

**長崎大学大学院医歯薬学総合研究科特別コース**

**Nagasaki University Priority Graduate Programs (NUPGP)  
for Foreign Students in Biomedical Sciences**

**Graduate School of Biomedical Sciences**

**NAGASAKI UNIVERSITY**

2018

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## **GUIDE FOR THE APPLICATION OF FOREIGN POSTGRADUATE MASTER COURSE STUDENTS**

The Nagasaki University Priority Graduate Programs (NUPGP) is a special course in the Graduate School of Biomedical Sciences, Nagasaki University, started in October 2007. The NUPGP provides opportunities for qualified graduates from overseas to study on Biological and Medicinal Sciences of infectious diseases, neuroscience, pain, drug addiction, environmental pollutants, anticancer target molecules and medicinal natural products.

The objectives of the NUPGP are to produce competent persons in frontier of those fields as well as impact knowledge of national policy planning in those fields when students go back to their mother countries.

To efficiently meet the goals of the NUPGP, intensive training of a wide scope is provided to students by Professors of Pharmaceutical Sciences in the Graduate School of Biomedical Sciences. Lectures and Instructions of NUPGP are given in English.

This is a call for application to a two-year Master Course for the academic year of 2018.

For deciding the field and the topic of research, applicants choose the appropriate supervisor(s) appearing on the List of Academic Staffs. Also, applicants must contact with the supervisor before applying to the NUPGP.

### **Qualifications**

1. Nationality: Non-Japanese citizens can apply for the program.
2. Academic carrier: The following candidates may apply for admission.
  - a. Those who have Bachelor's Degree from Japanese University as of September 30, 2018.
  - b. Those who have a Degree equivalent, to Bachelor's Degree of Japanese Universities as of September 30, 2018.
  - c. Those who have been designated by the Ministry of Education, Culture, Sports, Science, and Technology of Japanese Government.
  - d. Applicants who have a degree equivalent to Bachelor degree or are expected to be conferred by September 30, 2018 by completing a course (\*1) of more than 3 years at overseas universities or educational institutions (\*2).
    - \*1: completing corresponding course in Japan by the said overseas educational institutions or completing course at educational institutions authorized as educational institutions by the said countries and designated in the preceding item
    - \*2: overseas universities or educational institutions which are evaluated by those whom are approved by the said country's government or government's related institutions or which are designated by the Minister of Education, Culture, Sports, Science and Technology of Japanese Government
  - e. Those who are 22 years old or more as of September 30, 2018, and completed total 16 years schooling and are admitted as that their academic abilities are equivalent to or higher than Bachelor's Degree of Japanese Universities upon reviewing the submitted materials (Review of Academic Abilities).
3. Health: Applicants should be in good health both mentally and physically.
4. Language proficiency: A good working level of English is required.
5. Arrival in Japan: Applicants should arrive in Japan on the designated period, if admitted.

### **Review of Academic Abilities**

1. The applicants whose academic carrier falls into category (Qualifications 2.d) should prepare the following documents to be forwarded to
    - Student Affairs Division
    - School of Pharmaceutical Sciences
    - Nagasaki University
    - 1-14 Bunkyo-machi
    - Nagasaki -shi
    - Nagasaki, 852-8521
    - JAPAN
- ① Review Form for NUPGP (page21).
  - ② Certificate of Graduation issued by university authorities and in English translation.

- ③ Transcripts of Academic Record issued by university authorities and in English translation.
2. All documents should be sent by registered airmail, and must arrive at the Student Affairs Division by June 15, 2018. At this point, the applicants must not pay Entrance Examination Fee.

### Remarks

- 1) Military personals and civilian employees of the armed forces are not eligible.
- 2) Admission shall be canceled if the applicant fails to arrive in Japan on the designated period.
- 3) Admission shall be canceled if the applicant fails to receive the Bachelor's Degree on or before September 30, 2018.

### Enrollment and Tuition expenses

1. Entrance examination fee: 30,000 Yen.
2. Entrance fee: 282,000 Yen.
3. Tuition fee: 535,800 Yen per academic year. Tuition fees may be subject to change.
4. Date of enrollment: October 1, 2018

### Selection and Admission

1. The applicants should be a degree holder of higher grade (preferably A grade or First class honors) in her/his field. Official documents to certify this should be attached together with the application forms. The applicants shall be interviewed directly by the host Professor or interviewed via Internet on some subjects proposed by at least three Professors of the Pharmaceutical Sciences in the Graduate School of Biomedical Sciences. Only those who have a solid academic background, research capability and commitment are selected.
2. The number to be admitted is two per academic year.
3. Application deadline: July 2, 2018.
4. Selection of Applicants: July 23, 2018.
5. Notification Date: August 8, 2018.

### Application

1. Applicants should prepare the following documents to be forwarded to the Dean of the Graduate School of Biomedical Sciences, Nagasaki University through the head of the universities or the institutions with which the applicants are affiliated. Applicants who presently have no formal affiliation should send the prepared documents through the Dean of the University from which he/she graduated.
  - ① Application Form for NUPGP (page 14~19).
  - ② Certificate of Health (Page 20).
  - ③ Copy of Bachelor's Degree or Certificate that the applicant will get Bachelor's Degree before September 30, 2018 if you are a student, now.
  - ④ Transcripts of Academic Record issued by university authorities and its English translation.
  - ⑤ English summary of Graduation Thesis or its equivalent if available, not exceeding four sheets of A4 size paper typed in double space. When a Graduation Thesis is not required by the university from which the applicant graduated, prepare a statement to that effect.
  - ⑥ Certificate of Citizenship issued by appropriate authorities.
  - ⑦ A letter of Recommendation from applicant's supervisor with signature.
  - ⑧ One photograph (hatless portrait) 4.5cm x 3.5cm in size, taken within six months of application date should be attached to the Application Form for NUPGP (page 15).
  - ⑨ Payment Certificate of Entrance Examination Fee: 30,000 Yen.  
Payment of 30,000 Yen must be made during the application period. Please make the payment by telegraphic transfer with the following data. Money transferring fees are the responsibility of the payer. Please remind that any shortage of the payment is not acceptable.

