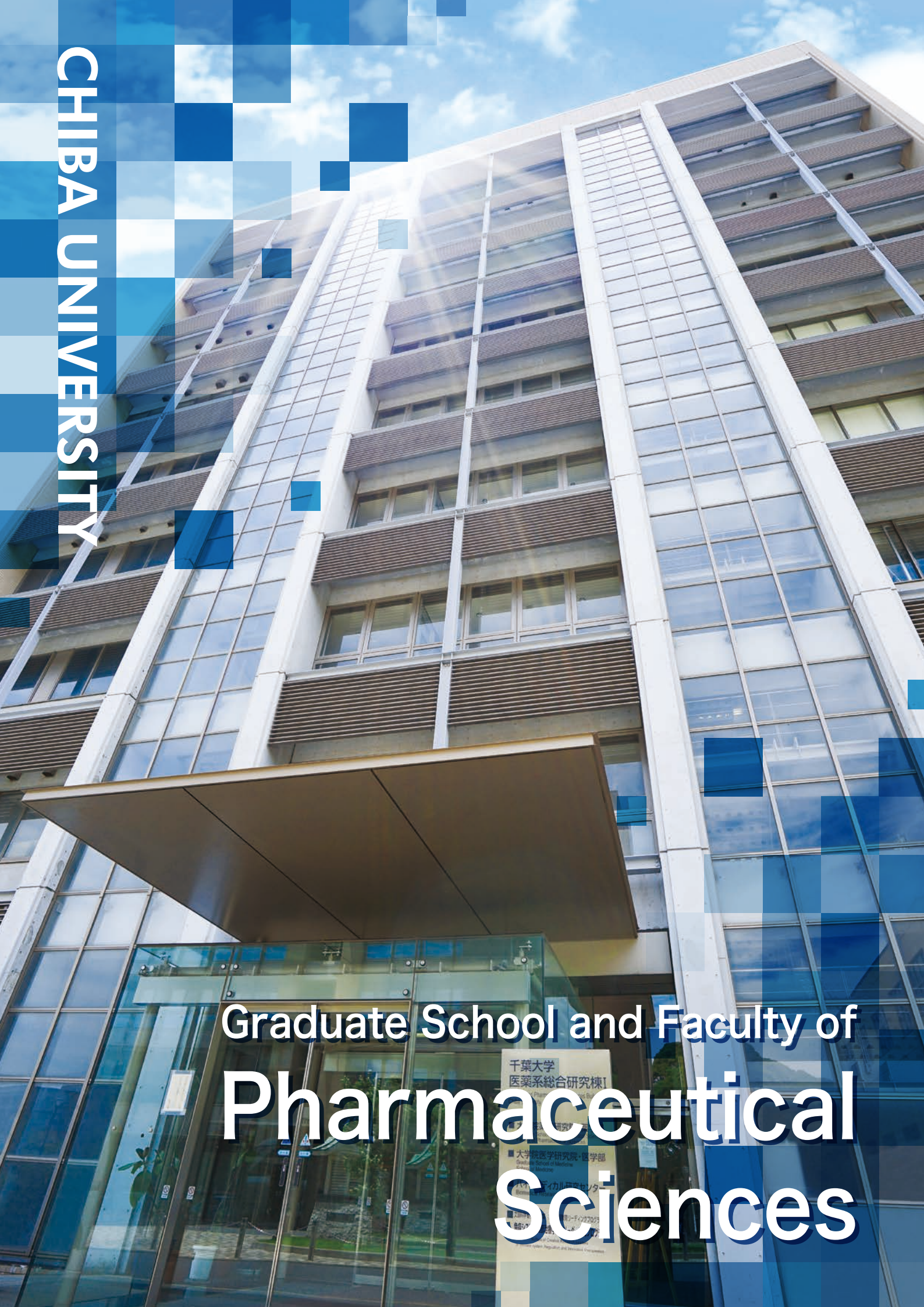
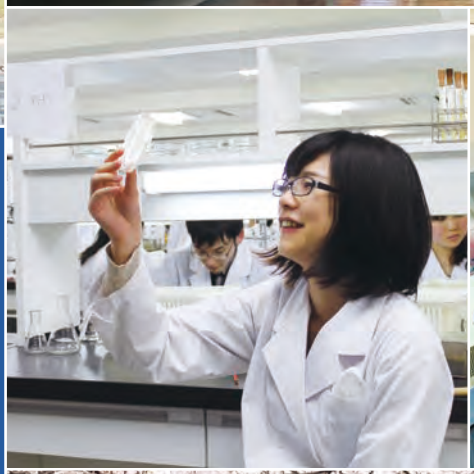
CHIBA UNIVERSITY



Graduate School and Faculty of

Pharmaceutical Sciences



CONTENTS

Message from the Dean

Dean

Kunikazu MORIBE, PhD

The third decade of the twenty-first century started under new coronavirus (COVID-19) pandemic. It deeply affected not only world economy but also our life style such as human exchange and education. We have to overcome the pandemic to acquire new normal. Pharmaceutical sciences are a division of the natural sciences that seek to study life and health through drugs. In recent years, advanced drug development is expected to overcome the high mortality rate by incurable diseases such as cancer, brain diseases, and infectious diseases. To meet the demands, advanced research and education of drug discovery to develop new drugs is one of the major objectives of our faculty and graduate school. To ed - ucate and research a high quality of pharmacist to contribute in the medical field is another objective of our faculty.

The Faculty of Pharmaceutical Sciences at Chiba University offers two courses, a six-year program at the Department of Pharmacy and a four-year program at the Department of Pharmaceutical Sciences, with a capacity of 50 and 40 undergraduate students, respectively. Department of Pharmacy of 6-year program takes courses with a focus on practical pharmacy, shared test, a working practice in hospitals and pharmacies. It aims to train advanced pharmacists with a research mind that may serve. Qualification as candidates for pharmacist national examination will be obtained during this course. On the other hand, in the Department of Pharmaceutical Sciences of the 4-year, mastery of fundamental and applied skills for working as researchers and educators of the drug discovery and related fields, is expected to cultivate the research ability. Learning curriculum on specialized subjects related to drug discovery and life sciences is organized. Most of the graduates of this department go on to the master 's course of the graduate school.

