Application Guidebook for Students
Graduate School of Pharmaceutical Sciences (Ph. D's Program)
[Major in Medicinal and Life Sciences]
Nagoya City University (NCU)
for Academic Year 2024

1. Prescribed enrollments

Major in Medicinal and Life Sciences… 8students※

※The total of general selection, special selection of working adults and October enrollment.

※The second will be held only if the admission capacity is not reached after the first exam.

*The number of students enrolled in "Graduate Course of International Program to Conjoin Brain Science and Society" (referring to P.6) includes the number of prescribed enrollments.

2. Eligibility for applicants

All applicants must satisfy one or more of the following articles:

(1) A person who has Master's degree or who is expected to graduate from Master's course in university by March 2024.
(2) A person who has or is expected to complete Master's degree or the academic degree related to Master's degree in foreign university by March 2024.
(3) A person who has or is expected to complete Master's degree or related degree in schooling program of the country outside Japan that is provided by correspondence education in Japan by March 2024.
(4) A person who has completed a university educational program in the institution outside Japan (it is limited to a person who is recognized to complete a Master's degree schooling outside Japan) and that program is approved by the Minister of Education, Culture, Sports, Science and Technology of Japan, or who is expected to complete such a program by March 2024.
(5) A person who has or is expected to complete Master's degree or the academic degree related to Master's degree in United Nations University established based on United Nations General Assembly Resolution (December 11, 1972) defined by the Act on Special Measures Incidental to Enforcement of the "Agreement between the United Nations and Japan regarding the Headquarters of the United Nations University" (Act No. 72 of 1976) 1–1 by March 2024.
(6) A person who has completed a university educational program in the institution outside Japan or United Nations University, and has passed the examination that is defined in the Standards for the Establishment of Graduate School of Universities (No. 28 of Ministry of Education Ordinance in 1979) No. 16–2, and is recognized that a person has academic ability equivalent to or higher than those who have Master's degree by the Graduate School of Pharmaceutical Sciences of NCU.
(7) A person approved by the Minister of Education, Culture, Sports, Science and Technology of Japan.
(8) A person who has academic ability equivalent to or higher than those who have graduated from university by the individual achievement test conducted by the Graduate School of Pharmaceutical Sciences, NCU, and who will be 24-year-old or more at the end of March 2024

Notice: Prior to submitting application materials to NCU, any applicants have to ask for a professor of the department about research plan after you will enroll in the graduate school.

Any applicants who fall under (6) ,(7)or (8) ,of "2. Eligibility of applicants" are preliminarily evaluated before the application. Under the consultation with the faculty member of the specialized department (major subject), send the preliminary examination-application documents by registered post express mail to the address shown below. Please mark "Application documents for preliminary examination to Ph.D.'s program of the Graduate School of Pharmaceutical Sciences, NCU" in red in the lower left section of the front of the envelope. The mail must be arrived within the period below, **[must be received. Postmark date is not taken into account]**.

[1st application] from June 19 (Mon) to June 21 (Wed), 2023
[2nd application] from November 29 (Wed) to December 1 (Fri), 2023

The mail sent from outside Japan will not be accepted. If applying from outside Japan, be sure to entrust your application procedure to a proxy residing in Japan. Notifications from NCU will be addressed to

your proxy.

The preliminary examination-application documents: (Use the prescribed form of NCU)

(1) Application for preliminary examination
(2) Curriculum Vitae
(3) Reasons for Application
(4) Certificate of Research Experience
(5) List of Research Achievements
(6) Reply envelope（Clearly indicate your receiving address and put stamps for 344 yen to the envelope.）
(7) ② and ③ described in the following 4. Application documents

3. **Period of application**

[1st application] July 13 (Thu)－July 19 (Wed), 2023 [must be received]
[2nd application] December14 (Thu)－December 19 (Tue), 2023 [must be received]

Must be sent by post. Delivery in person is not accepted.
Fill in the required items on the cover of the envelope which is designated by the University, and paste the cover on the envelope(240mm×332mm) prepared by yourself. Enclose the application documents in the envelope above and send them by registered express mail.
No Application forms are received in- person at the office or outside the designated period of application **(Postmark date is not taken into account)**. When your application documents, etc. are accepted, you will receive your examination admission card and instructions for examination from us later.
If you do not receive them within a week after application, please be sure to contact the Student Affairs Division, Administration Office of NCU

Application documents must be sent by post to

Nagoya City University
Student Affairs Division, Administration Office of NCU
1, Kawasumi, Mizuho-cho, Mizuho-ku, Nagoya, Aichi 467-8601, Japan

Application by post from a foreign country will not be accepted. If applying from a foreign country, be sure to entrust your application procedure to a proxy residing in Japan. Notifications from NCU will be addressed to your proxy.

