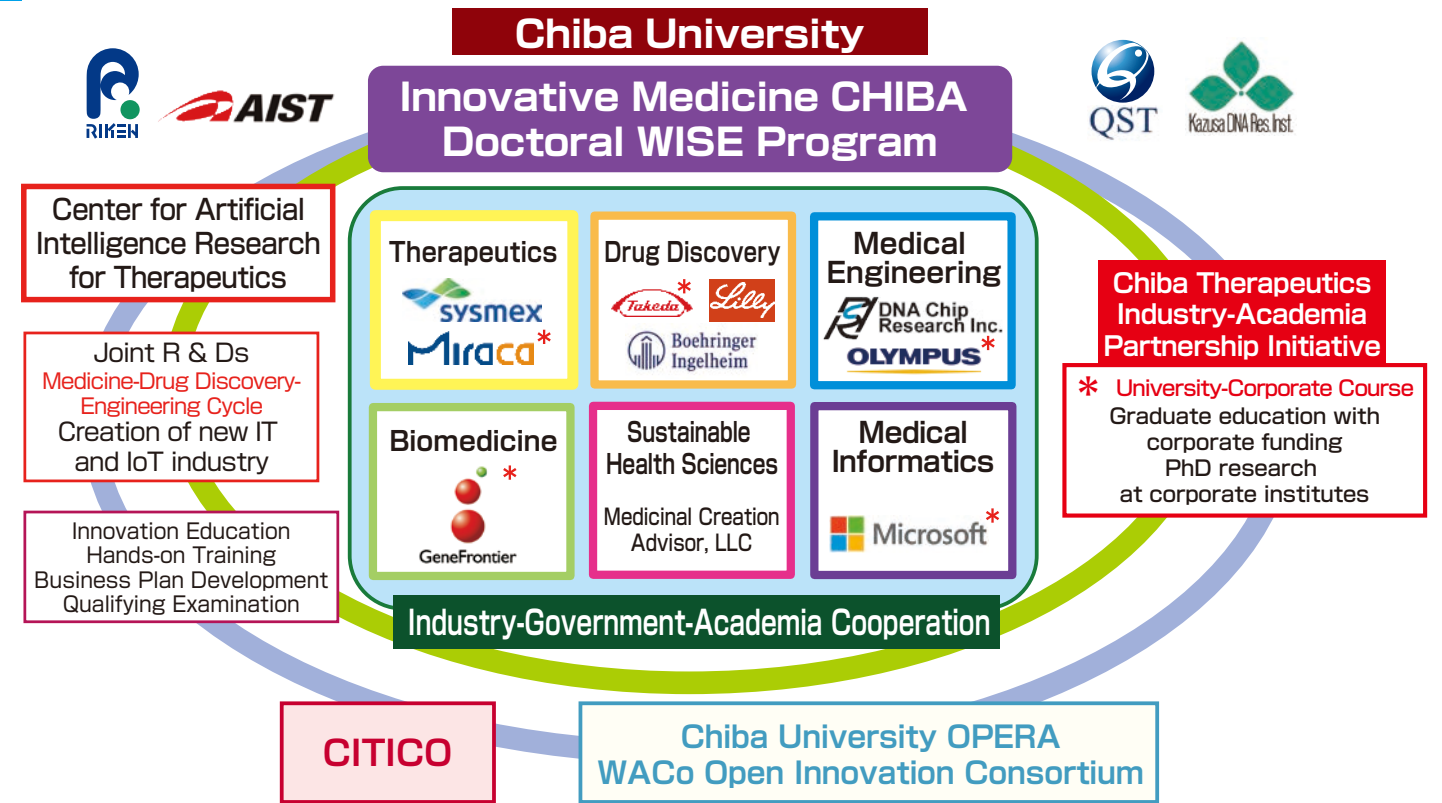
Diploma Policy: Doctorates are granted to students who are expected to create new medical knowledge and contribute to society based on their high level of knowledge, broader perspective, cooperativeness, leadership, and morality.

iMeC-WISE Student Support and Education System

Global Education & Support System of iMeC-WISE



New Industry-Government-Academia Sustainable Education System to Create Medical Innovation