The Faculty and the Graduate School of Pharmaceutical Sciences at Chiba University is one of the oldest schools of pharmacy education in our country-its history dates back to 1890. Over the long time of 130 years since the founding, our faculty has contributed greatly to the development of pharmacy in our country . We have been internationally promoting the education and research of a very high level over the history. A number of alumni of our faculty and graduate school have been active as leaders in the pharmacy-related field. I would like encourage young students to join our school and study together with us with a fascination of pharmaceutical sciences.

1 Outline and History

Outline of the Faculty and Graduate School of Pharmaceutical Sciences

The Faculty of Pharmaceutical Sciences at Chiba University has emerged as a monumental pharmaceutical institute since its inception in 1890 as part of the First Senior High School and is one of the oldest departments of pharmacy in the medical school in Japan. Since then, we have numerous graduated pharmacists and pharmaceutical scientists who have made outstanding contributions in healthcare industries, medical institutions, national regulatory authorities, universities and research institutions. We pride ourselves on these accomplishments.

Nowadays, both highly specialized knowledge and advanced skills are required for pharmacists. In 2006, the six-year program has been formally started for the education of pharmacy student in Japan considering this social demand. We offer a six-year program at the Department of Pharmacy mainly for the education of pharmacy student and also for education of future specialists in clinical development and in regulatory sciences. On the other hand, we offer a four-year program at the Department of Pharmaceutical Sciences primarily for the education of future scientists in drug discovery area. The entrance examination is divided for three type: the partition for each department and the same for these two departments. Most of the lectures for the first two years are same, and thus provide enough opportunity to students to choose their desired course in the future. In both departments, we train students to develop global leaderships and responsibilities, and solving problems in rational ways, in addition to learn various knowledge and skills in pharmaceutical sciences.

After graduation, students may further opt for the master or doctor degree course at the Graduate School of Medical and Pharmaceutical Sciences, also offered by our department under the supervision of accomplished scientists and researchers. Graduates of the Faculty of Pharmaceutical Sciences can take a two-year master's course in General Pharmaceutical Sciences. Furthermore, graduates of the six-year program may opt for the doctoral course. The programs at the Graduate School of Medical and Pharmaceutical Sciences are taught by staff belonging to the Graduate School of Pharmaceutical Sciences and the Graduate School of Medicine. In addition, researchers from the National Institute for Environmental Studies, and the Kazusa DNA Research Institute also participate in teaching at the graduate school as cooperating joint course teaching staff.

We educate students who want to make significant global contributions to human health and welfare under ideal environments.

History of the Faculty and Graduate School of Pharmaceutical Sciences

The Faculty of Pharmaceutical Sciences at Chiba University is located at Inohana campus, an ideal environment for research and education in the healthcare field. We promote and provide close interactions with the School of Medicine, the School of Nursing, and the Hospital of Chiba University at Inohana campus.

Established in 1980, the Department of Pharmacy at the Medical School of the First Senior High School is the origin of the present Faculty of Pharmaceutical Sciences, Chiba University. It was inherited by the Pharmacy Department at the Chiba Medical College in 1901. The present faculty was reorganized as a faculty of Chiba University in 1949. The Graduate School of Pharmaceutical Sciences was established for the master's degree in 1964, and for the doctor 's degree in 1979, respectively. The faculty included 17 laboratories in 1987, three of them were joined from the former Bioactivity Research Institute including laboratory of the hospital pharmacy. In 1994, four laboratories were joined further from the Faculty of Liberal Arts and from the Medical Plant Garden by a major reorganization of the university. Through reorganizations in 1996 and 2001, the current organization with a total of 25 laboratories (including three cooperative ones) was realized, which is now one of the largest faculties of pharmaceutical sciences in Japan. The reorganization in 2001 included establishment of the Graduate School of Medical and Pharmaceutical Sciences, which promotes collaborations between the Faculty of Pharmaceutical Sciences and the School of Medicine especially in the education. The existing Graduate School of Pharmaceutical Sciences focuses on the research now. We will actively incorporate research areas which are needed to respond to social needs of 21st century. We will pursue new research and enthusiastic education under innovative visions extending more than 130 years history of the faculty.

2 Guide to Entrance

Admission Policy

As a graduate school that combines medical and pharmaceutical sciences, the objectives of the Graduate School of Medical and Pharmaceutical Sciences are to cultivate highly advanced research abilities required to engage in independent research activities as researchers in specialist fields relating to medical and pharmaceutical sciences, and culti - vate rich academic learning that forms the basis for such research. In addition the objective of the graduate school is to nurture specialist medical staff from a holistic perspective and develop advanced researchers in the life sciences who possess a wealth of knowledge about medical and pharmaceu - tical sciences.

The Graduate School thus seeks applicants who fall into the following categories:

1) People with a wide perspective and a flexible approach underpinned by a rich fund of basic knowledge.
2) People with the enthusiasm to serve as respon - sible leaders of the next generation.
3) People aiming to become researchers in the fields of medicine and pharmaceutical sciences with foundations in the life sciences and possessing creativity characterized by a fully international outlook.
4) People possessing advanced specialized skills and research abilities with their sights set on becoming outstanding practitioners of advanced medicine with an integrated perspective that enables them to engage in team-based medical treatment.
5) People aiming to become researchers and educa - tors in the fields of medicine and pharmaceutical sciences who are able to contribute to the devel - opment of pharmaceutical products and to their clinical application.

Educational Courses

The Master Course, the Doctor Course (4-Year Program) and the Doctor Course (3-Year Program) of the Graduate School of Medical and Pharmaceutical Sciences consist of the following majors and fields.

Major	Field (Course)	Degree Obtained
Master Course		
General Pharmaceutical Sciences		Master of Pharmaceutical Sciences
Doctor Course (4-Year Program)		
Frontier Medicine & Pharmacy	Frontier Life Sciences Immune Regulation and Treatment Frontier Clinical Medicine and Pharmacy Frontier Cancer Therapeutics	Doctor of Philosophy (Pharmacy)
Doctor Course (3-Year Program)		
Frontier Pharmaceutical Sciences		Doctor of Philosophy (Pharmaceutical Sciences)

International Partnership

Chiba University has partnerships with universities and educational institutions around the world. Additionally, our graduate school has own Memorandum of Understanding (MOU) for research col - laborations and international exchange programs with foreign colleges. This network provides students with opportunities to engage in international exchanges, including exchange programs and overseas training programs. We also provide the double doctoral degree* program with colleges of Pharmacy, Silpakorn, Mahidol, and Chiang Mai Universities, Thailand, and this will be widely established with other colleges.