4. Application documents, etc. (Fill out in Japanese)

Documents, etc.		Description
①	Application for admission/ Photo Identification card/ Examination Admission card/ Curriculum Vitae (reverse side of application form)	**[Use the prescribed form of NCU]** Affix your photograph to the application form. The photograph should be taken with you directly facing the camera It should show your upper body and bare head, with no background. It should be in color, measuring 4 cm high x 3 cm wide, and taken within the last 3 months before the application. Enter the address at which you are (or a proxy is) certain to be contactable. In “Academic Background,” start from your initial admission to university. If you have work experience, provide the details in “Career.” If you have received school education in a foreign country, fill in your school education in full from elementary education (equivalent to elementary school) to higher education (equivalent to university education).
②	Transcript	Transcript must be prepared by the o president of the university that you are enrolled in or have graduated from. When it is difficult to obtain a reissued transcript, a photocopy can be received. Its authenticity will be verified during your entrance formalities. (If a photocopy is submitted, be sure to present the original when you take the admission procedure.) If your academic transcript is prepared in a foreign language, prepare a Japanese translation in any form, and attach it to the original transcript. Do not write the Japanese translation directly on the original transcript.

③	Diploma (graduation letter), certificate of completion (expected completion) of Master's degree	Your diploma should be prepared by the president of the university you are enrolled in or have graduated from. If you have completed (are expected to complete) the graduate school, submit its certificate of completion (expected completion), too, together with the university diploma, etc. If you submit an application under (2) or (5) of "2. Eligibility for applicants," submit a document certifying your eligibility. If you submit an application under (7) of "2. Eligibility for applicants," submit documents certifying your eligibility and offer certificate published by university or the institution outside Japan. Photocopies are not acceptable. If your certificate is unable to be reissued, submission of a photocopy is acceptable. If a photocopy is submitted, be sure to present the original when you take the admission procedure. Be sure to prepare a Japanese translation in any form, and attach it to the original certificate. Do not write the Japanese translation directly on the original certificate.
④	Abstract of the Master's thesis or its alternative document	Submit the abstract of Master's thesis. If the applicants do not have them, submit the alternative documents about research process. About 2 pages of A4 paper.
⑤	Official score of TOEIC, etc. *Photocopy is not acceptable	Submit the original (photocopy is not acceptable) of your official score of TOEIC (Listening & Reading TEST), TOEFL-iBT, or IELTS (academic module) (Official Score for TOEIC Listening & Reading TEST, Test Taker Score Report for TOEFL, Test Report Form for IELTS) that you took after April 1, two years prior to the examination date.(If the examination date is on August 2023, submit scores taken after April 1, 2021; if the examination date is on February 2024, submit scores taken after April 1, 2022.) *If you submit the score of TOEIC taken after April 2023, please contact the Admission Office, Student Affairs Division (e-mail:shingaku@sec.nagoya-cu.ac.jp) before sending your application documents. *Any score reports downloaded at the TOEIC website are not available. *Your official score will not be returned. *Your official score is converted by the math formula prescribed by the Graduate School of Pharmaceutical Sciences to determine your score of the foreign language (English) for use as reference information to determine your admission. If you submit more than one score, the score that is found to be higher after conversion will be adopted. Applicants are desired to have English ability equivalent to or higher than the scores shown below. Note, however, that these scores are not an application requirement. TOEIC: 600, TOEFL-iBT: 62, IELTS:5.0
⑥	Letter of Acceptance for Examination	[Use the prescribed form of NCU] *Consult with the faculty member in charge of the field of your major beforehand about research planning, etc. before submitting your application. *Submit only your first choice of field.
⑦	Examination fee (30,344yen)	When paying the examination fee, fill in the transfer request form (prescribed form of NCU) with the required information, and hold it out with 30,344 yen (Examination fee 30,000 yen + Express mail fee to send the admission card 344yen) to a bank or other finance institution for transfer. Japan Post Bank or Yucho Bank does not accept this transfer. Do not use ATM, etc.; use only a teller for transfer. The bank transfer fee is payable by the applicant. Submit the "Examination Fee Payment Certificate (Slip B)" received from the bank, etc., together with the other application documents. (Do not submit the "Receipt of Transfer Amount (and Transfer Fee) (Slip A)," which should be retained by you.) * The examination fee is not refundable in principle. (Refer to (4) of "12. Cautions."
⑧	Mailing label	[Use the prescribed form of NCU] The mailing label will be used to notify you of the admission decision. Write the proper address and name.

