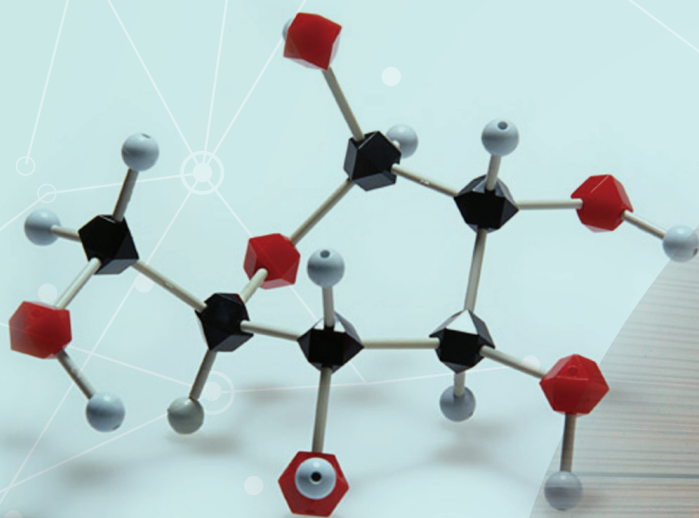




Nagoya City University

Graduate School of
Pharmaceutical Sciences



名古屋市立大学
Nagoya City University

大学院 薬学研究科 研究
Graduate School of Pharmaceutical Sciences

Graduate School of Pharmaceutical Sciences Overview

The Graduate School of Pharmaceutical Sciences' goal is to develop human resources who have acquired advanced knowledge and skills and are engaged in original advanced research, and self-developed human resources with advanced research ability to independently discover and solve problems in clinical practice, as well as develop leaders for education and research. We also aim to develop leading pharmacists for regional medical care, and human resources who contribute to society in the fields of domestic and overseas drug development and health and hygiene administration.

History

The Graduate School of Pharmaceutical Sciences (Master's Program) was established at Nagoya City University in 1961, and the doctoral program was established in 1966. In 1975, we reorganized into a doctoral program (2-year master's program / 3-year doctoral program), and in 2001, we underwent a large-scale reorganization along with the graduate school department. We also set up a special selection system from 2004 for working adults to open the door to incumbents. With the enforcement of the new system for the Faculty of Pharmaceutical Sciences in 2006, the Department of Pharmacy (6-year system) and the Department of Pharmaceutical and Life Sciences (4-year system) were established. In 2010, the master's program (2-year system) was reorganized for graduates of the 4-year department, and it was made into a single major (Medicinal and Life Sciences major). From 2012, the doctoral program (3-year system) was reorganized and a program (4-year system, Experimental and Clinical Pharmacy major) for graduates of the 6-year department was established. Furthermore, in 2013, a joint graduate school was opened with the Nagoya Institute of Technology and a joint nanomedicine science major (doctoral course) was established. Over the past 50 years, we have produced a large number of researchers and engineers



School building in 1960

at companies such as pharmaceutical companies, universities, national and public research institutes, and pharmacists at regional base hospitals centered on the Tokai area.

Features

At our university, a master's program (2-year system) aimed at acquiring the basic knowledge and skills necessary for pharmaceutical research after completing the 4-year pharmaceutical and life sciences program has been set up and, in addition, a doctoral program (3-year system) has been for the purpose of acquiring advanced knowledge and technology and advanced research on life science that leads to advances in drug discovery and pharmacy. On the other hand, after studying in the 6-year pharmacy department, we have established a doctoral course (4-year system) for the purpose of acquiring advanced clinical research abilities backed by the acquisition of advanced knowledge and technology regarding medical pharmacy and clinical development of pharmaceuticals.

We are also actively conducting collaborative research and collaborative education with other faculties and graduate schools within our university, including Nagoya City University's Graduate School of Medical Sciences and the Graduate School of Nursing. Furthermore, to further enhance and diversify education and research, and based on cooperation agreements with the Aichi Cancer Center Research Institute, National Center for Geriatrics and Gerontology, National Institute of Health Sciences, Exploratory Research Center on Life and Living Systems, and the Pharmaceuticals and Medical Devices Agency (PMDA), we have newly established the fields of tumor control, aging pathology control, pharmaceutical quality assurance, biodynamic control, and pharmaceutical and medical device examination sciences, respectively.

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- ◎ The Graduate School of Pharmaceutical Sciences, Nagoya City University, has a master's program (2-year system), a doctoral program (3-year system), and a doctoral program (4-year system).
- ◎ As a general rule, students who have graduated from the 4-year department will go on to the master's and 3-year doctoral programs, and students who have graduated from the 6-year department will go on to the 4-year doctoral program.
- ◎ In the master's program, students will acquire the basic knowledge and skills necessary for pharmaceutical research. In the 3-year doctoral program, students will acquire cutting-edge knowledge and techniques in pharmaceutical sciences and conduct advanced research on life sciences that will lead to advances in drug discovery and pharmaceutical sciences.
- ◎ In the 4-year doctoral program, students will acquire cutting-edge knowledge and techniques and carry out advanced research on clinical pharmacy and clinical development of pharmaceuticals.

Our graduate school has three majors and conducts research and education to contribute to the progress of the pharmaceutical field.