*Double Doctoral Degree, A double doctoral degree program, sometimes called a dual degree, involves a student's working for two different university degrees in parallel at both Chiba University and a different institution in different countries, completing them in less time than it would take to earn them separately.

"Major partners"

- China Pharmaceutical University (China)
- Shenyang Pharmaceutical University (China)
- Hong Kong Baptist University (China)
- Seoul National University (Korea)
- Chulalongkorn University (Thailand)
- Chiang Mai University (Thailand)
- Mahidol University (Thailand)
- Silpakorn University (Thailand)
- Chulabhorn Graduate Institute (Thailand)
- University of Santo Tomas (Philippines)
- University of Malaysia (Malaysia)
- University of Alberta (Canada)

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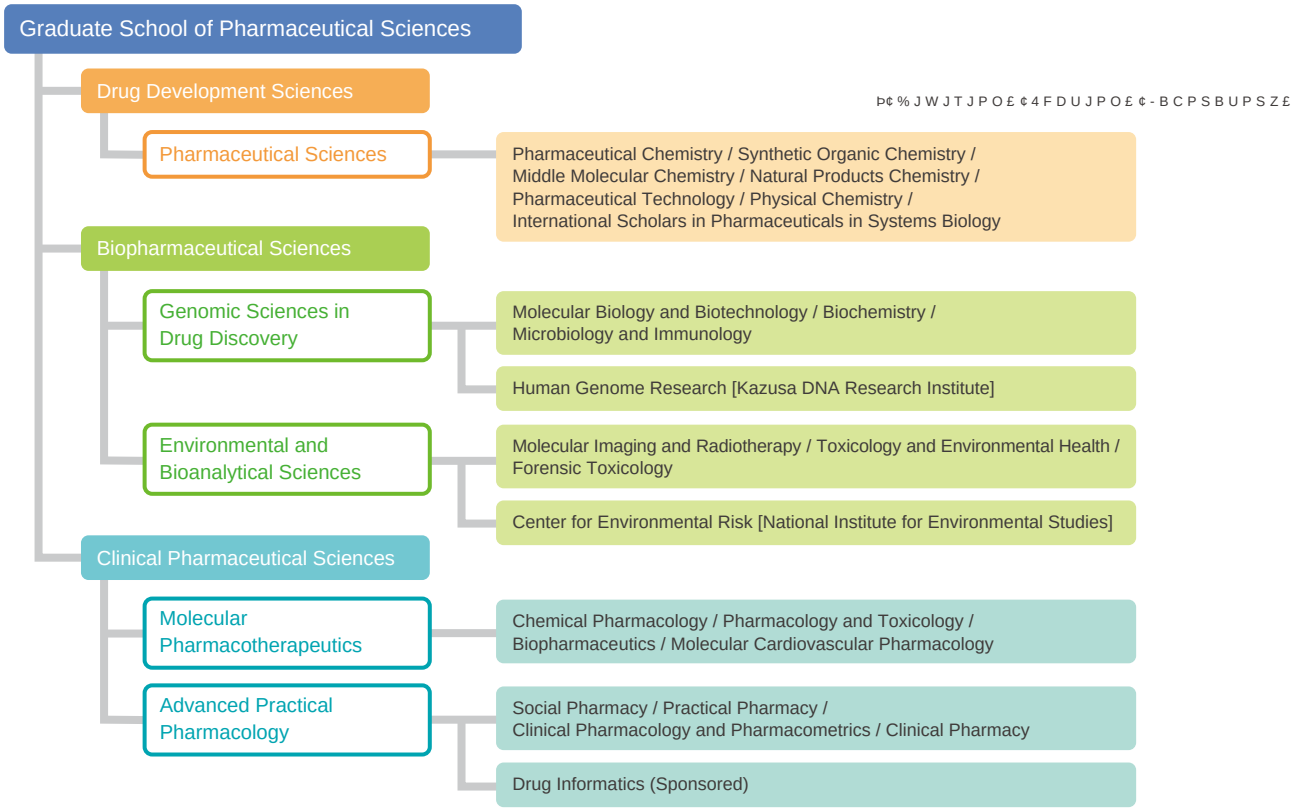
1h*OUFSOBUJPOBM 4UVEFOU 'FTUJWBM

3 Research Organization



Laboratory of Pharmaceutical Chemistry

HP https://www.p.chiba-u.jp/lab/yakka/

Professor	Lecturer	Assist. Prof.
Tetsuhiro NEMOTO, PhD	Shingo HARADA, PhD	Masaya NAKAJIMA, PhD

Pharmaceutical Chemistry based on Catalytic Organic Synthesis

Organic chemistry is one of the most important subjects in pharmaceutical sciences because almost all medicines are organic compounds. Such pharmaceutical molecules are generally produced by the combination of various organic reactions. The research interests of the laboratory of pharmaceutical chemistry lie in the field of organic synthesis. We are investigating the development of highly efficient and selective catalytic synthetic methods applicable to the synthesis of functionalized bioactive molecules and natural products.

Laboratory of Synthetic Organic Chemistry

HP https://www.p.chiba-u.jp/lab/gousei/

Assoc. Prof.
Shigeru ARAI, PhD

Assist. Prof.
Shinji HARADA, PhD

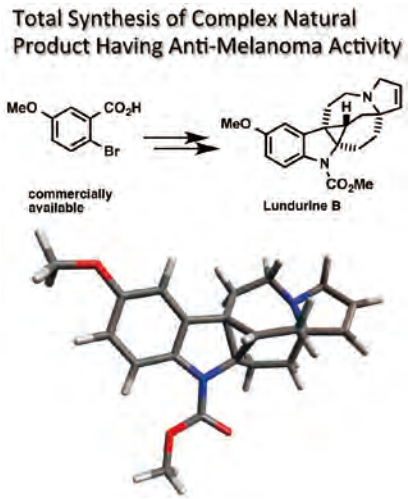
Build Drug Molecules by the Power of Synthetic Organic Chemistry

Natural products have a significant role in the development of synthetic organic chemistry. Recent advances in related disciplines have led even more opportunities for natural product-driven research, which provides an opportunity to discover new drug candidates for drug development. Our present research projects are associated with three fields as follows.