Program Members

Name	Affiliation
Haruaki NAKAYA	Program Director Executive Board Member and Vice President of Chiba University
Tetsuichiro SAITO	Program Coordinator Professor, Dept. of Developmental Biology, Graduate School of Medicine, Vice President of Chiba University
Shinichiro MOTOHASHI	Program Sub-coordinator Professor, Dept. of Medical Immunology, Graduate School of Medicine
Hiroshi KIYONO	Distinguished Professor, Dept. of Immunology, Graduate School of Medicine Professor, Dept. of Medicine, UC San Diego, USA
Kunikazu MORIBE	Professor, Lab. of Pharmaceutical Technology, Graduate School of Pharmaceutical Sciences, Vice President of Chiba University
Eiryo KAWAKAMI	Professor, Dept. of Artificial Intelligence Medicine, Graduate School of Medicine
Hideaki HANEISHI	Professor, Director, Center for Frontier Medical Engineering
Chisato MORI	Professor, Dept. of Bioenvironmental Medicine, Graduate School of Medicine
Hiroshi NAKAJIMA	Professor, Dept. of Allergy and Clinical Immunology, Graduate School of Medicine, Vice President of Chiba University
Motoko KIMURA	Professor, Dept. of Experimental Immunology, Graduate School of Medicine
Takashi MIKI	Professor, Dept. of Medical Physiology, Dean of Graduate School of Medicine
Kiyoshi HIRAHARA	Professor, Dept. of Immunology, Graduate School of Medicine
Atsushi KANEDA	Professor, Dept. of Molecular Oncology, Graduate School of Medicine
Hiroto KAWASHIMA	Professor, Lab. of Microbiology and Immunology, Graduate School of Pharmaceutical Sciences
Masahiro TAKEI	Professor, Graduate School of Engineering
Goro MATSUMIYA	Professor, Dept. of Cardiovascular Surgery, Graduate School of Medicine
Ichiro MANABE	Professor, Dept. of Disease Biology and Molecular Medicine, Graduate School of Medicine
Takuji SUZUKI	Professor, Dept. of Respiriology, Graduate School of Medicine
Naoya KATO	Professor, Dept. of Gastroenterology, Graduate School of Medicine
Katsuhiko ASANUMA	Professor, Dept. of Nephrology, Graduate School of Medicine
Hiroshi TSUJI	Visiting Researcher, National Institutes for Quantum Science and Technology
Tomoaki TANAKA	Professor, Dept. of Molecular Diagnosis, Graduate School of Medicine, Director, Research Institute of Disaster Medicine
Itsuko ISHII	Professor and Director, Division of Pharmacy, Chiba University Hospital
Toyoyuki HANAZAWA	Professor, Dept. of Otorhinolaryngology, Head and Neck Surgery, Graduate School of Medicine
Takashi INOZUME	Professor, Dept. of Dermatology, Graduate School of Medicine
Motoyuki ITOH	Professor, Lab. of Biochemistry, Graduate School of Pharmaceutical Sciences, Dean of Graduate School of Medical and Pharmaceutical Sciences
Kousei ITO	Professor, Lab. of Biopharmaceutics, Graduate School of Pharmaceutical Sciences
Tetsuhiro NEMOTO	Professor, Lab. of Pharmaceutical Chemistry, Graduate School of Pharmaceutical Sciences
Hiroyuki NAKAMURA	Professor, Lab. of Chemical Pharmacology, Graduate School of Pharmaceutical Sciences
Chihiro SASAKAWA	Director, Professor, Medical Mycology Research Center
Fumihiko ISHIKAWA	Visiting Professor Team Leader, Lab. for Human Disease Models, RIKEN
Hao LIU	Professor, Graduate School of Engineering
Wenwei YU	Professor, Center for Frontier Medical Engineering
Yuzuru IKEHARA	Professor, Dept. of Molecular and Tumor Pathology, Graduate School of Medicine
Seiji OHTORI	Professor, Dept. of Orthopedic Surgery, Graduate School of Medicine, Vice President of Chiba University, Director General of Chiba University Hospital
Shigeru YAMADA	Visiting Professor National Institutes for Quantum Science and Technology Director, Dept. of Radiation Emergency Medicine, National Institute for Radiological Science (NIRS)
Hajime SAKAKITA	Visiting Professor Group Leader, Innovative Plasma Processing Group, National Institute of Advanced Industrial Science and Technology