⑨	Residence certificate (only for applicants who have foreign nationality)	To be submitted if you are a foreign national and eligible for residence in Japan. Residence certificate that does not contain the Social Security and Tax Number. If your visa status is for short-term residence, submit a photocopy of the Japan entry visa stamped in your passport If you are residing in a foreign country, submit a photocopy of your passport.
⑩	Document for interview test	・Bring the document to the interview test after filling in the required items. ・The number of copies necessary will be informed when sending the examination admission card. ・Describe the outline of your research contents at the university, graduate school or office currently enrolled. Applicants who are employed or graduates can also describe them at the final academic background. ・Describe the academic achievements such as academic conference presentation , academic paper, from the latest one. Applicants who are employed or graduates can also describe them at the final academic background. You can download the from the website of the University ＜The University Website＞ https://www.nagoya-cu.ac.jp/admissions/graduate/phar/index.html
⑪	Envelope to submit the application documents	Fill in the required items on the cover which is designated by the University, and paste the cover on the envelope (240mm×332mm) prepared by yourself. You can download the cover from the website of the University. Enclose the application documents, envelope and send them by registered express mail ＜The University Website＞ https://www.nagoya-cu.ac.jp/admissions/graduate/phar/index.html

5. Prior consultation with the applicants with disability

A parson with a disability and needs extra care on having an entrance examination and studying has to notify Student Affairs Division.

6. Notice of preliminary examination results

If you wish to submit an application under (6), (7) or (8) of "2. Eligibility for applicants," you will receive a notice of the results of your preliminary examination of eligibility for applicants by 2 days before the deadline for applications. If you are permitted to take the examination, complete the procedure for application by the prescribed date. If you do not receive the notice by the time specified above, contact the person in charge of entrance examinations, Graduate School of Pharmaceutical Sciences.

7. Date and method of selection for admission

(1) Date, time, subject, etc.

Examination date	Examination time	Examination subject
1st application August 16 (Wed), 2023 **2nd application** January 30 (Tue), 2024	10:00－12:00	Written or oral examination about the major subject, the summary of master's dissertation or equivalent ※
	13:30－	Interview

※We may conduct a test using the web service depending on the circumstances of Coronavirus Disease (COVID-19).

(2) Examination place and meeting place

Graduate School of Pharmaceutical Sciences, Nagoya City University
(3-1, Tanabe-dori, Mizuho-ku, Nagoya)
You will receive instructions for the examination together with your examination admission card.

(3) Selection method

Selection is made by comprehensively judging the summary of the master's dissertation or equivalent, the academic transcript, the official score of TOEIC, etc., and the results of the examination (major subject) and interview.

8. Announcement of application results

【1st application】August 24 (Thu), 2023 at 10:00
【2nd application】February 5 (Mon), 2024 at 10:00

The announcement is posted on the bulletin board at the entrance of Graduate School of Pharmaceutical Sciences, NCU,and also communicated to each applicant.

※We will send important documents that date of procedure and necessary documents are described to the successful examinees, so make sure to check them.

※If you do not receive them after 1 week from the announcement, please contact Student Affairs Division, Administration Office of NCU.

9. Admission procedure

(1) Date of procedure

【1st application】Early-September, 2023
【2nd application】Mid-February, 2024

You will be notified of the specific date together with the announcement of application results.

(2) Details of procedure

The details of the procedure will be notified to you together with the announcement of application results.

(3) Fees payable during the admission procedure

a. Admission fee	Nagoya City residents, etc.	232,000 yen
	Others	332,000 yen

*Students proceeding to the doctor's course after completing the master's course of this graduate school are exempted from paying the admission fee.

b. Disaster and accident insurance for student education and research	2,600 yen
c. Liability Insurance coupled with "Gakkensai"	1,020 yen

Note 1: The admission fee should be paid through a financial institution before commencing the admission procedure. **The paid admission fee is not refundable.**

Note 2: "Nagoya City residents, etc." means (1) enrolled students or (2) their spouse or first-degree family member who can certify by referring to their resident card that they have continuously had an address within Nagoya City at least one year from the date before the date of admission.