Major in Medicinal and Life Sciences (2-year master's program 3-year doctoral program)

Students will acquire the latest knowledge and techniques for drug research and development that can handle the treatment of diversified diseases, as well as the latest knowledge and techniques for biomolecular function analysis in response to the rapid progress of life sciences. Related academic fields will be organically connected to master the latest knowledge and techniques in life and drug discovery sciences, and students undergo education and research on drug development research and promotion and development of life sciences.

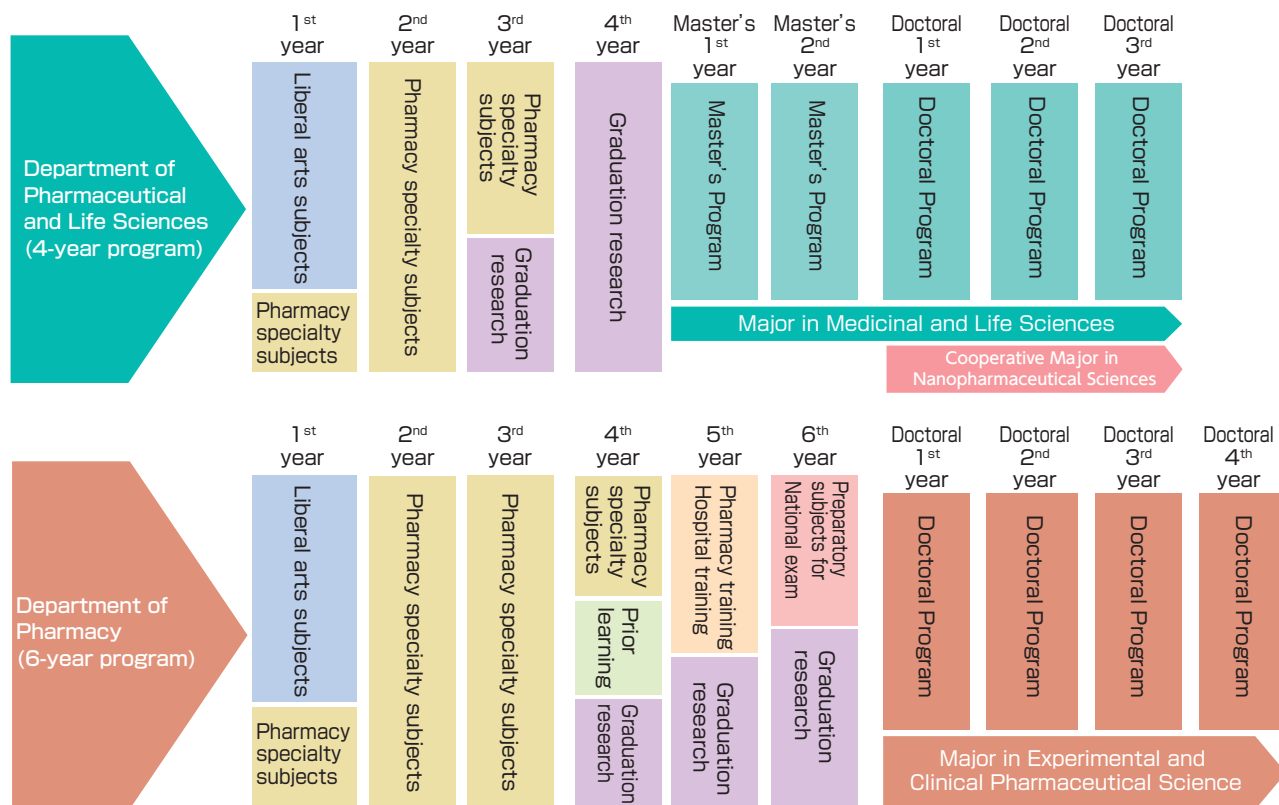
Major in Experimental and Clinical Pharmaceutical Science (4 year doctoral program)

Sufficiently responding to the sophistication and complexity of diagnosis and treatment in the medical field, including pharmaceuticals, we carry out basic research and clinical research that form the basis of advanced expertise and skills in the proper use of drugs, prevention of phytotoxicity, accurate consideration of patients from a pharmaceutical point of view, investigational drug management. We also provide education and research on the basics of experimental and clinical pharmacy, the practice of medical pharmacy in clinical practice, and the promotion and development of pharmacist activities.

Cooperative Major in Nanopharmaceutical Sciences (3-year doctoral program)

Our graduate school was jointly established by the Graduate School of Pharmaceutical Sciences, Nagoya City University and Nagoya Institute of Technology. We develop human resources and research that are familiar with both medicine and engineering, combining advanced drug discovery and drug delivery/dynamic sciences, which are the strengths of pharmaceutical sciences, and nanotechnology, nanobiology, and process engineering, which are the strengths of engineering.