Name of the bank: THE EIGHTEENTH BANK, LTD

Branch: OHASHI BRANCH

Address of the bank: 8-28, Ohashi-machi, Nagasaki-shi, Nagasaki, JAPAN

Account number: 191-01-226702

SWIFT CODE (Mandatory ): EITNJPJT

Purpose of Remittance: Application Fee

Message to payee: Following should be mentioned.

- Applicant's name

- Nationality
  - Name of faculty and course
2. All documents should be sent by registered airmail, and must arrive at the Student Affairs Division Office by July 2, 2018.

### **Remarks**

- 1) The above documents should be type-written in English on double-sided A4 size paper.
- 2) Incomplete documents are not acceptable.
- 3) Applicants are advised to choose their desired fields and supervisor of whose name is listed in the table on page 7 and write the supervisor's name on the application form.
- 4) None of the documents submitted will be returned to the applicant.

### **Personal Data Protection Policy**

- 1) Personal information provided in the application package will only be used for the selection process. The personal information of the successful applicants will be used in the admission process; thus, enrolled students' personal information will be used for registration.
- 2) Results of the entrance examination and other personal information in the application package will be used in the screening process for the scholarship, admission fee exemptions, tuition waivers, etc.
- 3) Personal information provided in the application package and entrance examination may be used for statistical surveys and research regarding admissions at the university.
- 4) Personal information provided in the application package and entrance examination, unless specified in Article 9 of the Act on the Protection of Personal Information Held by Independent Administrative Agencies, etc., will not be distributed to third parties or used for purposes other than those mentioned above.

### **Consultation for Applicants with Disabilities**

Applicants with disabilities that would require specific arrangements for the examination or for learning are required to contact Student Affairs Division before submitting the application. Applicants will never be negatively treated in the screening process by the results of an advance consultation. Applicants may be required to submit documents describing detail of arrangement. Without consultation beforehand, the applicants may not be allowed to ask for arrangement.

☆ Nagasaki University has Support Center for students and applicants with disabilities.

### **Security Export Control**

Nagasaki University regulates the export of goods and provision of technology subject to safety concerns, in accordance with the Foreign Exchange and Foreign Trade Act, so that the research and education for non-Japanese students do not impede international peace and safety; accordingly, prospective students should keep in mind that they may be requested to change the contents of research and education. For further inquiries, consult the relevant office.

### **Notes**

1. An applicant will be deprived of entrance under the following cases:
  - a. False statements on the documents.
  - b. Violation of the pledge.
  - c. Violation of school regulations, and no satisfactory academic achievement.
2. Applicants are recommended to be well acquainted with the Japanese language, culture, customs *etc.* Knowledge of the Japanese language is necessary in daily life.

### **Correspondence**

Any inquiry relating to the application for the NUPGP should correspond to each professor listed in Academic staffs (page 7) by e-mail.

### **Student Affairs Division**

School of Pharmaceutical Sciences  
 Nagasaki University  
 1-14 Bunkyo-machi  
 Nagasaki-shi  
 Nagasaki, 852-8521  
 JAPAN

## **GUIDE FOR THE APPLICATION OF FOREIGN POSTGRADUATE DOCTOR COURSE STUDENTS**

The Nagasaki University Priority Graduate Programs (NUPGP) is a special course in the Graduate School of Biomedical Sciences, Nagasaki University, started in October 2007. The NUPGP provides opportunities for qualified graduates from overseas to study on Biological and Medicinal Sciences of infectious diseases, pain, drug addiction, environmental pollutants, anticancer target molecules and medicinal natural products.

The objectives of the NUPGP are to produce competent persons in frontier of those fields as well as impact knowledge of national policy planning in those fields when students go back to their mother countries.

To efficiently meet the goals of the NUPGP, intensive training of a wide scope is provided to students by Professors of Pharmaceutical Sciences in the Graduate School of Biomedical Sciences. Lectures and Instructions of NUPGP are given in English.

This is a call for application to a three-year Ph.D. Course for the academic year of 2018.

For deciding the field and the topic of research, applicants choose the appropriate supervisor(s) appearing on the List of Academic Staffs. Also, applicants must contact with the supervisor before applying to the NUPGP.

### **Qualifications**

1. Nationality: Non-Japanese citizens can apply for the program.
2. Academic carrier: The following candidates may apply for admission.
  - a. Those who have Master's Degree from Japanese University as of September 30, 2018.
  - b. Those who have a Degree equivalent, to Master's Degree of Japanese Universities as of September 30, 2018.
  - c. Those who have been designated by the Ministry of Education, Culture, Sports, Science, and Technology of Japanese Government.
  - d. Those who are 24 years old or more as of September 30, 2018, and completed total 18 years schooling, and are admitted as that their academic abilities are equivalent to or higher than Master's Degree of Japanese Universities upon reviewing the submitted materials (Review of Academic Abilities).
3. Health: Applicants should be in good health both mentally and physically.
4. Language proficiency: A good working level of English is required.
5. Arrival in Japan: Applicants should arrive or be here in Japan on the designated period, if admitted.