Note 3: Amount of the above fee is example of year 2023. Any revisions to the fees upon admission shall become effective immediately

10. Tuition

Annual amount 535,800 yen (1st semester and 2nd semester: 267,900 yen each)

Note 1: After admission, tuition is to be paid twice a year (for the 1st semester and the 2nd semester) (automatic withdrawal from your account).

Note 2: Amount of the Tuition fee above is example of year 2023.If the tuition is revised during your enrollment, the revised tuition will apply.

Note 3: Graduate School of Pharmaceutical Sciences may charge additional cost without any advance notification.

11. Scholarship system

The scholarship loan plan of the Japan Student Services Organization (JASSO) is available to graduate students. Students wishing to use the plan will be referred following a review of academic achievement, research ability, etc., to determine eligibility.

12. Cautions

(1) Applications lacking necessary documents will not be accepted.
(2) Applicants found to have made false statements in their applications may have their admission revoked even after enrollment.
(3) Application documents, etc. will not be returned.
(4) The examination fee (excluding bank transfer fee) is not refundable in principle. However, in any of the following cases, the paid examination fee is refunded. Confirm this on the NCU website.

1. The examination fee was transferred twice.
2. The application documents were not submitted after the examination fee was transferred (or the application was not accepted).

(5) If your return address changes, please notify the Office of new address immediately.
(6) As a rule, double enrollment is prohibited

13. Treatment of your personal information

NCU treats your personal information in accordance with the Act on the Protection of Personal Information of Nagoya City.

(1) Use of your personal information
   a. Your name, address and other personal information given in application documents, etc. are used for our operations of selection for admission (e.g., application registration, selection, application result announcement, admission procedure).
   b. Your personal information used for selection for admission (e.g., academic transcript) may be used as reference material for investigative research and academic research to improve future selection for admission and graduate education. (Investigative research results are announced in such a way that individuals cannot be identified.)
   c. After you are admitted, your personal information is used for operations related to educational affairs (e.g., enrollment management, schooling guidance), student support (e.g., health control, tuition waiver, application for scholarship, job placement support), and tuition collection.

(2) Entrustment of operations to external business operators
   The operations of (1) above may be entrusted to some external business operators under an agreement with them for proper treatment of personal information.

14. Graduate Course of International Program to Conjoin Brain Science and Society

(1) Along with the adoption by MEXT, this program invites the designated number of international students from the priority areas designated by MEXT members into the 2-year Master program or the 3-year Doctoral program, and thorough the lectures, seminars and other academic activities held in English, educate them to become young researchers who have acquired the global level of brain and mental health area.
(2) A limited number of applicants will be admitted.
(3) Students of this program will be determined through the internal selection from those who have passed the Doctoral Program entrance exam.
   *Students of this program is required to simultaneously satisfy the requirements of both their major in the graduate school and this program.

15. Admission policy

Admission policy of Graduate School of Nagoya City University

Nagoya City University (NCU) aims to be a university in which all citizens feel pride and affinity. In graduate education, based on our recognition that research guidance for graduate students is a challenge in offering research activities. We aim to cultivate researchers and professionals who can gain advanced expertise and an interdisciplinary thinking.

With this philosophy and aim, the graduate school is widely looking for individuals who possess advanced expertise and an eagerness and aptitude for activity both within Japan and abroad, in addition to diverse skills and work experience.

Admission policy of Graduate School of Pharmaceutical Sciences

(1) «Philosophy, Purpose, Educational Goals»

The Graduate School of Pharmaceutical Sciences aims to foster researchers and technical experts with creative and outstanding ability who can execute innovative research in pharmaceutical life sciences, drug discovery science, environmental and health science, and clinical pharmaceutical sciences, by acquiring a broad knowledge and deep expertise about pharmaceutical science. In addition, we also aim to develop human resources with prominent ability to play an active part in education, public administration, and medical front with wide view and high ethics. In order to cultivate these diverse and highly specialized human resources, we welcome following students.