I. Total synthesis of biologically active natural products directing toward a new seed for drug discovery

II. Development of the new reactions using transition metal complexes

III. Development of asymmetric catalyst for the enantioselective carbon-carbon bond-formation



Laboratory of Middle Molecular Chemistry

HP https://www.p.chiba-u.jp/lab/skb/

Professor
Hayato ISHIKAWA, PhD

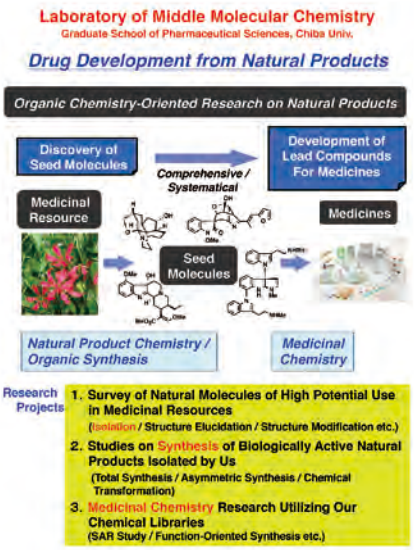
Assoc. Prof.
Mariko KITAJIMA, PhD

Drug Development from Natural Products

Our basic research objective is chemical, synthetic, and medicinal study on biologically active natural organic molecules produced by botanical medicinal resources. Following are three main ways of approach that we employ.

1) Survey of natural molecules of high potential use in medicinal resources (isolation, structure elucidation by means of spectroscopy and chemical reaction of natural molecules, etc.).

2) Studies on synthesis of biologically active natural molecules isolated by our hands (asymmetric total synthesis and chemical conversion of biologically active natural products). 3) Medicinal chemistry research by using our libraries of natural and synthetic compounds.



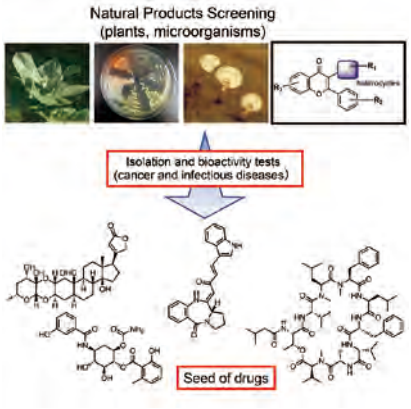
Laboratory of Natural Products Chemistry

HP https://www.p.chiba-u.jp/lab/kassei/

Professor	Assoc. Prof.	Assist. Prof.
Masami ISHIBASHI, PhD	Akiko TAKAYA, PhD	Yasumasa HARA, PhD

Comprehensive Natural Products Chemistry and Chemical Biology

Natural products continue to play an important role in the discovery of low-molecular weight lead compounds for new-drug developments. Study on search for natural products with new chemical structures and valuable biological effects is considered as a starting point of drug discovery research. Research interests of our laboratory are all concerned with chemistry of natural products, mainly based on the search for new naturally occurring molecules from a variety of terrestrial resources such as medicinal plants and microorganism as well as from collection of synthetic compounds having natural products-based structures.



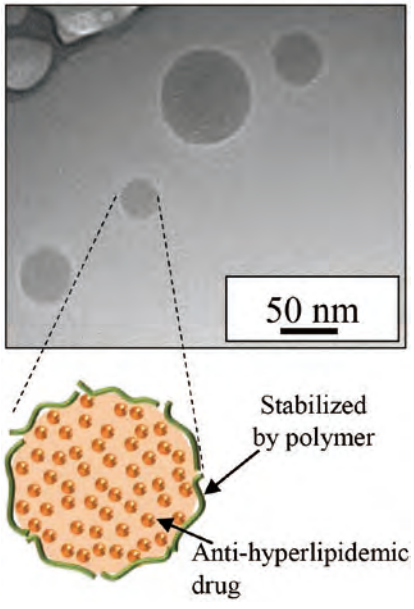
Laboratory of Pharmaceutical Technology

HP https://www.p.chiba-u.jp/lab/seizai/

Professor	Assoc. Prof.	Assist. Prof.
Kunikazu MORIBE, PhD	Kenjirou HIGASHI, PhD	Keisuke UEDA, PhD

Dissolving a Poorly Water-Soluble Drug

Don't you associate a term "medicine" with a tablet or a capsule? When medicines are taken orally, the drug in the medicines is absorbed into a body after dissolution at the stomach and the intestine. However, most of the recent developed drugs are poorly soluble in water, and the absorption into the body is low. In our laboratory, techniques to dissolve poorly water-soluble drugs have been developed. In late years, techniques to reduce the particle size of drugs into nano-level attract attention (Figure shows nanoparticles of anti-hyperlipidemic drug). One nm is a 1/1,000,000 size of one mm! The drug rapidly dissolves from the large surface area of nanoparticles and is effectively absorbed into the body.



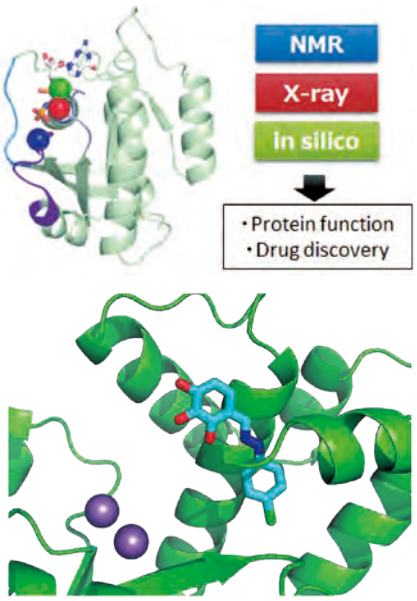
Laboratory of Physical Chemistry

HP https://www.p.chiba-u.jp/lab/bukka/

Professor	Assoc. Prof.	Assist. Prof.
Noritaka NISHIDA, PhD	Tyuji HOSHINO, PhD	Qingci ZHAO, PhD

Drug Development Based on Protein structure analysis

Main theme of our laboratory is to understand the function of proteins based on the structural biology techniques. The X-ray crystallography and cryoEM provide the precise three dimensional structure of proteins at atomic level, and the nuclear magnetic resonance (NMR) spectroscopy extracts the information regarding the protein dynamics and protein-protein interactions in aqueous solution and in living cells. Combining those information, we try to elucidate the function of the proteins that are involved in cancer and infectious diseases. Furthermore, we search for the lead compounds using in-silico computer calculation, and then, synthesize the optimized compounds for clinical application.