### **Review of Academic Abilities**

1. The applicants whose academic carrier falls into category (Qualifications 2.d) should prepare the following documents to be forwarded to  
Student Affairs Division  
School of Pharmaceutical Sciences  
Nagasaki University  
1-14 Bunkyo-machi  
Nagasaki-shi  
Nagasaki 852-8521  
JAPAN
  - ① Review Form for NUPGP (page 21~22).
  - ② Certificate of Graduation issued by university authorities and in English translation.
  - ③ Transcripts of Academic Record issued by university authorities and in English translation.
  - ④ Research Activities List Form (page 23).
  - ⑤ Outline of Research Activities Form (page 24~25).
  - ⑥ Certificate of Employment Record Form (page 26~27).
2. All documents should be sent by registered airmail, and must arrive at the Student Affairs Division by June 15, 2018. At this point, the applicants must not pay Entrance Examination Fee.

## Remarks

- 1) Military personals and civilian employees of the armed forces are not eligible.
- 2) Admission shall be canceled if the applicant fails to arrive in Japan on the designated period.
- 3) Admission shall be canceled if the applicant fails to receive the Master's Degree on or before September 30, 2018.

## Enrollment and Tuition expenses

1. Entrance examination fee: 30,000 Yen.
2. Entrance fee: 282,000 Yen.
3. Tuition fee: 535,800 Yen per academic year. Tuition fees may be subject to change.
4. Date of enrollment: October 1, 2018.

## Selection and Admission

1. The applicants should be a degree holder of higher grade (preferably A grade or First class honors) in her/his field. Official documents to certify this should be attached together with the application forms. The applicants shall be interviewed directly by the host Professor or interviewed via Internet on some subjects proposed by at least three Professors of the Pharmaceutical Sciences in the Graduate School of Biomedical Sciences. Only those who have a solid academic background, research capability and commitment are selected.
2. The number to be admitted is five per academic year.
3. Application deadline: July 2, 2018.
4. Selection of Applicants: July 23, 2018.
5. Notification Date: August 8, 2018.

## Application

1. Applicants should prepare the following documents to be forwarded to the Dean of the Graduate School of Biomedical Sciences, Nagasaki University through the head of the universities or the institutions with which the applicants are affiliated. Applicants who presently have no formal affiliation should send the prepared documents through the Dean of the University from which he/she graduated.
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  - ④ Transcripts of Academic Record issued by university authorities and its English translation.
  - ⑤ English summary of Master Thesis or its equivalent if available, not exceeding four sheets of A4 size paper typed in double space. When a Master Thesis is not required by the university from which the applicant graduated, prepare a statement to that effect.
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  - ⑦ A letter of Recommendation from applicant's supervisor with signature.
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Name of the bank: THE EIGHTEENTH BANK, LTD  
Branch: OHASHI BRANCH  
Address of the bank: 8-28, Ohashi-machi, Nagasaki-shi, Nagasaki, JAPAN  
Account number: 191-01-226702  
SWIFT CODE (Mandatory): EITNJPJT  
Purpose of Remittance: Application Fee  
Message to payee: Following should be mentioned.
    - Applicant's name
    - Nationality
    - Name of faculty and course
2. All documents should be sent by registered airmail, and must arrive at the Student Affairs Division office by July 2, 2018

## Remarks

- 1) The above documents should be type-written in English on double-sided A4 size paper.
- 2) Incomplete documents are not acceptable.
- 3) Applicants are advised to choose their desired fields and supervisor of whose name is listed in the table on page 11 and write the supervisor's name on the application form (Form A).
- 4) None of the documents submitted will be returned to the applicant.

## Personal Data Protection Policy

- 1) Personal information provided in the application package will only be used for the selection Process. The personal information of the successful applicants will be used in the admission process; thus, enrolled students' personal information will be used for registration.
- 2) Results of the entrance examination and other personal information in the application package will be used in the screening process for the scholarship, admission fee exemptions, tuition waivers, etc.
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  - c. Violation of school regulations, and no satisfactory academic achievement.
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## Correspondence

Any inquiry relating to the application for the NUPGP should correspond to each professor listed in Academic staffs (page 11) by e-mail.

## Student Affairs Division

School of Pharmaceutical Sciences  
Nagasaki University  
1-14 Bunkyo-machi  
Nagasaki-shi,  
Nagasaki 852-8521  
JAPAN