(2) «Profile of students sought»

・Students who are willing to perform cutting-edge research outcomes, to transmit them to the world, and to contribute to society
・Students who are motivated to acquire their problem-finding and solving abilities through the process of publishing

research outcome
・From the point of view of developing diverse human resources, students who have different academic backgrounds (students who had graduated from other research fields than Pharmaceutical Sciences and Pharmacy) and are willing to perform researches in pharmaceutical sciences
・From the point of view of developing international human resources, students from overseas who want to perform researches in pharmaceutical sciences

(3) «Contents and level of required knowledge, abilities and skills»

・In addition to the basic ability of material sciences and life sciences, advanced knowledge and basic experimental techniques in related research fields.
・In addition to the basic language ability, language skill necessary for preparing research manuscripts, presentations and discussions at international meetings.

(4) «Selection method»

Students with basic academic skills in materials and life sciences, knowledge and skills in related fields, and necessary language skills will be selected by the following method.

[General selection]

Selection of applicants is based on comprehensive review of the master's thesis abstract, transcripts, examinations (major subjects), foreign language (English) and interviews.
Language skills necessary for research will be evaluated by official scores of foreign language examinations such as TOEIC. In addition to the basic academic skills in materials science and life science required to carry out research, advanced knowledge and skills in related fields will be evaluated by examining the major subjects and a summary of the master's thesis. Furthermore, an interview will be conducted to evaluate the applicant's aptitude in terms of basic academic skills, knowledge, and to assess whether the applicant meets the requirements for the desired student, in terms of basic academic skills and knowledge, as well as motivation and willingness to undertake research.
Selection is based on a combination of these results and the evaluation of transcripts.

Notifications from NCU in case of emergency

In case of emergency (e.g., occurrence of disaster) or if changes are required to the contents of this application guidebook, students will be notified those changes through the website of NCU. Particularly as the examination day draws near, pay close attention to the website of NCU. Applicants may also be directly contacted. In your application documents, therefore, be sure to provide contact details where you can always be reached.

NCU Website https://www.nagoya-cu.ac.jp/

A Ban on smoking in the premises

NCU has banned smoking in the premises. All students are requested to observe this policy, and asked to further cooperate by not smoking on roads and alleys around NCU.

The entrance exam date and method may change depending on the circumstances of Coronavirus Disease (COVID-19).
Students will be notified those changes through the website of NCU «Notice regarding entrance examination for graduate school».

NCU Website https://www.nagoya-cu.ac.jp/admissions/graduate/information/index.html

Outline of Graduate School

Department	Research interests
Organic and Medicinal Chemistry	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	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	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	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	1. Analysis of allergic responses 2. Artificial cell 3. Mechanism of neural development 4. Mechanism of exocytosis
Physical Chemistry of Colloid and Polymer	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	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	1. Organelle biology 2. Pathology for neurological disorders 3. Epigenetics for metabolism 4. Intracellular signals for cancer immunity
Drug Delivery and Nano Pharmaceutics	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
Multilevel Biofunctional Analytics	1. Elucidation of biomolecular networks using omics analysis 2. Structural and functional analysis of glycans and drug discovery 3. Research on biosynthetic systems of glycoproteins
Pharmacognosy [Kampo Medicinal Therapeutics]	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

Department	Research interests
Molecular and Cellular Health Science	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.
Biological Chemistry	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]	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]	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]	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]	1. Neuroprotective effect and glial function 2. Microenvironment around cancer 3. Spontaneous regression and malignancy of neuroblastoma 4. Early stage of arteriosclerosis 5. Bone disease and osteoclast disfunction
Cell Signaling [Stress Response Cellular Biology]	1. Clarification of cancer biological properties and development of novel molecular targeted drugs 2. Clarification of the mechanisms of TGFβ 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 [Clinical Neuropharmaology]	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]	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
Clinical Pharmacy [Community Pharmacy Management Individual Differences and Personalized Medicine]	1. Differentiation of human iPS cells into intestinal epithelia cells and brain microvascular endothelial 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

Department	Research interests
Hospital Pharmacy [Laboratory of Hospital Pharmacy]	1. Studies on risk factors of adverse drug event incidence, medical costs and medical systems for appropriate use of pharmaceuticals 2. Studies on influence of pharmaceutical use on quality of life 3. Studies on construction of support and education resulting in behavioral modification to appropriate pharmaceutical use and health promotion

[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

List of Faculty Members, Graduate School of Pharmaceutical Sciences (Faculty of Pharmaceutical Sciences)

(As of May. 2023)