Curriculum and graduate school in two departments



Outline of Graduate School

Department	Research interests
Organic and Medicinal Chemistry	<ol style="list-style-type: none"> 1.Molecular design, synthesis, and evaluation of biologically functional and useful compounds 2.Development of the methods for exploration and analysis for bioactive substances based on chemical approach 3.Bioorganic chemistry for reactive oxygen species and nitric oxide 4.Development of the compounds for controlling cellular properties based on photochemistry and organic chemistry
Bioorganic-Inorganic Chemistry	<ol style="list-style-type: none"> 1.Chemistry of enzyme and enzyme models 2.Development of a functional molecule useful for clarification of biotic functions 3.Rational design, synthesis and activity evaluation of drug lead compounds 4.Development of functional molecules based on a new concept
Synthetic Organic Chemistry	<ol style="list-style-type: none"> 1.Studies on the synthesis of biologically active natural products 2.Studies toward drug discovery based on biologically active natural products 3.Development of efficient methods for construction of molecular architectures 4.Development of highly selective synthetic reactions
Synthetic Supramolecular Chemistry	<ol style="list-style-type: none"> 1.Development of multicomponent domino reaction by using a transition metal catalyst, and its application to drug synthesis 2.Logical study of transition metal-catalyzed reaction by ab initio molecular orbital study calculation
Cellular Biophysics	<ol style="list-style-type: none"> 1.Analysis of allergic responses 2.Artificial cell 3.Mechanism of neural development 4.Mechanism of exocytosis
Physical Chemistry of Colloid and Polymer	<ol style="list-style-type: none"> 1.Study of the ordering of soft matter (colloid, gel, polymer, micelle) 2.Formation of gel immobilized colloid crystal, and its application to materials 3.Computer simulation of the ordering process of soft matter 4.Application of colloid system to drug field
Structural Biology and Biomolecular Engineering	<ol style="list-style-type: none"> 1.Elucidation of the functional mechanisms of biomolecules by integrative structural biology 2.Structural glycobiology for elucidating pathological mechanisms and drug development 3.Exploration of dynamical ordering of biomolecular systems for creation of integrated functions
Molecular Biology	<ol style="list-style-type: none"> 1.Organelle biology 2.Pathology for neurological disorders 3.Epigenetics for metabolism 4.Intracellular signals for cancer immunity
Drug Delivery and Nano Pharmaceutics	<ol style="list-style-type: none"> 1.Development of a targeting drug delivery system (DDS) for brain cancer and other various cancer 2.Design of a DDS for nano-micro lung-administered particles 3.Formulation design of poorly soluble and absorbable drugs 4.Development of a DDS for nano particle carriers
Pharmacognosy [Kampo Medicinal Therapeutics]	<ol style="list-style-type: none"> 1.Medical pharmaceutical study of crude drugs, Japanese traditional kampo medicines and natural materials 2.Usability assessment of traditional medicines aiming at the application to various diseases, and their action mechanism 3.Searching of biofunctional materials made from natural materials including plants or microbes and their application to drug discovery 4.Genetic control for secondary metabolic function in plants and microbes, and production of useful compounds 5.Analysis of the diverseness of medicinal resource plants based on genome information, and its application to crude drug assessment
Molecular and Cellular Health Sciences	<ol style="list-style-type: none"> 1.Cytokine signaling and immune responses 2.Studies on the pathogenesis of chronic inflammatory diseases 3.Evaluation of novel drug delivery system using microorganisms 4.Immune responses against microorganisms, including Mycobacterium and Staphylococcus spp.

Department	Research interests
Biological Chemistry	<ol style="list-style-type: none"> 1. Molecular mechanism of translation and mRNA decay 2. Posttranscriptional regulation of gene expression 3. Antiviral defense mediated by exogenous mRNA decay 4. Pathological mechanism of cancer, neurodegenerative diseases resulting from RNA aberrations 5. Development of mRNA-based drug for gene therapy
Molecular and Cellular Pharmacology [Biomolecular Pharmacology]	<ol style="list-style-type: none"> 1. Physiological functions of ion channels 2. Pathophysiological roles of ion channels in cardiovascular diseases 3. Electrophysiology and pharmacology in smooth muscle cells, cardiomyocytes, neurons, chondrocytes, and immunocytes 4. Drug development in the ion channel research field
Biomedical Science [Molecular Neuroscience]	<ol style="list-style-type: none"> 1. Molecular mechanism of neuronal network formation 2. Molecular mechanism of higher brain function (e.g., memory, reading, feeling) 3. Development of novel methods of diagnosis, prevention, and treatment of neurodevelopmental disorders 4. RNA metabolism and its relation with neurodevelopmental disorders
Biopharmaceutics [Biopharmaceutics and Clinical Pharmacokinetics]	<ol style="list-style-type: none"> 1. Functions and regulation mechanisms of transporters involved in drug disposition 2. Roles of transporters in drug disposition 3. Physiological and pathophysiological roles of transporters 4. Methodologies of evaluation and prediction of drug disposition
Pathobiology [Pathobiology and Pharmacotherapy in Pharmaceutical Practice]	<ol style="list-style-type: none"> 1. Neuroprotective effect of erythropoietin 2. Occurrence of thrombotic diseases and new anti-thrombogenic therapies 3. Regulation of the neural stem cell differentiation 4. Influenza-associated encephalopathy and glial dysfunction 5. Novel therapies for refractory gastric cancers
Cell Signaling [Stress Response Cellular Biology]	<ol style="list-style-type: none"> 1. Clarification of cancer biological properties and development of novel molecular targeted drugs 2. Clarification of the mechanisms of TGF β signal and cancer malignant progressions 3. Clarification of cellular stress, including endoplasmic reticulum stress, and the pathogenesis of lifestyle-related diseases 4. Understanding metabolic reprogramming and its application to disease prevention 5. Effects of stress on drug and toxicant metabolism
Neuropharmacology [Pharmacotherapeutics - Palliative Care for Cancer Patients]	<ol style="list-style-type: none"> 1. Analysis of the molecular mechanism for sleep-wake regulation using model animals 2. Pharmacotherapeutics and clinical studies in sleep medicine 3. Neuropharmacological study of chronic pain and palliative care 4. Pharmacological approach to alleviate the higher brain dysfunction in metabolic disease 5. Understanding of the mechanism of sensory abnormality caused by nerve injury
Regulatory Science [Medicinal Safety Science]	<ol style="list-style-type: none"> 1. Exploring study of biomarkers related to the idiosyncratic drug adverse reaction 2. Study of pathogenic mechanism for the idiosyncratic drug adverse reaction 3. Pharmacoepidemiologic study by analyzing the big medical data 4. Study of ethnic factors in the drug response among East Asia populations 5. Analysis of clinical study design
Hospital Pharmacy [Laboratory of Hospital Pharmacy]	<ol style="list-style-type: none"> 1. Basic and clinical study of male sex dysfunction 2. Clarification of the mechanism of urinary disturbance development, and examination of its medication 3. Study of vascular endothelial dysfunction in chronic kidney disease 4. Study of acyl carnitine in the patients of organic acid metabolism disorder, etc. 5. Clinical study of the appropriate use of anticancer drugs
Clinical Pharmacy [Community Pharmacy Management Individual Differences and Personalized Medicine]	<ol style="list-style-type: none"> 1. Differentiation of human iPS cells into liver cells and intestinal epithelia cells, and its application to the study of a new drug development 2. Clarification of the mechanism of congenital dysbolism by using disease iPS cells, and its application to diagnosis and treatment 3. Clarification of the mechanism of cerebrovascular disorder due to diabetes, and examination of medication 4. Scientific analysis of pharmacists' affairs, and training development for lifelong learning 5. Research development of self-medication affairs utilizing drug stores