## Academic Staff Members for Graduate School of Biomedical Sciences, Course of Pharmaceutical Sciences (Master Course)

Academic Staff	Major Teaching and Research Field (Subject)
M. Tanaka and M. Oba ( <a href="mailto:matanaka@nagasaki-u.ac.jp">matanaka@nagasaki-u.ac.jp</a> )	Pharmaceutical Chemistry (Bioorganic Chemistry for Environmental Science)
K. Takeda and S. Tanimura ( <a href="mailto:takeda-k@nagasaki-u.ac.jp">takeda-k@nagasaki-u.ac.jp</a> )	Intracellular Signal Transduction (Cell Biology for Health Science)
H. Ueda <sup>※1</sup> and T. Tsukahara ( <a href="mailto:ueda@nagasaki-u.ac.jp">ueda@nagasaki-u.ac.jp</a> )	Pharmacology and Therapeutic Innovation (Pharmacology of Pain and Drug Abuse)
J. Ishihara and H. Fukuda ( <a href="mailto:jiishi@nagasaki-u.ac.jp">jiishi@nagasaki-u.ac.jp</a> )	Pharmaceutical Organic Chemistry (Pharmaceutical Organic Chemistry for Infectious Diseases)
O. Onomura and M. Kuriyama ( <a href="mailto:onomura@nagasaki-u.ac.jp">onomura@nagasaki-u.ac.jp</a> )	Synthetic Chemistry for Pharmaceuticals (Synthesis of Drugs for Infectious Diseases)
N. Iwata and K. Shirotni ( <a href="mailto:iwata-n@nagasaki-u.ac.jp">iwata-n@nagasaki-u.ac.jp</a> )	Genome-Based Drug Discovery (Molecular Mechanism of Alzheimer's Disease)
K. Kitazato ( <a href="mailto:kkhohi@nagasaki-u.ac.jp">kkhohi@nagasaki-u.ac.jp</a> )	※2 Molecular Pharmacology of Infectious Agents (Molecular Biology of Infectious Agents)
T. Tanaka and Y. Saito ( <a href="mailto:t-tanaka@nagasaki-u.ac.jp">t-tanaka@nagasaki-u.ac.jp</a> )	Natural Product Chemistry (Natural Product Chemistry for Infectious Diseases)
K. Yamada ( <a href="mailto:kyamada@nagasaki-u.ac.jp">kyamada@nagasaki-u.ac.jp</a> )	Medical Plants Biochemistry (Resources of Marine Natural Medicines for Infectious Diseases)
T. Maki ( <a href="mailto:maki@nagasaki-u.ac.jp">maki@nagasaki-u.ac.jp</a> )	Instrumental Analysis for Molecular Structure (Resources of Natural Medicines for Infectious Diseases)
A. Yamayoshi ( <a href="mailto:asakoy@nagasaki-u.ac.jp">asakoy@nagasaki-u.ac.jp</a> )	Chemistry of Biofunctional Molecules (Chemistry of Biofunctional Molecules for Infectious Diseases)
M. Nakayama <sup>※1</sup> and T. Fuchigami ( <a href="mailto:morio@nagasaki-u.ac.jp">morio@nagasaki-u.ac.jp</a> )	Hygienic Chemistry (Inorganic Chemistry in Health and Environmental Sciences)
N. Kuroda and N. Kishikawa ( <a href="mailto:n-kuro@nagasaki-u.ac.jp">n-kuro@nagasaki-u.ac.jp</a> )	Analytical Chemistry (Analytical Chemistry in Health and Environmental Sciences)
K. Tsukamoto and T. Inamine ( <a href="mailto:ktsuka@nagasaki-u.ac.jp">ktsuka@nagasaki-u.ac.jp</a> )	Pharmacotherapeutics
S. Kawakami and M. Hagimori ( <a href="mailto:skawakam@nagasaki-u.ac.jp">skawakam@nagasaki-u.ac.jp</a> )	Pharmaceutical Informatics (Analytical Chemistry in Health and Environmental Sciences)
K. Nishida and S. Fumoto ( <a href="mailto:koyo-n@nagasaki-u.ac.jp">koyo-n@nagasaki-u.ac.jp</a> )	Pharmaceutics (Inorganic Chemistry in Health and Environmental Sciences)

※1 The professor of this laboratory will retire from retirement in March of 2019.

※2 If you want to make this laboratory the primary choice, you should also contact the Student Affairs office. (e-mail address: [yaku\\_gaku@ml.nagasaki-u.ac.jp](mailto:yaku_gaku@ml.nagasaki-u.ac.jp))

# MAJOR TEACHING AND RESEARCH FIELDS

## Graduate School of Biomedical Sciences (Master Course)

### Department of Pharmaceutical Chemistry

Research Fields:

- Design and synthesis of non-proteinogenic amino acids and their utilizations
- Studies on bio-inspired molecules

### Department of Cell Regulation

Research Fields:

- Intracellular signal transduction regulating cellular stress response
- Roles for the MAP kinase pathways in the regulation of diverse cellular processes

### Department of Pharmacology and Therapeutic Innovation

Research Fields:

- Molecular and cellular biology of neuronal protection
- Molecular, cellular and behavioral sciences of opioids and their receptors
- Molecular and behavioral sciences of pain
- Molecular and cellular biology of neurosteroids and endocrine disruptors

### Department of Pharmaceutical Organic Chemistry

Research Fields:

- Development of a new methodology for the construction of complex molecules
- Development of a new synthetic reagent and reaction
- Synthesis of biologically active compounds
- Chemical biology based on natural products

### Department of Synthetic Chemistry for Pharmaceuticals

Research Fields:

- New synthetic methods using optically active  $\alpha$ -amino acids
- Synthesis of drugs utilizing electrochemical oxidation
- Asymmetric synthesis using new chiral ligands
- Recognition of polyols

### Department of Genome-based Drug Discovery

Research Fields:

- Analysis of Alzheimer's disease pathogenesis and development of new therapeutic methods, e.g. gene therapy etc.
- Application of induced pluripotent stem (iPS) cell technology to Alzheimer's disease research
- Gene therapy for neurodegenerative diseases

### Department of Molecular Pharmacology of Infectious Agents

Research Fields:

- Virus infections and apoptosis
- Development of anti-virus drugs
- Development of an AIDS vaccine using influenza virus as a vector
- Screening of a new toxin-producing marine microorganism
- Analysis of signal transduction mechanisms involving cytokines in various types of diseases

### **Department of Natural Product Chemistry**

Research Fields:

- Chemical study on polyphenols in medicinal plants and traditional foods
- Investigation on molecular conversion of natural products during processing of foods and medicinal plants
- Studies on inter- and intra-specific diversity in plant secondary metabolites
- Studies on the regulations of plant secondary metabolism by plant cell cultures

### **Department of Medical Plants Biochemistry**

Research Fields:

- Chemical studies on the bioactive constituents from medicinal plants
- Drug development research on the bioactive constituents from marine invertebrates
- Drug development research on the bioactive constituents derived from marine microorganisms

### **Department of Instrumental Analysis for Molecular Structure**

Research Fields:

- Design and synthesis of molecular probe for drug discovery

### **Department of Chemistry of Biofunctional Molecules**

Research Fields:

- Development of nucleic acid drugs for functional regulation of non-coding RNAs
- Novel drug delivery system using circulating extracellular vehicles
- Development of novel photodynamic regulation system for regulation of epigenetic gene expression