Department	Professor	Associate prof.	Assistant Professor	Research Assosiate
Community Pharmacy Management Individual Differences and Personalized Medicine [Clinical Pharmacy]	Tamihide Matsunaga, Tadashi Suzuki	Takahiro Iwao	Tadahiro Hashita, Eisei Hori	
Laboratory of Hospital Pharmacy [Hospital Pharmacy]	Tomoya Tachi	Yuji Hotta (concurrent)	Keiko Nishide (concurrent)	(Clinical Assistant Professor) Akimasa Sanagawa (concurrent)
Medicinal Safety Science [Regulatory Science]	Masahiro Tohkin		Kaori Ambe,	Yukihieo Shibata
Kampo Medicinal Therapeutics [Pharmacognosy]	Toshiaki Makino	Kanichiro Ishiuchi	Kazuhiro Terasaka	
Biomolecular Pharmacology [Molecular and Cellular Pharmacology]	Hisao Yamamura		Yoshiaki Suzuki	Rubii Kondo
Molecular Neuroscience [Biomedical Science]	Mitsuharu Hattori	Takao Kohno		
Biopharmaceutics and Clinical Pharmacokinetics [Biopharmaceutics]	Hiroaki Yuasa		Tomoya Yasujima	Takahiro Yamashiro
Pathobiology and Pharmacotherapy in Pharmaceutical Practice [Pathobiology]	Mineyoshi Aoyama			Hiromasa Aoki, Kohki Toriuchi
Stress Response Cellular Biology [Cell Signaling]	Hidetoshi Hayashi	Yasumichi Inoue	Chiharu Miyajima	
Pharmacotherapeutics - Palliative Care for Cancer Patients [Clinical Neuropharmaology]	Kazuhiko Kume	Jun Tomita		
Organic and Medicinal Chemistry	Hidehiko Nakagawa		Mitsuyasu Kawaguchi、Naoya Ieda	
Bioorganic-Inorganic Chemistry	Naoki Umezawa		Yosuke Hisamatsu	
Synthetic Organic Chemistry	Seiichi Nakamura		Kazutada Ikeuchi	
Synthetic Supramolecular Chemistry		Shin-ichi Ikeda		

Department	Professor	Associate prof.	Assistant Professor	Research Assosiate
Cellular Biophysics	Naohide Hirashima	Masahiko Tanaka		Ruriko Suzuki
Physical Chemistry of Colloid and Polymer	Jyunpei Yamanaka	Tohru Okuzono, Akiko Toyotama		
Structural Biology and Biomolecular Engineering	Koichi Kato (specially appointed professor)		Maho Yagi	
Molecular Biology	Michiko Shirane	Nakatsumi Hirokazu		
Drug Delivery and Nano Pharmaceutics	Tetsuya Ozeki	Tatsuaki Tagami		Koki Ogawa
Multilevel Biofunctional Analytics		Hirokazu Yagi		
Molecular and Cellular Health Sciences	Shigeaki Hida	Saotomo Itoh		Isamu Ogawa
Biological Chemistry	Shin-ichi Hoshino	Tsuyoshi Udagawa		Hiroto Inagaki

Affiliated Research Institutes h Institutes

Staff	Professor	Associate prof.	Assistant Professor	Research Assosiate
Institute of Drug Discovery Science				

Affiliate Graduate School

Department	Professor	Associate prof.	Assistant Professor	Research Assosiate Assistant prof.
Oncology (Aichi Cancer Center Research Institute)	Masahiro Aoki (Guest Prof.) Chitose Oneyama (Guest Prof.)	Teruaki Fujishita (Guest Associate Prof.)		
Experimental Gerontology (National Center for Geriatrics and Gerontology Research Institute)	Koichi Iijima (Guest Prof.)	Michiko Sekiya (Guest Associate Prof.)		
Integrative Science for Dynamic Living Systems (National Institutes of Natural Sciences)	Kazuhiro Aoki (Guest Prof.)	Hisashi Okumura (Guest Associate Prof.)		
Quality Assurance Science for Pharmaceuticals (National Institute of Health Sciences)	Yoji Sato (Guest Prof.)	Satoshi Yasuda (Guest Associate Prof.)		
Regulatory Science for Evaluation of Pharmaceuticals and Medical Devices (Pharmaceuticals and Medical Devices Agency)	Tomoko Osawa (Guest Prof.)			
Molecular Profiling for Cancer Precision Therapy (Japanese Foundation for Cancer Research)	Ryohei Katayama, Reo Maruyama (Guest Prof.)	Kazuma Kiyotani (Guest Associate Prof.)		

[ ]: Advanced lecture to be delivered in the master's course of the doctoral program