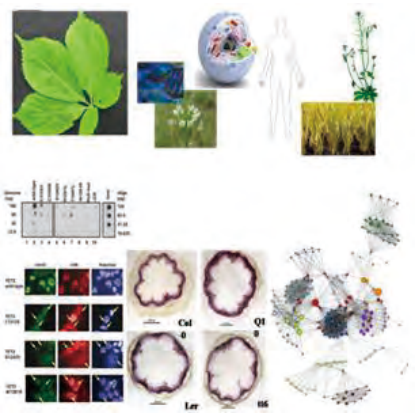


Laboratory of International Scholars in Pharmaceuticals in Systems Biology

Assist. Prof.	Assist. Prof.	Assist. Prof.
MEGHA, PhD	Kota TAKAHASHI, PhD	Shinya SHIOMI, PhD

Interdisciplinary Pharmaceutical Research with International Scholars

The laboratory consists of a group of international scientists with research interests in a broad area of pharmaceuticals research and drug discovery. Researchers engage in multidisciplinary projects on a wide range of model and non-model biological systems to understand its functionality and regulation at systems level. Research is conducted in collaboration with other laboratories and interdisciplinary skills are developed in various areas of pharmaceutical field to assess novel drugs, enzymes and mechanisms of biological interactions.



Laboratory of Molecular Biology and Biotechnology

HP https://www.p.chiba-u.jp/lab/idenshi/

Professor	Lecturer
Mami YAMAZAKI, PhD	Naoko YOSHIMOTO, PhD

Phytochemical Genomics of Medicinal Plants

Plant natural products are the most important medicinal resources. The understanding the molecular mechanisms of plant specialized metabolisms producing natural products could be applied for human health science in future. For this aim, genes involved in specialized metabolism in medicinal plants have been isolated and functionally characterized in this laboratory. Genomic function was also studied by using cutting-edge technologies such as transcriptomics, metabolomics and bioinformatics. This knowledge can be applied to innovative biotechnology for new medicinal resources.

Screening of differentially expressed gens by transomics
↓
Identifying biosynthetic genes
↓
Biotechnological application

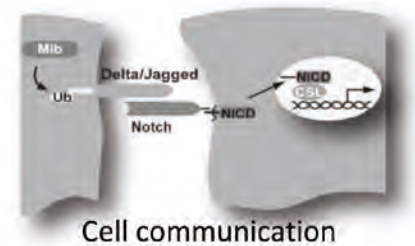
Laboratory of Biochemistry

HP https://www.p.chiba-u.jp/lab/seika/

Professor	Lecturer	Assist. Prof.
Motoyuki ITOH, PhD	Ayako TONOKI, PhD	Takamasa MIZOGUCHI, PhD

Dissecting the Mechanisms of Cell Communication for Drug Discovery

The human body has many different types of cells. The cells communicate each other by sending a signal via proteins and chemicals. Impairment of cell communication causes many diseases. We have been studying these cell communication relating with developmental defects, cancer, aging, and memory defects. We are using zebrafish, Drosophila, and human culture cells as model systems to dissect diseases related with defects in cell communication and to apply the mechanisms of cell communication to drug-discovery.



Cell communication

Dissect mechanisms of diseases
(developmental defects, cancer, aging, and memory defects)
↓
Drug discovery

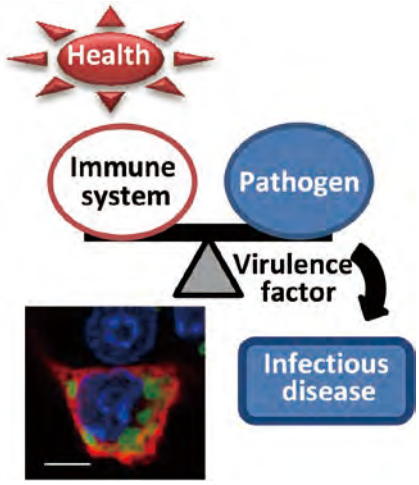
Laboratory of Microbiology and Molecular Genetics

HP https://www.p.chiba-u.jp/lab/bisei/

Professor	Assist. Prof.
Hiroto KAWASHIMA, PhD	Hirohito ABO, PhD

Drug Discovery Based on Molecular Studies of the Host-Microbe Interactions

Immune system of humans (hosts) rapidly responds to signals from outside and eliminates invaders such as pathogens, which leads to the maintenance of homeostasis. Pathogenic bacteria (pathogens), on the other hand, combat against immune system of the hosts using various virulence factors to cause infectious diseases. The balance between hosts and pathogens is critical for our health; i.e., if the former dominates health should be maintained whereas if the latter dominates infection is established. In our laboratory, we are studying molecular mechanisms of the host immune system by focusing on the role of glycans composed of unique combinations of monosaccharides. We are also studying molecular mechanisms of bacterial infection by focusing on particular virulence factors produced by pathogenic bacteria. We believe that these studies should lead to the development of new vaccines and antibiotics against infectious diseases.



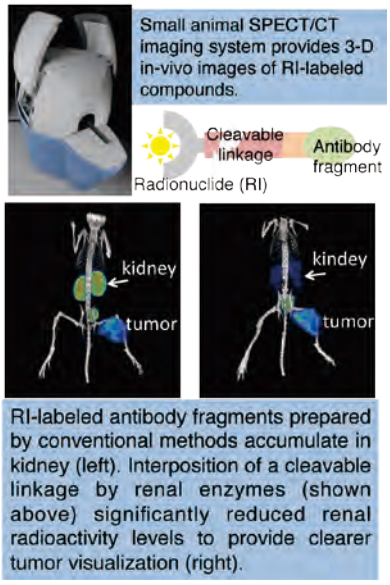
Laboratory of Molecular Imaging and Radiotherapy

HP https://www.p.chiba-u.jp/lab/housha/

Professor	Assist. Prof.	Assist. Prof.
Tomoya UEHARA, PhD	Hiroyuki SUZUKI, PhD	Hiroyuki SUZUKI, PhD

Developing Novel Drug Delivery Systems of Radiation to Target Molecules

Radiopharmaceuticals are unique medical formulations containing radioisotopes used in major clinical areas for diagnosis and radiotherapy. When oncophilic molecules such as antibody fragments or peptides are used as the vehicles to deliver radioactivity to tumors for targeted imaging or radiotherapy, target selective radioactivity is enhanced by reducing the radioactivity accumulated in non-targeted tissues such as the liver or kidney. Thus design of new “bioconjugates” that hold cleavable linkers between the radio metal chelate and the oncophilic molecules is much emphasized in our laboratory.