### **Department of Hygienic Chemistry**

Research Fields:

- An assessment of Niboshi (a processed Japanese anchovy) as an effective food source of selenium
- Selenium metabolic pathways in biological systems
- Blood glucose-lowering efficacy of vanadium (IV, V)-hydroxamate complexes in diabetic mellitus
- Development of survivin targeting theranostics for cancer specific diagnosis and therapy
- Development of in vivo imaging probes for diagnosis of prion diseases
- Development of a generator system for PET imaging agents not using cyclotron facility

### **Department of Analytical Chemistry**

Research Fields:

- Development of luminescence reagents for biomedical analyses
- Development of functional packing materials for HPLC and CEC separation
- Development of analytical method for environmental pollutants
- Study on novel chemiluminescence reactions for analytical chemistry
- Development of a novel proteomic analysis and its application to clinical diagnosis

### **Department of Pharmacotherapeutics**

Research Fields:

- Research into DNA-based diagnostic methods for personalized medicine
- Research into association studies on susceptibility genes for diseases, progression, drug

- effectiveness, adverse effects, and prognosis using genetic polymorphic markers
- Research into the interaction between chronic liver diseases and gut microbiome

### **Department of Pharmaceutical Informatics**

Research Fields:

- Development of targeted drug delivery system using physical stimuli
- Design and evaluation of ligand modified liposomes
- Development of gene delivery system
- Evaluation of pharmaceutical products for effective and safe use
- Development of molecular imaging probes for cancer diagnosis and therapy

### **Department of Pharmaceutics**

Research Fields:

- Organ- and site-selective delivery of drugs following the organ surface application
- Organ- and site-selective gene transfection following the application of naked plasmid DNA to the organ surface
- Changes in pharmacokinetics of drugs during hypothermia

## Academic Staff Members for Graduate School of Biomedical Sciences, Course of Pharmaceutical Sciences (Doctor Course)

Academic Staff	Major Teaching and Research Field (Subject)
M. Tanaka and M. Oba ( <a href="mailto:matanaka@nagasaki-u.ac.jp">matanaka@nagasaki-u.ac.jp</a> )	Pharmaceutical Chemistry (Bioorganic Chemistry for Environmental Science)
K. Takeda and S. Tanimura ( <a href="mailto:takeda-k@nagasaki-u.ac.jp">takeda-k@nagasaki-u.ac.jp</a> )	Intracellular Signal Transduction (Cell Biology for Health Science)
H. Ueda* and T. Tsukahara ( <a href="mailto:ueda@nagasaki-u.ac.jp">ueda@nagasaki-u.ac.jp</a> )	Pharmacology and Therapeutic Innovation (Pharmacology of Pain and Drug Abuse)
J. Ishihara and H. Fukuda ( <a href="mailto:jiishi@nagasaki-u.ac.jp">jiishi@nagasaki-u.ac.jp</a> )	Pharmaceutical Organic Chemistry (Pharmaceutical Organic Chemistry for Infectious Diseases)
O. Onomura and M. Kuriyama ( <a href="mailto:onomura@nagasaki-u.ac.jp">onomura@nagasaki-u.ac.jp</a> )	Synthetic Chemistry for Pharmaceuticals (Synthesis of Drugs for Infectious Diseases)
N. Iwata and K. Shirotani ( <a href="mailto:iwata-n@nagasaki-u.ac.jp">iwata-n@nagasaki-u.ac.jp</a> )	Genome-based Drug Discovery (Molecular Mechanism of Alzheimer's Disease)
T. Tanaka and Y. Saito ( <a href="mailto:t-tanaka@nagasaki-u.ac.jp">t-tanaka@nagasaki-u.ac.jp</a> )	Natural Product Chemistry (Natural Product Chemistry for Infectious Diseases)
K. Yamada ( <a href="mailto:kyamada@nagasaki-u.ac.jp">kyamada@nagasaki-u.ac.jp</a> )	Medical Plants Biochemistry (Resources of Marine Natural Medicines for Infectious Diseases)
T. Maki ( <a href="mailto:maki@nagasaki-u.ac.jp">maki@nagasaki-u.ac.jp</a> )	Instrumental Analysis for Molecular Structure (Resources of Natural Medicines for Infectious Diseases)
A. Yamayoshi ( <a href="mailto:asakoy@nagasaki-u.ac.jp">asakoy@nagasaki-u.ac.jp</a> )	Chemistry of Biofunctional Molecules (Chemistry of Biofunctional Molecules for Infectious Diseases)
M. Nakayama* and T. Fuchigami ( <a href="mailto:morio@nagasaki-u.ac.jp">morio@nagasaki-u.ac.jp</a> )	Hygienic Chemistry (Inorganic Chemistry in Health and Environmental Sciences)
N. Kuroda and N. Kishikawa ( <a href="mailto:n-kuro@nagasaki-u.ac.jp">n-kuro@nagasaki-u.ac.jp</a> )	Analytical Chemistry (Analytical Chemistry in Health and Environmental Sciences)

\* The professor of this laboratory will retire from retirement in March of 2019.