Departments in Affiliate Graduate School

Department	Research interests
Oncology (Aichi Cancer Center Research Institute)	1. Clarifying the roles of tumor microenvironment in cancer formation and progression 2. Elucidating the molecular mechanisms of metastasis 3. Unraveling the pathophysiology of cancer cachexia 4. Study on the dysfunction of cellular signaling pathways in cancer
Experimental Gerontology (National Center for Geriatrics and Gerontology Research Institute)	1. To elucidate mechanisms underlying the pathogenesis of Alzheimer's disease 2. To identify therapeutic targets to halt the progression of Alzheimer's disease 3. To investigate roles of glial cells in neurodegenerative diseases
Quality Assurance Science for Pharmaceuticals (National Institute of Health Sciences)	1. Study on bioequivalence evaluation and quality management of generic drug products 2. Study on formulation and process design of protein pharmaceuticals 3. Studies on the quality control and quality assurance of regenerative/cellular therapy products 4. Development of testing methods for the assessment of quality and safety of regenerative/cellular therapy products derived from human ES/iPS cells
Integrative Science for Dynamic Living Systems (National Institutes of Natural Sciences)	1. Systems biology on intracellular signal transduction 2. Study on visualization and quantification of intracellular signal transduction with genetically encoded fluorescent proteins 3. Development of molecular dynamics simulation method and its application to proteins 4. Theoretical study on the formation mechanism of protein aggregates causing neurodegenerative diseases
Regulatory Science for Evaluation of Pharmaceuticals and Medical Devices (Pharmaceuticals and Medical Devices Agency)	1. Study of quality, efficacy and safety evaluation of pharmaceuticals 2. Study of quality, efficacy and safety evaluation of medical devices 3. Study of quality, efficacy and safety evaluation of regenerative medicine products
Molecular Profiling for Cancer Precision Therapy (Japanese Foundation for Cancer Research)	1. Study on molecular mechanisms of drug resistance in cancer and therapeutic strategies to overcome the resistance 2. Understanding the diversity of cancer and development of new therapeutic strategies 3. Study on development of personalized cancer immunotherapy based on individuals' cancer genome information 4. Molecular mechanisms of cancer metastasis and development of anti-cancer metastasis drug

Affiliated research facilities

Information Processing Center Tanabe-dori Branch (Library)

A place to obtain a variety of information on past, present, and future

The General Information Center consists of two departments: The Information Systems Section (Takiko Campus) and the Academic Information Section (libraries on each campus). Information Processing Center Tanabe-dori Branch Building library holds specialized academic books (a wide range of materials such as pharmacy, chemistry, biology, biochemistry, and molecular biology) and academic journals for those who study and do research at the Faculty of Pharmaceutical Sciences/ Graduate School of Pharmaceutical Sciences, and provides a place to study. With the complete rebuilding of the Faculty of Pharmaceutical Sciences campus, it moved to a new school building and was reborn, and everyone has been using the new library since January 2013.

In recent years, the number of electronic journals that can be viewed on computers has increased. Here as well, the types of electronic journals that can be viewed on computers on campus without visiting the library are increasing. In addition to the latest information, we focus on "accumulation and preservation of materials," which is one of the important functions of university libraries. The library has moved to a new building, but all the old information can be referred to as well. Please explore all the Tanabe-dori Branch Building library has to offer.

