Application Guidebook for Students (General, Recommendation, Special Recommendation Entrance Examination)
Graduate School of Pharmaceutical Sciences (Master's Program)
[Major in Medicinal and Life Sciences]
Nagoya City University (NCU)
for Academic Year 2024

*Recommendation and special recommendation・・・Exemption from written examination based on self-recommendation

1. Prescribed enrollments

Major in Medicinal and Life Sciences… 47 students※

※The total number of students enrolled in the 1st, 2nd, Special selection for working adults and October admission.

※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.5) includes the number of prescribed enrollments.

2. Selection of department to apply for.

Applicants are allowed to select departments up to three to apply for.

3. Eligibility for applicants

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

(1) A person who has graduated from university or who is expected to graduate from university by March 2024.
(2) A person who has a bachelor's degree by the National Institution for Academic Degree and Quality Enhancement of Health Education under Article 104 (4) of the School Education Law in Japan, or who is expected to complete that course by the end of March 2024
(3) A person who has completed a 16-year course of schooling outside Japan or who is expected to complete that course by the end of March 2024.
(4) A person who has completed a 16-year course of schooling program of the country outside Japan that is provided by correspondence education in Japan, or who is expected to complete such a program by March 2024.
(5) 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 16-year 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.
(6) A person who has completed or is expected to complete to be awarded a bachelor's degree by March, 2024 *via* 3-year or more year's program in the university or other tertiary institution in a foreign country assured by the government or authorized organization in the original country, or specified by the Mistry of Education, Culture, Sports Science and Technology of Japan. The program includes the comprehensive education study provided by the foreign university in tertiary institution in Japan, or the program provided by the foreign educational institution established in Japan based on the educational system of the original country. In such cases, the institution should be specified by the Ministry of Education, Culture, Sports, Science and Technology of Japan.
(7) A person who has completed a specialized training course in an advanced vocational school (it is limited that the courses have 4 or more years and that the level of courses is designated by the Minister of Education, Culture, Sports, Science and Technology of Japan) after the date designated by the Minister of Education, Culture, Sports, Science and Technology, or who is expected to complete such a course by the end of March 2024.
(8) A person approved by the Minister of Education, Culture, Sports, Science and Technology of Japan.
(9) A person who has been enrolled in a university for 3 years or more, or completed a 15-year course of schooling outside Japan, and who have acquired the prescribed credits with excellent academic results that is approved by the Graduate School of Pharmaceutical Sciences of NCU.
(10) 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 22-year-old or more at the end of March 2024.

Notice: Any applicants who fall under (9) or (10) of "3. 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 Master'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 May 30 (Tue) to June 1 (Thu), 2023

[2nd application] from September 21 (Thu) to September 26 (Tue), 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 eligibility for those who have completed the 4 years out of the 6-year program of pharmaceutical sciences and are still enrolled in the university are determined whether they fall under (10) of "3. Eligibility of applicants" based on their learned subjects, achievements, etc.

The preliminary examination-application documents:

(1) Application for preliminary examination (Use the prescribed form of NCU)
(2) Curriculum Vitae (Use the prescribed form of NCU)
(3) Reasons for Application
(4) Research Plan (When prepared in a language other than Japanese, attach a Japanese translation in any form)
(5) Japanese language proficiency
(6) Reply envelope（Clearly indicate your receiving address and put stamps for 344yen to the envelope.）
(7) ② and ③ described in the following 5. Application documents

4. **Period of application**

[1st application] June 14 (Wed)－June 20 (Tue), 2023 [must be received]

[2nd application] October 24 (Tue)－October 30 (Mon), 2023 [must be received]

Must be sent by post. Delivery in person is not accepted.

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. 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 by June 29 (Thu), please be sure to contact 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.

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

Documents, etc.		Description
①	Application for admission/ Photo Identification card/	**[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 without background. It should be in color, measuring 4 cm high x 3 cm wide, and taken within the last 3 months before the application.

	Examination Admission card/ Curriculum Vitae (reverse side of application form)	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 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)	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 it is difficult to obtain a reissued transcript , a photocopy can be received .Its authenticity will be verified during your entrance formalities. If you submit an application under (2) or (7) of "3. Eligibility for applicants," submit a document certifying your eligibility. 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	Official score of TOEIC, etc. *Photocopy is not acceptable	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, 2021. * For the official score of TOEFL (iBT, PBT), request the Education Testing Service (ETS) in the US to send it to NCU (Nagoya City University - Entrance Examination Section DI code: B212) to arrive not later than the period of application. The official score reached here before the period of application is acceptable. If the application documents were not submitted, your official score will not be returned. *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. **【Special recommendation】** TOEIC: 650, TOEFL-iBT: 69, IELTS:4.5 **【General, Recommendation】** TOEIC: 500, TOEFL-iBT: 52, IELTS:4.5

⑤	Reasons for Application (Recommendation and special recommendation applicants only)	[Use the prescribed form of NCU] Fill out in Japanese or English.
⑥	Pledge of Admission (Recommendation and special recommendation applicants only)	[Use the prescribed form of NCU]
⑦	Envelope for results notification (Recommendation and special recommendation applicants only)	Sized 120×235 mm with clear indication of your return address, and put stamps for 344 yen to the envelope.
⑧	Letter of permission for taking examination	[Use the prescribed form of NCU] If you are in employment and wish to be admitted while remaining employed without retirement or temporary retirement, submit examination permission issued by your superior.
⑨	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.
⑩	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 30,344yen (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 relevant bank fees 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."
⑪	Mailing label	[Use the prescribed form of NCU] The mailing label will be used to notify you of the admission decision.
⑫	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.
⑬	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

6. 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.