RI-labeled antibody fragments prepared by conventional methods accumulate in kidney (left). Interposition of a cleavable linkage by renal enzymes (shown above) significantly reduced renal radioactivity levels to provide clearer tumor visualization (right).

Laboratory of Toxicology and Environmental Health

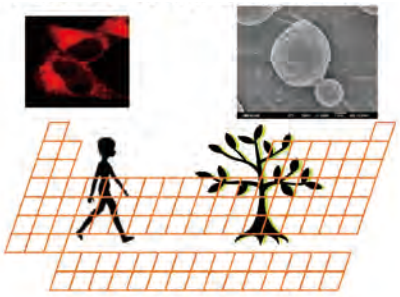
HP https://www.p.chiba-u.jp/lab/yobou/

Professor	Assoc. Prof.	Lecturer	Assist. Prof.
Yasumitsu OGRA, PhD	Noriyuki SUZUKI, PhD	Yasunori FUKUMOTO, PhD	Yu-ki TANAKA, PhD

We are Tackling “ Chemistry-Based Health Sciences. ”

Pharmaceutical students must learn several kinds of chemistry such as organic, inorganic, analytical, physiological and biological chemistry. Based on the Chemistries, the pharmaceutical students furthermore learn nutrition, food chemistry, hygiene, public health, epidemiology, environmental sciences and toxicology. In this faculty, we responsibly lecture these applied subjects. Our research is focusing on the toxicology of metal and metalloid recognized as an environmental contaminant. The biochemistry of essential metal and metalloid is also our interests. Namely, we intend to clarify the interaction between the meal/metalloid and biomolecule(s) at molecular and/or chemical reaction level. The mission of our research and education is to design the strategy for maintenance of healthy life, society and environment.

Metal Toxicology



Laboratory of Forensic Toxicology

Professor[†]	Lecturer[†]
Yasumitsu OGRA, PhD	Sayaka NAGASAWA, PhD

Forensic analytical toxicology saves the rights of the dead

In recent years, the number of incidents and accidents involving drugs has been increasing. Namely, it is important to analyze the drug associated with the autopsy. The Laboratory of Forensic Toxicology conducts several researches on drugs, such as 1) examination of novel sample pretreatment methods and analytical techniques, 2) elucidation of post-mortem pharmacokinetics of drug in autopsied samples, and 3) development of novel analytical methods for illegal drugs and drugs being relevant with traffic accidents. In addition to the research and the education in Faculty and Graduate School of Pharmaceutical Sciences, we also conduct the analytical service of autopsied samples obtained at autopsy by the Department of Forensic Medicine, School of Medicine.

[†] Concurrent

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Laboratory of Chemical Pharmacology

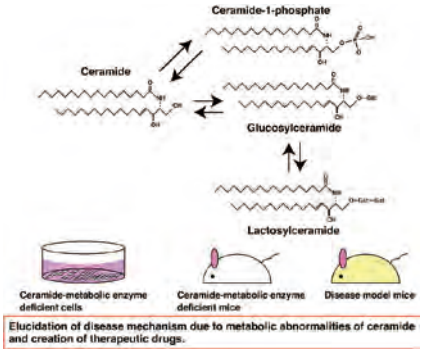
HP https://www.p.chiba-u.jp/lab/hinka/

Professor
Hiroyuki NAKAMURA, PhD

Assist. Prof.
Takuya HONDA, PhD

Discovery of Cellular Targets for a New Drug

Pharmacology can be defined as the study of substances/reagents that interact with living systems in whole body, organs, and cells. These substances may be chemical compounds administrated to achieve therapeutic effects on process within the patients. We focus on the lipid signaling molecules such as sphingolipids and prostanoids, and study the pharmacological and/or cellular effects of these lipids. Major projects are a) development of chemicals to treat lipids-accumulating diseases such as Niemann-Pick disease and sphingo-lipidosis, b) changes of receptor-mediated signaling by lipids, c) physiological and patho-physiological roles of sphingoilipids and their intra- and inter-cellular traffic.



Laboratory of Pharmacology and Toxicology

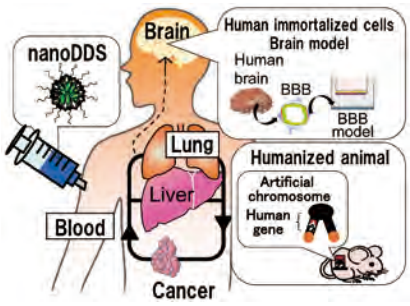
HP https://www.p.chiba-u.jp/lab/yakubutu/

Professor
Hidetaka AKITA, PhD

Assist. Prof.
Hiroki TANAKA, PhD

Innovative Technologies for Understanding, Predicting and Controlling Drug Disposition

The research in our laboratory is focused on developing novel, pioneering methodology that will permit us to understand and predict pharmacokinetics and pharmacodynamics to maximize the pharmacological action, and to minimize the side effects of various drugs. To accomplish this, we are developing drug delivery systems (DDS) that will permit the pharmacokinetics and intracellular trafficking of drugs to be controlled. Our research includes the use of humanized animals to predict the profiles of drug metabolism and toxicity in humans, and the use of immortalized cell-based innovative human tissue models for drug discovery and development. As a DDS platform, we are developing intracellular environment-responsive lipid like materials. By the fusion of these technologies, we hope to establish new innovative principles for understanding human medication.



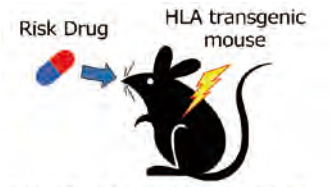
Laboratory of Biopharmaceutics

HP https://www.p.chiba-u.jp/lab/yakuzai/

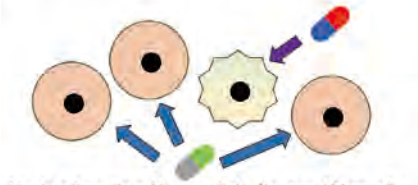
Professor	Lecturer	Assist. Prof.
Kousei ITO, PhD	Shigeki AOKI, PhD	Akinori TAKEMURA, PhD

Safe Drug Development and Efficient Use by Elucidating Underlying Mechanism of Adverse Drug Reactions

Among the side effects caused by drugs, those whose mechanism is unknown and whose incidence is rare are called idiosyncratic drug toxicity. Some of them are serious and fatal, but at present it is extremely difficult to predict the risks during drug development. Among those toxicities, we are particularly focusing on drug hypersensitivity related to HLA genetic polymorphism, and drug-induced liver injury involving multiple factors in a complicated manner. The policy of this research is to elucidate the onset mechanisms using our original animal models, and to construct feasible assay systems at early stage of drug development. We are also conducting cancer-related research aimed at investigating the factors that determine the susceptibility and resistance of anticancer drugs. Ultimately, we would like to contribute to developing highly safe drugs and proposing appropriate drug usage.