Interlibrary loan service: Search the collections of university libraries nationwide or overseas for your desired documents, and borrow materials or order copies.

"My Library": Library services are available on the Internet. Request books, apply for interlibrary loans, or extend the loan deadline through the portal screen of the General Information Center from your home computer.

16 computers and study spaces: The library has study spaces such as reading room seats and group laboratories, which are fully utilized particularly during the exam periods. There are 16 computers for student use, and pre-lab students can use scanners and printers here. The computers are useful for information retrieval necessary for report creation and lectures.



Medicinal Botanical Garden

A valuable place for learning and an oasis on campus

In the medicinal botanical garden, representative medicinal plants (about 300 herbaceous plants and 70 arboreous plants) used as raw materials for crude drugs listed in the Japanese Pharmacopoeia, spices, flavors, dyes, and functional foods are cultivated and exhibited. These plants are used in the supplemental lectures on pharmacognosy and Japanese traditional Kampo medicinal therapeutics, and are very important facilities for obtaining working knowledge about medicinal plants and herbal medicines. We are also working on the collection and preservation of valuable medicinal plant resources from the standpoint of gene resource protection and development.

The botanical garden occupies an area of 3,460 m² on campus and is divided into several sections according to the purpose of exhibition. There is a specimen garden where various plant specimens are exhibited, a natural vegetation zone where plants are planted in a natural state around the promenade, an aquatic/wet plant zone where plants that grow on watersides or wetlands grow, and there is a greenhouse. The garden also serves as a lush oasis on this campus, which is located in a large city lined with houses and buildings, and is often visited by wild birds and raccoon dogs.

As a general rule, the garden is not open to the public, but each spring and autumn we hold public lectures for two days to provide an opportunity to visit the botanical garden, and many Nagoya citizens come to visit each time. Recently, a tour of the botanical garden has been introduced as part of classes at a nearby municipal elementary school, and the garden also functions as a point of contact between Nagoya City University and local residents.



Spring public lecture

Laboratory Animal Facility

Facility for proper animal experiments

The Laboratory Animal Facility is one of the best among universities in Japan. The facility is divided into an SPF (Specific Pathogen Free) area and a conventional area, each of which is used according to the purpose of the research.



Air shower before entering the SPF area

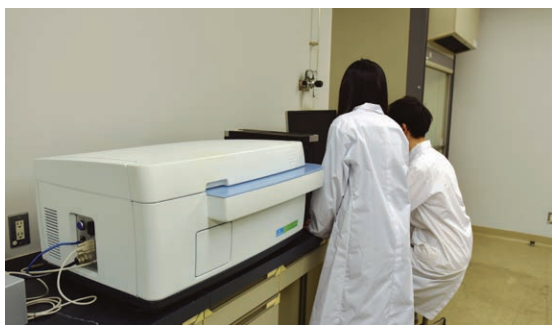


Animal care and management in the SPF area

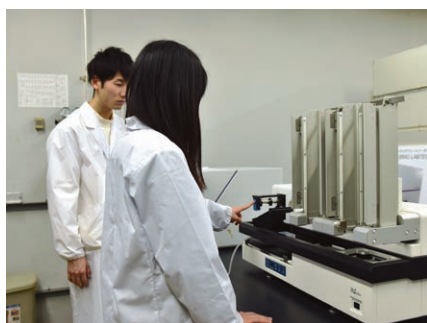
As a joint usage/research center of the Ministry of Education, Culture, Sports, Science and Technology, many researchers gather with the aim of drug discovery (development of new drugs) originating from the university.

The Graduate School of Pharmaceutical Sciences, Nagoya City University, is the birthplace of the anti-cancer drug oxaliplatin, which was developed by Professor Emeritus Yoshinori Kidani, who it could be said is the pioneer of academia drug discovery, and has contributed to the development of many drugs. Based on this tradition, the Institute of Drug Discovery Science was established in 2011 as a research institute for drug discovery from universities by concentrating drug discovery-related technologies of the Graduate School of Pharmaceutical Sciences. Since then, we have promoted the formation of a drug discovery base while making the best use of the resources and advantages of our university. In 2015, the Institute was reorganized into seven departments: Seeds Search, Drug Discovery Support Synthesis and In silico Drug Discovery, Drug Effectiveness Screening, Next Generation Drug Discovery and Personalized Medicine, Pharmacokinetics and Drug Delivery, Medicinal Safety, and Clinical Trials. We have enhanced the organization, human resources, and facilities, and relaunched as a research institute that covers end-to-end drug discovery focusing on “cancer” and “neurological diseases,” which have great social needs. As a result, in 2016, this institute was approved as a “Drug Discovery

Science and Technology Development Research Center” by the Ministry of Education, Culture, Sports, Science and Technology as a “Joint Usage/Research Center.” In the past few years, we have focused on developing new drugs through compound screening and achieved good results. Unique screening systems have been developed and put into practical use, such as a screening system targeting ion channels and transporters, screening system using human iPS cell-derived intestinal epithelial cells, screening system for enzymes activated by endoplasmic reticulum stress, screening system for evaluating mRNA stability, and an extracellular ATP hydrolytic enzyme screening system. Furthermore, in addition to the public compound library, we introduced a drug-like library in collaboration with pharmaceutical companies, and introduced a library of extracts derived from natural plants in Myanmar and the Solomon Islands in collaboration with Kochi Prefectural Makino Botanical Garden, and we have discovered hit compounds. With this kind of drug discovery screening as one core activity, the Institute of Drug Discovery Science is actively conducting joint research not only with domestic universities and public research institutes, but also with overseas and corporate research institutes.