Name	Affiliation
Takeshi MURATA	Professor, Dept. of Chemistry, Graduate School of Science
Osamu OHARA	Professor, Future Medicine Education and Research Organization Vice-President, Kazusa DNA Research Institute, Head, Dept. of Applied Genomics
Harue MASAKI	Professor, Gerontological Nursing, Graduate School of Nursing, Vice President of Chiba University
Sayuri SUWA	Dean, Professor, Department of Community Health Nursing, Graduate School of Nursing
Eiji GOTO	Professor, Division of Plant Sciences, Graduate School of Horticulture
Mitsutoshi YONEYAMA	Professor, Div. of Molecular Immunology, Medical Mycology Research Center
Naruhiko ISHIWADA	Professor, Division of Clinical Research, Medical Mycology Research Center
Yoshiyuki GOTO	Associate Professor, Div. of Molecular Immunology, Medical Mycology Research Center
Yosuke KURASHIMA	Associate Professor, Institute for Advanced Academic Research
Hiromi NAGANE-SAITO	Professor, Graduate School of Social Sciences
Haruhiko KOSEKI	Professor, Dept. of Cellular and Molecular Medicine, Graduate School of Medicine Deputy Director and Group Director, Lab. for Developmental Genetics, RIKEN
Takayuki KAWASE	Professor, Fundamental law, Graduate School of Social Sciences
Hiromitsu TANAKA	Project Lecturer, Dept. of Developmental Biology, Graduate School of Medicine
Nobuo SEKI	Visiting Professor Director, Central Research Laboratories, Sysmex Corporation
Kazuya OMI	Visiting Professor President, H.U. Group Research Institute G.K.
Takashi ICHIKAWA	Visiting Professor Senior Director, Head of New Chemical Entity Production Laboratories, Neuroscience Drug Discovery Unit, Research, Takeda Pharmaceutical Company Limited
Takeshi KONO	Visiting Professor Boehringer Ingelheim Japan, Inc.
Hideaki KATAGIRI	Visiting Professor Eli Lilly Japan K.K.
Ken FUJINUMA	Visiting Researcher Olympus Corporation, R&D Strategy Management GLB
Ryo MATOBA	Visiting Professor President, DNA Chip Research Inc.
Keiichi AJITO	Visiting Professor Chief Director, Kitasato Research Center for Environmental Science, Visiting Professor, Omura Satoshi Memorial Institute, Kitasato University
Takashi EBIHARA	Visiting Professor COO, GeneFrontier Corporation
Shinichi KOIZUMI	Visiting Professor Representative Partner, Medicinal Creation Advisor, LLC
Shinji CHIBA	Software Engineer, Microsoft Japan Co., Ltd.
David BRENNER	Professor, Vice Chancellor for Health Sciences, School of Medicine, UC San Diego, USA
Stephen HEDRICK	Chancellor's Associates Chair VII, Professor, Div. of Biological Sciences, UC San Diego, USA
Steven F.ZIEGLER	Visiting Professor Director, Academic Affairs, Benaroya Research Institute, USA
Omid AKBARI	Visiting Professor Professor, Dept. of Molecular Microbiology & Immunology, University of Southern California, Keck School of Medicine, USA
Naoto HIRANO	Visiting Professor Professor, Dept. of Immunology, University of Toronto, Canada
Mitchell KRONENBERG	Visiting Professor Professor, President and Chief Scientific Officer, La Jolla Institute for Immunology, USA
Peter ERNST	Visiting Professor Professor, Dept. of Pathology, Head, Div. of Comparative Pathology and Medicine, UC San Diego, USA
Andreas DIEFFENBACH	Visiting Professor Professor and Director, Dept. of Rheumatology and Clinical Immunology, Charite Medical University Berlin, Germany
Alfred SINGER	Visiting Professor Chief, Experimental Immunology Branch, National Cancer Institute, National Institutes of Health, USA



CHIBA
UNIVERSITY

WISE Program Office, Academic Affairs Division
Inohana Campus Administration Chiba University

1-8-1, Inohana, Chuo-ku, Chiba 260-8675

TEL: +81-43-226-2817 FAX: +81-43-226-2857

E-mail: igaku-taku@chiba-u.jp <https://www.m.chiba-u.jp/dept/imec/>

