MEXT Doctoral Program for World-learning Innovative & Smart Education

Innovative Medicine CHIBA Doctoral WISE Program

iMeC
WISE

NEWS LETTER Vol.4

iMeC-WISE program

About the iMeC-WISE program

The iMeC-WISE program is characterized by innovative, comprehensive training focusing on close multidisciplinary mentoring by internationally renowned faculty from academia and industry. The program's six specialized fields provide 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 must study two of the six specialized fields to acquire highly advanced research abilities and a broader perspective in an international environment.

Advanced General Education

In this class, we regularly have lectures by prominent professors. This is a valuable opportunity to listen to leading experts in their fields, and it is also a great encouragement for us to do our own research.

Rotation Training of iMeC-WISE

In this class, each student visited laboratories in his or her field of interest and gained specialized knowledge in each laboratory. There is a wide variety of research being conducted even within the same university, and it is sometimes unexpectedly connected to one's own research.

Retreat

At the retreat, each group gave a business plan presentation in English, and each individual gave a presentation on his or her research.

Practical English

In Practical English, students learned about presentation techniques through conversation and discussion.

Kazuma Nakatani
In charge of Advanced General Education

One of the most fascinating aspects of being in charge of the Advanced General Education is the opportunity to invite and interact directly with professors whom I respect and admire. Although the invited professors are well-known and their achievements are readily available on the internet, the information and insights gained through face-to-face dialogue cannot be obtained online. It is a privilege of the position to be able to communicate directly with them and gain their perspective from a close standpoint. In particular, being able to hear about the difficulties professors face and their decision-making process in choosing a career has been an invaluable asset for me.

Kaori Tsuji
In charge of Retreat

This year the 3rd retreat was held with both online and onsite attendees same as a previous year. In the business plan presentations, each team introduced a wide range of topics that focused on not only issues in medical fields, but environmental issues based on their creative ideas thought outside the box. The presentations took the best advantage of each team's strength, which combined research of a specific area with new business possibilities. As a special lecture, Dr. Nishimura from Xcoo Inc. gave us a wonderful presentation about his career and business in the bioinformatics field. In the research presentations, it was encouraging listening to the presentations given by other students working hard in another field. This was a valuable opportunity to develop further in my research through active discussion with professors. Finally, I'd like to express my appreciation and thank to everyone involved in iMeC-WISE program and this retreat.

Fourth Year Students

A total of 17 students, 6 in the Master's Program and 11 in the Doctoral Program

Master's Program

Daisuke Muto
Chiba Cancer Crenter Research Institute, Laboratory of Evolutionary Oncology

Mechanism of autophagy activation by NCYM in cholangiocarcinoma.

Masumi Sano
Department of Chemical Pharmacology

The involvement of Ceramide Kinase in the activation of Microglia.

Atsuyuki Ito
Department of chemistry Graduate school of Science and Engineering

Cryo-EM based structural analysis of inhibitor complex of Bile Salt Export Pump(BSEP).

Tomone Ikai
Division of Molecular Immunology, Medical Mycology Resreaech Center

Mechanisms of induction and regulation of follicular helper T cells by intestinal microorganisms.

Haruki Sasa
Department of Innovative Medicine, Graduate School of Medical and Pharmaceutical Sciences

Elucidation of mast cell heterogeneity for the development of food allergy treatments.

Daichi Mori
Division of Molecular Immunology, Medical Mycology Resreaech Center

Mechanism of fucosylation of intestinal epithelium by *Candida albicans* and its involvement in inflammatory bowel disease.

Doctoral Program

Qiongyuan Zhang
Division of Molecular Immunology, Medical Mycology Resreaech Center

Characterize the genetic features of pathogenic and homeostatic Th17 cells to identify the mechanism of the development of IBD.

Kyogo Wagatsuma
Department of Artificial Intelligence Medicine

Analysis of Electronic Medical Records: Investigating the Interaction between COVID-19 and Diabetes Using Statistics and Artificial Intelligence Techniques.

Joceline Theda Kadarma
Department of Plastic, Reconstructive, and Aesthetic Surgery, Graduate School of Medical and Pharmaceutical Sciences

Developing a new classification method of keloid based on pathological characteristics to prevent keloid recurrence.

Yusuke Suzuki
Division of Molecular Immunology, Medical Mycology Research Center

Functional analysis of USP10 in RLR-mediated antiviral immune responses.

Shuhei Iwata
Department of Orthopedic Surgery

Proteogenomic analysis of bone and soft tissue tumors.