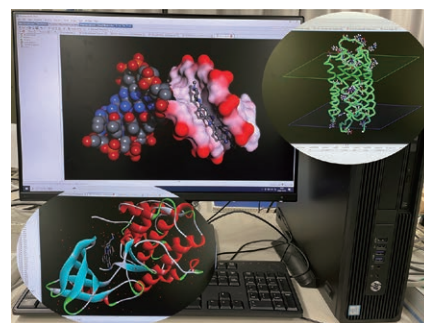
Operetta - Operetta High Content Imaging System
Integrated system that delivers automated image acquisition, analysis, and data management for living tissues and cultured cells.



Micro Shot 706
High-speed automatic dispensing system for high throughput screening of drugs and target molecules.



NMR (JNM-ECZ500R)
Structural analyzer based on nuclear magnetic resonance to investigate the molecular structure, intermolecular interactions, and molecular motion of various kinds of molecules.



Discovery Studio
Modeling and simulation system to identify target molecules and optimize lead compounds for the drug development.

A drug born at Nagoya City University: Oxaliplatin

Oxaliplatin is one of the platinum-based anti-cancer drugs, like cisplatin, and was developed at Nagoya City University. It was found by Professor Kidani through research on the anti-cancer effects of various platinum complexes. It is used in Europe, the U.S., and Japan as a highly effective anti-cancer drug, especially for colon cancer.

Advanced Pharmaceutical Science Center, Research Equipment Sharing Center

Take on the challenge of cutting-edge research with complete facilities and the latest equipment.

The Advanced Pharmaceutical Science Center is equipped with advanced analysis equipment that can be shared by each laboratory of the Graduate School of Pharmaceutical Sciences, creating an environment in which cutting-edge research can be promoted efficiently at all times. Some devices are also open to off-campus researchers. The shared facilities are equipped with advanced research facilities where research using genetic recombination, radiation, and laboratory animals can be conducted.

These facilities are used not only to strongly promote life science research at the Graduate School of Pharmaceutical Sciences and Faculty of Pharmaceutical Sciences, but also to develop human resources who can contribute to the development of health science through research.

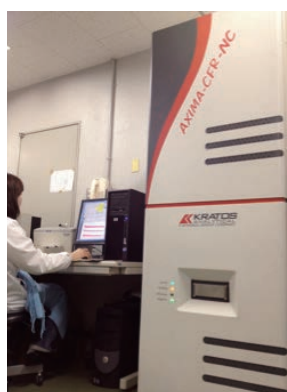


Confocal laser scanning microscope system

This is a confocal scanning fluorescence microscope that uses a laser beam and has excellent resolution in the optical axis (z-axis) direction, making it possible to construct a three-dimensional structure from a tomographic image of a thick sample.

Equipment installed at the Advanced Pharmaceutical Science Center and Research Equipment Sharing Center (Excerpt)

- **DNA sequencer**
(A device to determine DNA sequences)
- **Real-time PCR system**
(A device to quantify RNA expression levels)
- **Mass spectrometer**
(The system to analyze the structure of compounds and proteins by accurately acquiring their mass.)
- **Flow cytometer/cell sorter**
(A device that analyzes and separates only specific types of cells)
- **Confocal Laser Fluorescence Microscope System**
(The system for taking fluorescent tomographic images of cells and tissues)



MALDI-TOF mass analyzer



DNA sequencer

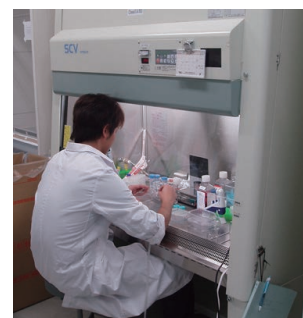
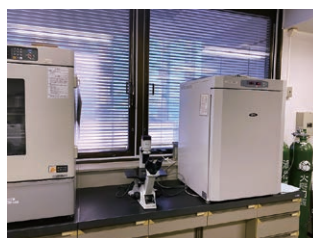


HPLC-MS/MS

Gene Experimentation Facility

An experimentation facility where genetic recombination experiments can be conducted safely.

This facility is one of the best among universities in Japan and can be used for various purposes such as species and experiments. In this facility (BSL2, BSL3 room), appropriate management can be undertaken according to the type of biological sample to be handled and the safety of the gene to be recombined, from microorganisms such as viruses and bacteria to eukaryotic samples such as mouse and human. The genetic experimentation facility is used to research genes related to the causes of the onset of diseases such as cancer, cardiovascular/cerebrovascular disease, infectious diseases, dementia, diabetes, obesity, and allergies, and the expression and control of drug efficacy.



Radiation Control Facility

An experimental facility that can safely and reliably conduct and manage experiments using radioactive substances.