# MAJOR TEACHING AND RESEARCH FIELDS

## Graduate School of Biomedical Sciences (Doctor Course)

### Department of Pharmaceutical Chemistry

Research Fields:

- Design and synthesis of non-proteinogenic amino acids and their utilizations
- Studies on bio-inspired molecules

### Department of Cell Regulation

Research Fields:

- Intracellular signal transduction regulating cellular stress response
- Roles for the MAP kinase pathways in the regulation of diverse cellular processes

### Department of Pharmacology and Therapeutic Innovation

Research Fields:

- Molecular and cellular biology of neuronal protection
- Molecular, cellular and behavioral sciences of opioids and their receptors
- Molecular and behavioral sciences of pain
- Molecular and cellular biology of neurosteroids and endocrine disruptors

### Department of Pharmaceutical Organic Chemistry

Research Fields:

- Development of a new methodology for the construction of complex molecules
- Development of a new synthetic reagent and reaction
- Synthesis of biologically active compounds
- Chemical biology based on natural products

### Department of Synthetic Chemistry for Pharmaceuticals

Research Fields:

- New synthetic methods using optically active  $\alpha$ -amino acids
- Synthesis of drugs utilizing electrochemical oxidation
- Asymmetric synthesis using new chiral ligands
- Recognition of polyols

### Department of Genome-based Drug Discovery

Research Fields:

- Analysis of Alzheimer's disease pathogenesis and development of new therapeutic methods, *e.g.* gene therapy etc.
- Application of induced pluripotent stem (iPS) cell technology to Alzheimer's disease research
- Gene therapy for neurodegenerative diseases

### Department of Natural Product Chemistry

Research Fields:

- Chemical study on polyphenols in medicinal plants and traditional foods
- Investigation on molecular conversion of natural products during processing of foods and medicinal plants
- Studies on inter- and intra-specific diversity in plant secondary metabolites.
- Studies on the regulations of plant secondary metabolism by plant cell cultures.

### Department of Medical Plants Biochemistry

Research Fields:

- Chemical studies on the bioactive constituents from medicinal plants
- Drug development research on the bioactive constituents from marine invertebrates
- Drug development research on the bioactive constituents derived from marine microorganisms

### **Department of Instrumental Analysis for Molecular Structure**

Research Fields:

- Design and synthesis of molecular probe for drug discovery

### **Department of Chemistry of Biofunctional Molecules**

Research Fields:

- Development of nucleic acid drugs for functional regulation of non-coding RNAs
- Novel drug delivery system using circulating extracellular vehicles
- Development of novel photodynamic regulation system for regulation of epigenetic gene expression

### **Department of Hygienic Chemistry**

Research Fields:

- An assessment of Niboshi (a processed Japanese anchovy) as an effective food source of selenium
- Selenium metabolic pathways in biological systems
- Blood glucose-lowering efficacy of vanadium (IV, V)-hydroxamate complexes in diabetic mellitus
- Development of survivin targeting theranostics for cancer specific diagnosis and therapy
- Development of in vivo imaging probes for diagnosis of prion diseases
- Development of a generator system for PET imaging agents not using cyclotron facility

### **Department of Analytical Chemistry**

Research Fields:

- Development of luminescence reagents for biomedical analyses
- Development of functional packing materials for HPLC and CEC separation
- Development of analytical method for environmental pollutants
- Study on novel chemilinescence reactions for analytical chemistry
- Development of a novel proteomic analysis and its application to clinical diagnosis

## APPLICATION FORM FOR NUPGP

### INSTRUCTION (記入上の注意)

1. Application should be typewritten or written in Roman block capitals.  
(記入は楷書又はローマ字体を用いること。)
2. Numbers should be in Arabic figures.  
(数字は算用数字を用いること。)
3. Year should be written in the Anno Domini system.  
(年号はすべて西暦とすること。)
4. Proper nouns should be written in full, and not be abbreviated.  
(固有名詞はすべて正式な名称とし、一切省略しないこと。)
5. Payment Certificate of Examination fee of 30,000 Yen should be enclosed.  
(検定料30,000円の支払い証明書を添えること。)
6. Enter the address below for notifying the result of the selection.  
(合格通知書等の送付先を下記欄に記入のこと。)

\*Personal data entered in this application will only be used for selection purposes, and contact information such as e-mail addresses will only be used for forming related human networks after the student returns home.)

(本申請書に記載された個人情報については、選考のために使用するほかは、特に E-mail アドレス等の連絡先については、帰国後における関係者のネットワークを作ること以外には使用しない。)

To :
Name :
Present address :



NUPGP PROGRAM FOR MASTER or DOCTOR COURSE (please check)

## 長崎大学大学院医歯薬学総合研究科特別コース(博士前期・博士後期)入学申請書

Department \_\_\_\_\_

Field \_\_\_\_\_

Laboratory \_\_\_\_\_

Name of the desired supervisor

(指導を希望する主指導教員名をかならず記入すること)

\_\_\_\_\_

Paste a passport sized photograph  
or digital image taken within the  
past 6 months. Write your name  
and nationality in block letters on  
the back of the photo.

(4.5cm×3.5cm  
photo)

(写真(4.5cm×3.5cm))

1. Name in full, in native language (姓名(自国語))

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

(Family name)

(First name)

(Middle name)

(Sex)

 Male (男) Female (女)

In Roman block capitals (ローマ字)

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

(Family name)

(First name)

(Middle name)

(Marital Status)

 Single (未婚) Married (既婚)

2. Nationality (国籍) \_\_\_\_\_

3. Date of birth (生年月日) Year 19 , Month , Date , Age (As of September 30, 2018)  
(年) (月) (日) (年齢)4. Present status : with the name of the university attended, or of the employer.  
(現職(在学大学名又は勤務先名まで記入すること))

\_\_\_\_\_

5. Present address and telephone number, facsimile number or E-mail address

(現住所、電話及びファクス番号又は電子メールアドレス)

Present address (現住所):

Telephone/Facsimile number (電話及びファクス番号)

E-mail address \_\_\_\_\_

\*if possible, write an e-mail address that can be used for periods including the time before you come to Japan, your stay in Japan and the period after you return home.