Reproduction of idiosyncratic drug toxicity in HLA transgenic mouse


Understanding the metabolic condition of cancer cells for selecting appropriate drugs

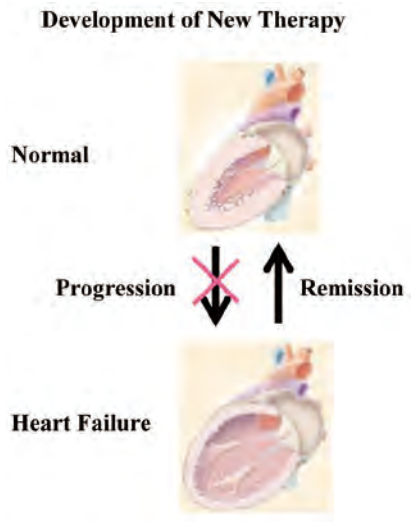
Laboratory of Molecular Cardiovascular Pharmacology

HP https://www.p.chiba-u.jp/lab/mcp/

Professor	Assoc. Prof.
Hiroyuki TAKANO, MD, PhD	Noritaka YAMAGUCHI, PhD

Molecular Mechanisms of Cardiovascular Disease and Development of New Therapy

The main focus of this laboratory is to explore the molecular mechanisms of cardiovascular diseases and develop new therapies for those diseases. Heart failure is a complex clinical syndrome that results from structural and functional disorders of the heart associated with a variety of cardiovascular diseases. The number of patients with heart failure has been increasing and heart failure is becoming a major public health problem. Over the past 20 years, there has been considerable progress in the treatment of heart failure with appearance of angiotensin converting enzyme inhibitors, angiotensin II receptor blockers, ß blockers and aldosterone antagonists. However, the number of deaths due to heart failure has been increasing steadily and further strategies for heart failure are needed.



Laboratory of Social Pharmacy

HP https://www.p.chiba-u.jp/lab/socialpharm/

Professor	Assoc. Prof.	Lecturer
Nobunori SATOH, PhD	Eriko KOBAYASHI, PhD	Tomoya SAKURADA, PhD

Fostering a Medical Professional

The principal of our research and education is to foster a medical professional with a sense of ethics and mission who can play actively in a variety of field. Our research and education is conducted in cooperation with various clinical institutions in order to foster a clinical pharmacist as a researcher with knowledge in clinical pharmacy as well as an ability to think and judge in clinical research.

We also provide children with early exposure educations to foster their understandings on medical practice including pharmaceuticals and clinical pharmacists with professional educations.

Laboratory of Practical Pharmacy

HP https://www.p.chiba-u.jp/lab/jitsuyaku/

Professor	Assist. Prof.
Yuko SEKINE, PhD	Masayuki ISHIKAWA

Pharmaceutical Choice with Based on Evidence

For pharmacists to play a proper role within the healthcare team, it is essential that they are involved in pharmacological treatment as scientists, meaning that they should be involved in evidence-based pharmacological treatment. In clinical practice, however, there are drugs that have been used year after year despite a lack of clear evidence for their use.

We, at the department of Practical Pharmacy, are involved in the clinical research that verifies the use of pharmacological drugs. We are involved in several research themes that will lead to proper evidence-based use of pharmacological drugs by extracting actual problems encountered by pharmacists in the performance of their tasks. Also, by studying how to resolve problems in clinical practice, the department aims to nurture clinical pharmacists who can play a key role in future pharmacological treatment.

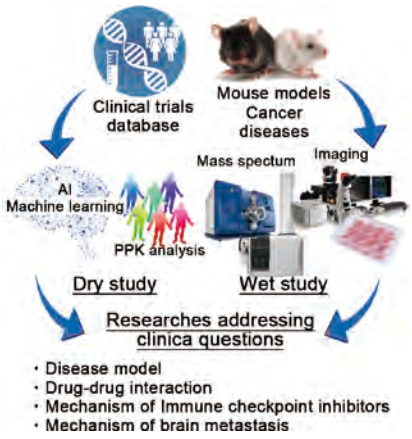
Laboratory of Clinical Pharmacology and Pharmacometrics

HP https://www.p.chiba-u.jp/lab/cpp/

Professor	Assoc. Prof.	Lecturer
Akihiro HISAKA, PhD	Hiroto HATAKEYAMA, PhD	Hiromi SATO, PhD

Precise understanding of diseases

The Laboratory of Clinical Pharmacology and Pharmacometrics (CPP) is engaged in both dry and wet research to analytically understand diseases and their consequences. Using computer modeling and AI, we are analyzing pharmacokinetics and the long-term progression of various diseases including heart failure, thrombosis, Parkinson's disease, COPD, etc. from information from thousands of individual patients. In this era of diversified modalities, we are conducting basic research on immune checkpoint inhibitors and brain tumors through cell and animal experiments. We also contributed to the development of guidelines for new drug development in collaboration with PMDA and companies in the pharmacokinetics fields including drug interactions and modeling. CPP offers seminars online and supports seminars for post-graduate pharmacists. For more information, please refer to the website.



Department of Clinical Pharmacy

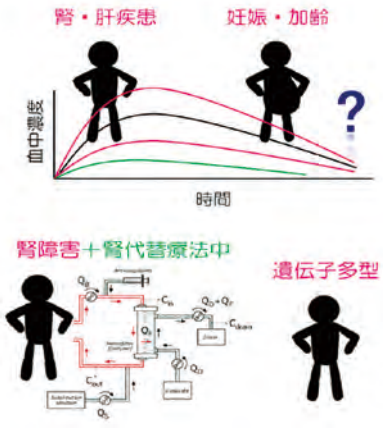
HP https://www.p.chiba-u.jp/lab/byouyaku/

Professor[†]	Assoc. Prof.[†]	Assist. Prof.
Itsuko ISHII, PhD	Takaaki SUZUKI, PhD	Masashi UCHIDA, PhD

Creating the information you need

Do you think that pharmacists need research abilities? We are collaborating with the Division of Pharmacy at Chiba University Hospital to conduct a wide range of research to solve clinical problems. For example, we conduct basic and clinical analysis on drug administration design in patients who is critically ill or with rare diseases. Furthermore, we challenge basic research on the accumulation of cholesterol in macrophages and the proliferation of vascular smooth muscle cells, which are involved in the onset and progression of arteriosclerosis. We would like to develop professionals who can not only use drug information but also create the medical information they need.