This facility is a dedicated facility for safe radioisotope (RI) experiments. RIs are widely used in various fields, from basic science to medicine, and useful in basic research in pharmacy and drug development.

The facility is equipped with a laboratory that supports radionuclides, a P2-level room, and equipment that performs

quantitative measurement of RI radioactivity and image analysis and has a research support system that can respond to various needs.

At this facility, all RIs are properly managed according to strict laws and regulations, and users are obliged to undergo a medical examination and attend education and training every year.

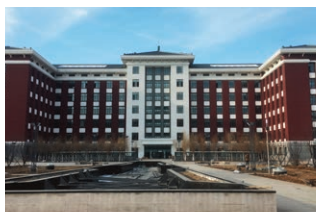
International exchange

Research and training at schools with international exchange agreements

Nagoya City University has concluded academic exchange agreements between universities or individual faculties, and faculty members come and go to exchange research from the University of Southern California School of Pharmacy (USA), University of Michigan College of Pharmacy (USA), Shenyang Pharmaceutical University (China), China Pharmaceutical University (China), Tianjin University of Traditional Chinese Medicine (China), Heilongjiang University of Chinese Medicine (China), Taipei Medical University (Taiwan), University of Hong Kong School of Medicine Department of Pharmacy (Hong Kong), Hong Kong Baptist University School of Traditional Medicine (Hong Kong), Hacettepe University (Turkey), University of Santo Tomas (Philippines), and Management and Science University (Malaysia). Graduate students have an opportunity to participate in a short-term research training with these universities.



University of Southern California
School of Pharmacy



Shenyang Pharmaceutical University



University of Hong Kong



Hacettepe University

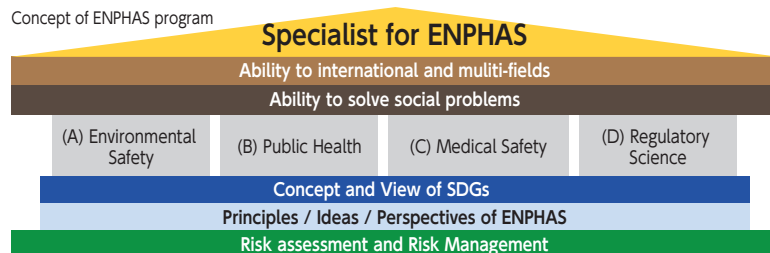
International conference presentation support system

At our university, we are enhancing our "International Conference Presentation Support System" for graduate students. Travel and accommodation expenses will be subsidized for students presenting at international conferences abroad. Present your research results in front of researchers all over the world!

Graduate Course of ENvironmental and PHArmo-medical Safety Sciences (ENPHAS)

As a cross-graduate education program including the Graduate School of Pharmaceutical Sciences, along with outstanding international students from ASEAN countries, we will develop highly professional human resources who have a comprehensive view of the field of "Environmental and Health and Safety Studies" and can take on the challenge of solving social issues under the philosophy of the SDGs (Sustainable Development Goals).

Concept of ENPHAS program



Program features

In this program, Japanese graduate students, government-sponsored international students, and privately-sponsored international students study "Environmental Health and Safety Studies" together.

Students select courses from compulsory subjects related to various aspects to be considered, and will learn from experts in each field. In the practical training course, students will deepen their understanding of risk assessment by conducting industrial, governmental, and academic environmental health and safety internships with external organizations (National Institute of Health Sciences, etc.) for the purpose of human resource development jointly by industry, academia, and government. In addition, we aim to strengthen oral communication skills in English at specialized conferences by making the first presentations at international conferences related to research themes (global presentation).

In parallel with this, work to find solutions to problems related to SDGs (Sustainable Development Goals) and environmental health and safety science (environmental health and safety science problem solving active learning) will be carried out.

Course content

In this program, students will take the following subjects while taking their regular graduate school course.

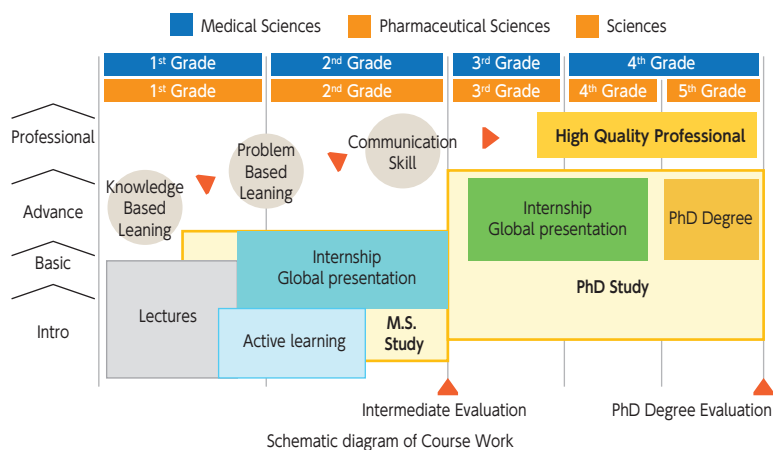
1 Program 1st and 2nd years (Master's program)

Course subjects : Required 6 credits from designated 11 subjects as common subjects.