(可能な限り、渡日前～日本留学中～帰国後にわたり使い続けることが予想されるE-mail アドレスを記入すること。)

6. Field of specialization studied in the past (Be as detailed and concrete as possible)

(過去に専攻した専門分野(できるだけ具体的に詳細に書くこと))

## 7. Educational background (学歴)

	Name and Address of School (学校名及び所在地)	Year and Month of Entrance and Completion (入学及び卒業年月)	Amount of time spent at the school attended (修学年数)	Diploma or Degree awarded, Major subject (学位・資格, 専攻科目) When taking leave of absence, the period and reason. (休学した場合はその期間・理由)
Elementary Education (初等教育)  Elementary School (小学校)	Name (学校名)  Location (所在地)	From (入学)  To (卒業)	years (年)  and months (月)	
Secondary Education (中等教育)  Lower Secondary School (中学)	Name (学校名)  Location (所在地)	From (入学)  To (卒業)	years (年)  and months (月)	
Upper Secondary School (高校)	Name (学校名)  Location (所在地)	From (入学)  To (卒業)	years (年)  and months (月)	
Higher Education (高等教育)  Undergraduate Level (大学)	Name (学校名)  Location (所在地)	From (入学)  To (卒業)	years (年)  and months (月)	
Graduate Level (大学院)	Name (学校名)  Location (所在地)	From (入学)  To (卒業)	years (年)  and months (月)	
Total years of schooling mentioned above (以上を通算した全学校教育修学年数) as of September 30, 2018 (2018年9月30日現在)			years (年)	

\* If the blank spaces above are not sufficient for the information required, please attach a separate sheet.  
((注) 上欄に書ききれない場合には, 適当な別紙に記入して添付すること。)

8. State the titles or subjects of books or papers (including graduation thesis authored by the applicant), if any, with the name and address of the publisher and the date of publication. (著書, 論文 (卒業論文を含む。)があればその題名, 出版社名, 出版年月日, 出版場所を記すこと。)

\* Please attach abstracts of those papers to this application.  
((注) 論文の概要を添付のこと。)

## 9. Employment Record: Begin with the most recent employment, if applicable. (職歴)

Name and address of organization (勤務先及び所在地)	Period of employment (勤務期間)	Position (役職名)	Type of work (職務内容)
	From To		
	From To		

## 10. Japanese language proficiency: Evaluate your level and mark with an × where appropriate in the following blanks.

(日本語能力を自己評価のうえ、該当欄に×印を記入すること。)

	Excellent (優)	Good (良)	Fair (可)	Poor (不可)
Reading (読む能力)				
Writing (書く能力)				
Speaking (話す能力)				

## 11. Foreign language proficiency: Evaluate your level and mark with an × where appropriate in the following categories.

(外国語能力を自己評価のうえ、該当欄に×印を記入すること。)

	Excellent (優)	Good (良)	Fair (可)	Poor (不可)
English (英語)				
French (仏語)				
German (独語)				
Spanish (西語)				

**専攻分野及び研究計画**  
**Field of Study and Study Program**

Name in full, in native language

(姓名(自国語))

\_\_\_\_\_

Family name

\_\_\_\_\_

First name

\_\_\_\_\_

Middle name

Nationality

(国籍)

\_\_\_\_\_

Proposed study program in Japan (State the outline of your major field of study on this side and the details of your study program on the backside of this sheet. This section will be used as a one of the most important reference for selection. Statement must be typewritten in block letters. Additional sheets of paper may be attached if necessary.

日本での研究計画; この研究計画は、選考の重要な参考となるので、表面に専攻分野の概要を、裏面に研究計画の詳細を記入すること。記入は楷書によるものとし、必要な場合は別紙を追加してもよい。

If you have Japanese language ability, write in Japanese.

(相当の日本語能力を有する者は、日本語により記入すること。)

1. Field of study (専攻分野)

2. Study Program in Japan in detail and concreteness (研究計画; 詳細かつ具体的に記入すること。)

健康診断書

CERTIFICATE OF HEALTH (to be completed by the examining physician)

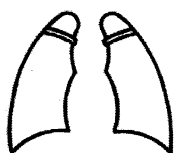
日本語又は英語により明瞭に記載すること。
Please fill out (PRINT/TYPE) in Japanese or English.

氏名 Name: Family name, First name Middle name
性別 Male/Female
生年月日 Date of Birth:
年齢 Age:

1. 身体検査 Physical Examinations

- (1) 身長 Height cm, 体重 Weight kg
(2) 血圧 Blood pressure mm/Hg, 血液型 Blood Type ABO, RH, 脈拍 Pulse, 整/不整 regular/irregular
(3) 視力 Eyesight: (R) (L) 裸眼 without glasses, (R) (L) 矯正 with glasses or contact lenses, 色覚異常の有無 color blindness, 正常/異常 normal/impaired
(4) 聴力 Hearing: 正常/低下 normal/impaired, 言語 speech: 正常/異常 normal/impaired

2. 申請者の胸部について、聴診とX線検査の結果を記入してください。X線検査の日付も記入すること(3ヶ月以上前の検査は無効。)
Please describe the results of physical and X-ray examinations of applicant's chest x-ray (X-ray taken more than 3 months prior to the certification is NOT valid).



肺 lung: 正常/異常 normal/impaired
Date
Film No.

Describe the condition of applicant's lung.

心臓 Cardiomegaly: 正常/異常 normal/impaired
異常がある場合 心電図 Electrocardiograph: 正常/異常 normal/impaired

3. 現在治療中の病気 Disease Treated at Present: Yes/No (Disease: )

4. 既往症 Past history: Please indicate with + or - and fill in the date of recovery

Tuberculosis, Malaria, Other communicable disease, Epilepsy, Kidney Disease, Heart Diseases, Diabetes, Drug Allergy, Psychosis, Functional Disorder in extremities

5. 検査 Laboratory tests
検尿 Urinalysis: glucose, protein, occult blood

赤沈 ESR, WBC count, 貧血 anemia, Hemoglobin, GPT

6. 診断医の印象を述べて下さい。
Please describe your impression.