7. Date and method of selection for admission

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

(1) Date, time, subject, etc.

Examination date	Examination time	Examination subject
1st application August 4 (Fri) **2nd application** November 11 (Sat)	10:00－12:00	Chemistry, physics, biology, and clinical-orientedpharmaceutical sciences (written) See the instructions below and the list of contents.
	13:30－	Interview

○Instructions for "chemistry, physics, biology, and clinical-oriented pharmaceutical sciences"

A total of 8 subjects (2 subjects from each academic discipline of chemistry, physics, biology, and clinical-oriented pharmaceutical sciences) will be on the examination (Notes 1, 2). The applicant is required to select any 2 subjects and answer them, (and may select whichever subjects).

○The list of contents　Refer to the website below

https://www.nagoya-cu.ac.jp/admissions/graduate/phar/index.html

Note 1: In making examination questions, those who are not from the pharmaceutical department will be taken into consideration not to be disadvantageous.

Note 2: Although the examination questions are made in Japanese, their English translation will be available to those who are determined in need of the translation by NCU. If you wish to be provided with the translation, indicate your name and the reason why you need the translation in writing (any form) and send it together with the application documents, etc.

***Recommendation and special recommendation** …Exemption from written examination system based on self-recommendation

To admit students with strong personal qualities widely, this system intends to evaluate the aptitude of applicants by reviewing the statement of the reasons for application examination (English), and by other methods in addition to the written examination for general selection. The applicants are required to make a firm commitment to enroll after they pass the examination.

(I) Type of recommendation and applicants eligible for recommendation

・Recommendation　Internal selection for Nagoya City University students

・Special recommendation　Those who have graduated or will graduate from a foreign university (without Japanese nationality) are eligible to take this examination.

*Consult with the faculty member in charge of the field of your major beforehand about research planning, etc.

(II) Documents to be submitted

Submit the Statement of Reasons for Application and the Pledge of Admission (both in the prescribed form of NCU), and the envelope for result notification (sized 120×235 mm with clear indication of your return address and put stamps for 344 yen to the envelope) together with the general application documents.

(III)Examination for Special recommendation

Examination will be held on Aug 5 (Fri). Its details will be notified to you through documents.

Examination date	Examination time	Examination subject
Aug 4 (Fri), 2023	13：30 ～	Interview

(IV) Review

・Review will be made with overall consideration of the Statement of Reasons for Application, official scores of TOEIC,etc, interview test, etc. and the academic transcript.

(V) Results

The examination results will be posted and notified to you in writing in the end of July.

It is not necessary for those who are exempted from written examination to take the written examination and the interview for general selection. (However, the applicants for special recommendation have to take the interview examination to be held on August 4 (Fri.)
Those who are not exempted from written examination are eligible to take the written examination for general selection without taking any special procedure.
Those who are exempted from written examination on the condition that they are allotted to the field of their second or subordinate choice are eligible to take the written examination for general selection without taking any special procedure. According to the examination result, they may upgrade their choice of the field.

(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) About selection

- The field of application has no relation to success or failure.
- The field is decided in the order of merit.
- In late April, we announce the number we can accept in each field on the website(https://www.nagoya-cu.ac.jp/academics/grad-phar/index.html).
- You might be allotted to the field of your second or subordinate choice in some cases

8. Announcement of application results

【1st application】August 15 (Tue), 2023 at 10:00
【2nd application】November 20 (Mon), 2023 at 10:00

The announcement is posted on the bulletin board at the entrance of Graduate School of Pharmaceutical Sciences, NUC, 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-December, 2023

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
b. Disaster and accident insurance for student education and research		1,750 yen
c. Liability Insurance coupled with "Gakkensai"		680 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 will be informed 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 is not refundable in principle. However, in any of the following cases, the paid examination fee (excluding bank transfer 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. 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 Master 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.

14. 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.

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 sciences. 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 »
[General selection, Recommendation, Special recommendation]
・Students who have strong motivation for study and research
・Students who are interested in a wide range of research fields and strive to expand their perspectives
・Students who are motivated to acquire their problem-solving ability in the process of research
・From the point of view of developing diverse human resources, students who have different academic backgrounds (undergraduates from other 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»
[General selection, Recommendation, Special recommendation]
The ability of material science and life sciences (equivalent to those who have graduated from a university) and language skill required to acquire the knowledge and skills necessary for research activity
4) «Selection method»
Students who have the academic and language skills in material science and life science necessary for their choice of education and research field are selected by the following methods.

[General selection]
Academic skills in materials science and life science will be evaluated by a written examination Language skills required for research in graduate school will be evaluated by official scores of foreign language examinations such as TOEIC. In addition, an interview will be conducted to evaluate the applicant's motivation for research,aptitude, and personality.

[Recommendations]
To admit students with strong personal qualities widely, this system intends to evaluate comprehensively the aptitude of applicants by reviewing the statement of the reasons for application, English score, Transcript by other methods instead of the written examination for general selection
Academic skills in materials science and life science will be evaluated by a transcript.
Language skills required for research in graduate school will be evaluated by official scores of foreign language examinations such as TOEIC.
Evaluate the applicant's motivation, aptitude, and personality for research through the statement of reasons for application

[Special Recommendations]
To admit students with strong personal qualities widely, this system intends to evaluate the aptitude of applicants by reviewing the statement of the reasons for application, English score, Transcript、interview test by other methods instead of the written examination for general selection
Language skills required for research in graduate school will be evaluated by official scores of foreign language examinations such as TOEIC. Academic skills in materials science and life science will be evaluated by a transcript..
Evaluate the applicant's motivation, aptitude, and personality for research through the statement of reasons for application and interview test.

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