Exercises subjects : Environmental Health and Safety Problem Solving Active Learning, Industry-Government-Academia Environmental Health and Safety internship, Global Presentation

2 Program 3rd to 5th years (Doctoral program)

Exercise subjects : Industry-Government-Academia Environmental Health and Safety Internship, Global presentation



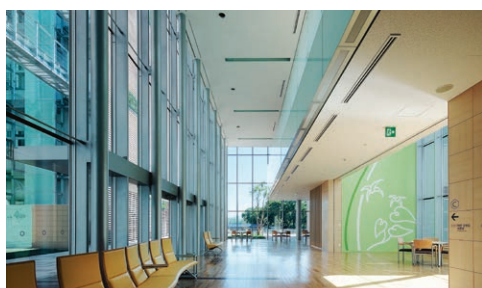
This program has been adopted by the Ministry of Education, Culture, Sports, Science and Technology's open recruitment project, "Special Program for Prioritizing Government-Sponsored International Students," and is implemented by Nagoya City University.

The Graduate School of Pharmaceutical Sciences Campus

The Tanabe-dori campus was completely rebuilt beginning at the end of 2007. The training building, research buildings, lecture building, library and welfare buildings were constructed in sequence and, in July 2013, everything, including the campus plaza and parking lots, was completed.

Facility features

- (1) Preparation of facilities and an environment that can support advanced education and research
- (2) The residential area/botanical garden side is low-rise building in consideration of the surrounding environment, and the exterior plan and building design consider the landscape.
- (3) In order to enhance education for pharmacist training, facilities such as training rooms and practice rooms, such as mock pharmacies, are newly required.



● Campus mall

The campus mall has a two-story atrium and is entirely covered with glass on the side facing the campus square, creating a spacious, bright, and comfortable space. We endeavor to save energy by adopting paired glass with excellent heat insulation, installing an earth tube that uses the temperature difference between the outside air and the ground, and introducing a natural ventilation system.



● Lecture building/Large lecture rooms

It is an open structure where you can get a glimpse of lectures from the campus mall through the glass doors. The soft light from the LED downlights and indirect ceiling lighting ensures the brightness required for classes. In addition, there are slopes to access the front row seats and the stage, making it easy for wheelchair users.



● Research Buildings

They consist of the North Building and the South Building, both 6-story. They house about 20 laboratories of the Graduate School of Pharmaceutical Sciences. The latest research equipment is installed in each laboratory, enabling more advanced research. There are shared research facilities such as the P2 laboratory, shared equipment rooms, and NMR rooms. Furthermore, to flexibly utilize research spaces, competitive research spaces have been placed on each floor. The pilotis, lobby, courtyard, and lounges are also innovatively designed.



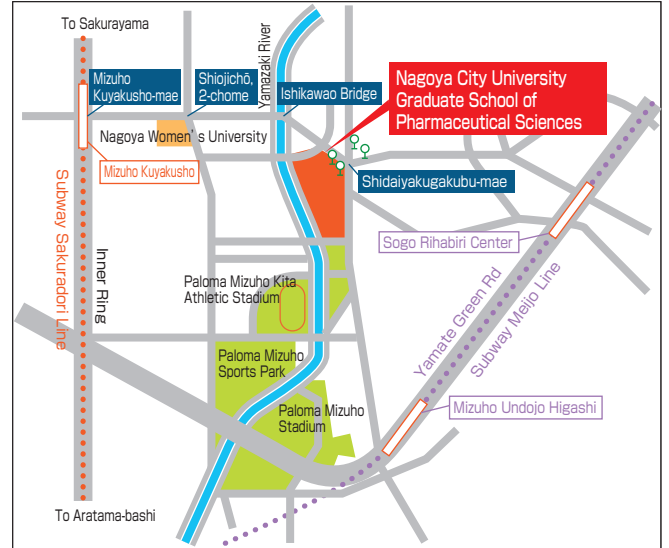
● Training building

The three-story training building consists of a chemistry laboratory, a physics/biological laboratory, a pharmacy simulation room, eight OSCE rooms, and a CBT room. In addition to the latest equipment for various training, it is equipped with AV equipment for efficient training and a networked camera system that can record video in each training room. In addition, the first floor hall has a two-story atrium and is entirely covered with glass, creating a bright, open space.



Nagoya City University

Graduate School of Pharmaceutical Sciences



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ACCESS

●From Nagoya Station (JR, Meitetsu, Kintetsu)

Take the subway (Sakuradori Line (bound for Tokushige)) from “Nagoya” station (about 17 minutes)
 →get off at “Mizuho Kuyakusho” and walk east from Exit 1 for about 15 minutes.

●From Kanayama Station (JR, Meitetsu)

Take the City Bus (Kanayama 16 bound for Mizuho Undojo Higashi) from “Kanayama” (about 20 minutes)
 →get off at “Shidaiyakugakubu” and walk 1 minute.

Alternately;

Take the City Bus (Kanayama 14 bound for Mizuho Undojo Higashi) from “Kanayama” (about 20 minutes)
 →get off at “Shidaiyakugakubu” and walk 1 minute.

Take the subway (Meijo Line (counterclockwise)) from “Kanayama” (about 14 minutes) and

→get off at “Sogo-Rihabiri-Center” Station and walk west from Exit 1 for about 15 minutes.