Tsuguko Tomita
Department of Respirology and Department of Immunology

Internal Diversity of Pulmonary Neuroendocrine Cells for a New Therapeutic Paradigm in Small Cell Lung Cancer.

Yu Ikeda
Department of Emergency Medicine and Critical Care Chiba University Hospital

Developing a prediction model of blood glucose level in critically ill patients using machine learning.

Zhongwei Zhang
Department of Innovative Medicine, Graduate School of Medicine Future Mucosal Vaccine Research and Development Synergy Institute, Chiba University

Elucidation of the mechanisms of mucosal protection via multi-organ axis.
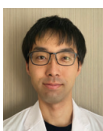
Takaki Kitamura
Department of Orthopaedic Surgery, Graduate School of Medicine Chiba University

Estimating the prognosis of neurogenic lower urinary tract dysfunction (NLUTD) of cervical spinal cord injury (SCI) using artificial intelligence (AI).

Kohei Kakinuma
Department of Immunology

Elucidation of the role of the glycoprotein serglycin in inflammatory lung diseases.

Lineth Mercado
Division of metabolic physiology, Graduate School of Medicine

Study the mechanism of beta-cell mass regulation in pancreatic beta-cell toward the search for new therapies for type two diabetes mellitus.

iMeC WISE

CHIBA UNIVERSITY

Masahiro Nemoto, Department of Immunology (Medical Science), graduated September 2023

The iMeC-WISE program is well programmed to learn a wide range of knowledge regardless of the specialization. Depending on the sub-major, I studied completely different research methods, and the classes also contained cutting-edge talks on history, humanities, engineering, etc. Also, there were highly flexible programs and assignments, which required more from the students, but the financial support in completing those gave a big support and a truly fulfilling time. I would like to thank everyone who created and maintained such a great program and supported us.

Keishi Etori, Department of Allergy and clinical immunology (Medical Science), graduated March 2024

I think the biggest advantage of this graduate program is that students have many opportunities to learn about research being conducted in other laboratories in Japan and abroad, and are exposed to a wide range of fields through this program. I think this program is suitable for students who are even slightly interested in expanding overseas in their future careers.
Finally, I would like to thank all the professors and graduate school staff for their guidance during my graduate studies.

Takahisa Hishiya, Department of Orthopedics (Medical Science), graduated March 2024

Through lectures and practical training covering various fields, I gained valuable knowledge beyond the field of medicine. One experience that left a lasting impression on me was the practical training session focused on developing a business plan for rehabilitation using Virtual Reality (VR), as well as visiting a company utilizing VR technology in the medical field. The guidance and support from my mentors, the iMeC-WISE program staff, and my colleagues were invaluable throughout my journey. I express my sincere gratitude to everyone of them. Moreover, the iMeC-WISE program provided me with numerous opportunities for meaningful encounters, which I consider to be a priceless asset.

Atsushi Sasaki, Department of Respirology (Medical Science), graduated March 2024
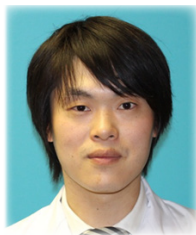
I have been working on research in the Department of Immunology while belonging to the Department of Respirology. It was a valuable experience for me to conduct research in other fields while collaborating with other students. It has been an immensely stimulating four years for me because the students of the iMeC-WISE Program are excellent. I want to take this opportunity to thank all the professors, academic staff, and program directors involved in completing the program.

Takamasa Ishino, Department of Gastroenterology (Medical Science), graduated March 2024

I entered the iMeC-WISE program as a first-year student after working as a gastroenterologist for 4 years. I could understand the significance of research in society by learning from multiple perspectives in addition to working on my own research project. Thanks to the iMeC-WISE program, I was able to study abroad in Okayama and engage in various research projects with many other institutions. Although it was not easy, I feel that I was able to spend meaningful days. I would like to express my sincere gratitude to all the professors, academic staffs, and family members involved in my completing the program.

Shodai Suzuki, Department of Biochemistry (Pharmaceutical Sciences), graduated March 2024

During my four years in iMeC-WISE program, I have experienced numerous valuable activities. Engaging in activities such as planning the special lectures and studying in a sub-major has allowed me to participate in discussions with professors and students from diverse backgrounds, beyond the fields of medicine and pharmacy. This not only contributed to building a network of researchers but also made me realize the importance and excitement of conducting research with a multidimensional perspective. While research posed various challenges, this program enabled me to develop the resilience from failures and find joy in challenging difficulties. I believe that these experiences will serve as significant assets in my future career as a researcher. I'd like to thank professors, students, and administrative staff who have supported me throughout this journey.