[†] Concurrent



Department of Drug Informatics

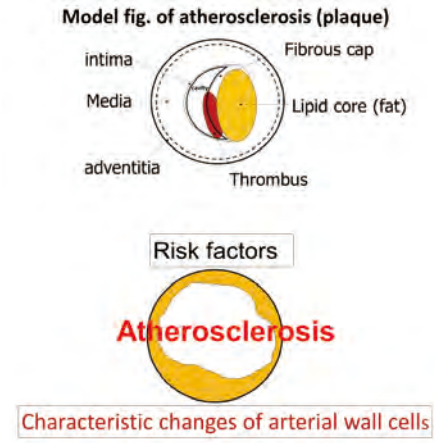
¢ Sponsored by Matsumotokiyoshi HD Co. £ HP https://www.p.chiba-u.jp/lab/jyoho/

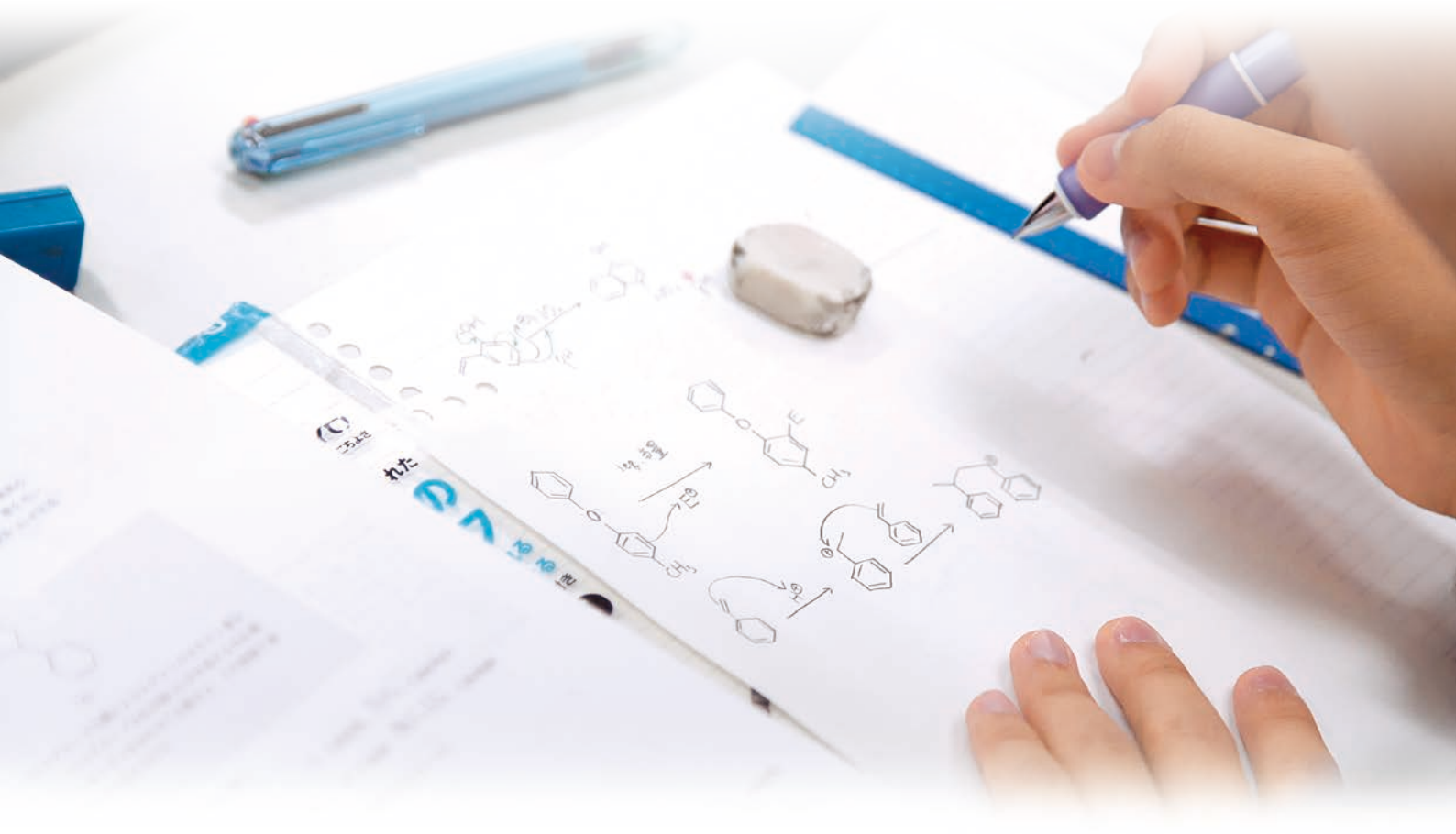
Professor	Assoc. Prof.	Assist. Prof.	Assist. Prof.
Tetsuto KANZAKI, MD, PhD	Satoko SUZUKI, PhD	Daisuke ISHIDA	Shinichi HIROSE

An artery is not only a tube, but is one kind of organs

Atherosclerotic risk factors cannot explain all of the initiation and development of atherosclerosis. We sometimes experience advanced atherosclerosis in humans with no risk factors. This means that arterial wall cells acted by risk factors have an important role in the formation of atherosclerotic lesions.

Our research purposes are to clarify the mechanism of the development and regression of atherosclerosis and to reduce atherosclerotic diseases by clinical trials. Our first project is to clarify the characteristic changes of arterial wall cells in diabetes. Second is clinical research to find out atherosclerotic diseases and the metabolic changes of lipid and glucose in psychiatric patients. Thirdly, we try to contribute the proper use of medicine by examining practically the polypharmacy of elderly patients from the viewpoint of drug informatics. We plan to perform these projects with academic-industrial collaboration, a unique character in this research group.





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Chiba University, 2021

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