7. 志願者の既往歴、診察・検査の結果から判断して、現在の健康の状況は十分に留学に耐えうるものと思えますか?
In view of the applicant's history and the above findings, is it your observation his/her health status is adequate to pursue studies in Japan? yes no

日付 Date: 署名 Signature:

医師氏名 Physician's Name in Print:

検査施設名 Office/Institution:
所在地 Address:

## Review Form for NUPGP

(長崎大学大学院医歯薬学総合研究科特別コース出願資格認定申請書)

year ____ month ____ entrance ( 年 月 入学)	examinee number ※ (受験番号)
year ____ month ____ date ____ ( 年 月 日)	
To Dean of Graduate School of Biomedical Sciences Nagasaki University (長崎大学大学院医歯薬学総合研究科長 殿)	
Name (氏 名)	
sign	
Date of birth: year ____ month ____ date ____ Male · Female ( 年 月 日生 男 · 女)	
Course	MASTER ( ) or DOCTOR ( )
Laboratory (研究分野)	Supervisor (指導教員)
sign	
Educational background (学歴)	
Name of School (学校名)	Amount of time spent at the school attended (修業年数)
	Years (年)
	From ____ year/month (入学 年 月)
	To ____ year/month (卒業 年 月)
	From ____ year/month (入学 年 月)
	To ____ year/month (卒業 年 月)
	From ____ year/month (入学 年 月)
	To ____ year/month (卒業 年 月)
	From ____ year/month (入学 年 月)
	To ____ year/month (卒業 年 月)
Total (計)	Years (年)

Employment Record (職歴)		
From	year/month ( 年 月)	
To	year/month ( 年 月)	
From	year/month ( 年 月)	
To	year/month ( 年 月)	
From	year/month ( 年 月)	
To	year/month ( 年 月)	
From	year/month ( 年 月)	
To	year/month ( 年 月)	
From	year/month ( 年 月)	
To	year/month ( 年 月)	
From	year/month ( 年 月)	
To	year/month ( 年 月)	
From	year/month ( 年 月)	
To	year/month ( 年 月)	
From	year/month ( 年 月)	
To	year/month ( 年 月)	
Contact Address (審査結果通知先)	Zip Code (〒)	TEL

**INSTRUCTION (注)**

1. Write by pen in Roman block capitals.  
(ペン又はボールペンを使用し、楷書で記入すること。)
2. Don't write in ※ space.  
(※ 欄は記入しないこと。)
3. Educational background school be from Elementary School.  
(学歴は小学校入学から記入すること。)
4. An applicant will be deprived of entrance in case of false statements on the documents.  
(入学後、履歴中に虚偽の記載事項が発見された場合には、入学を取り消すことがある。)



## Research Activities List Form (研究業績調書)

Examinee number (受験番号)	※		
Name (氏名)		Laboratory (研究分野)	
<p>Research article・book (発表論文名・著書名)</p> <p>(authors, title, journal, vol (No.), initial page-last page, year)</p> <p>(著者名, 論文名, 学協会誌名, 巻(号), 最初と最後のページ, 発表年(西暦))</p> <p><b>Your name should be underlined.</b></p> <p>(自分の氏名にはアンダーラインを付すこと。)</p>			

**INSTRUCTION (注)**

1. The list should be sorted by year. Reprints or copies should be attached.  
(年代順に記載のこと。なお、学術論文等は、別刷又は写しを添付すること。)
2. Don't write in the ※ space.  
(※欄は記入しないこと。)

## Outline of Research Activities Form

(研究(業務)等の概要)

Examinee number (受験番号)	※		No. 1
Name (氏名)		Laboratory (研究分野)	
Outline of Research Activities (研究(業務)等の概要)			

Note: Don't write in ※ space. ( (注) ※欄は記入しないこと。 )

# Outline of Research Activities Form

(研究 (業務) 等の概要)

Examinee number (受験番号)	※	No. 2
Outline of Research Activities (研究 (業務) 等の概要)		

Note: Don't write in ※ space. ( (注) ※欄は記入しないこと。)

# Certificate of Employment Record Form

(研究 (業務) 歴・内容証明書)

Examinee number (受験番号)	※		No. 1
year ____ month ____ date ____ ( ____ 年 ____ 月 ____ 日)			
To Dean of Graduate School of Biomedical Sciences Nagasaki University  (長崎大学大学院医歯薬学総合研究科長 殿)			
Verifier Head of institution (証明者 所属機関の長)			
Position (職 名)			
Name (氏 名)			
sign			
This is to certify that the examinee belonged to the institution. (下記の者の研究 (業務) 従事内容について証明します。)			
Name (氏名)			
Laboratory (研究分野)			
Period of employment (研究 (業務) 従事期間)	From (年 月 日 から	To 年 月 日まで)	Position (職名等)
Period of employment (研究 (業務) 従事期間)	From (年 月 日 から	To 年 月 日まで)	Position (職名等)
Period of employment (研究 (業務) 従事期間)	From (年 月 日 から	To 年 月 日まで)	Position (職名等)
Period of employment (研究 (業務) 従事期間)	From (年 月 日 から	To 年 月 日まで)	Position (職名等)
Type of work concerning research plan (研究計画に関連する過去の研究・職務内容)			

Note: Don't write in ※ space. ( (注) ※欄は記入しないこと。)

## Certificate of Employment Record Form

(研究(業務)歴・内容証明書)

No. 2

Examinee number (受験番号)	※	Name (氏名)	

Note: Don't write in ※ space. ( (注) ※欄は記入しないこと。)