Tokyo Medical and Dental University

PhD Program in
Biomedical Science and Technology
DP-GLP
(5-year Master’s and Doctoral Program)

Admission Guide 2017

For International Students with Japanese
Government Scholarship

Tentative
Contents are subject to change.
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1. Introduction

Dear Applicant:

Thank you for considering Tokyo Medical and Dental University for your graduate study. Our master’s and doctoral programs are highly ranked and are comprised of a full spectrum of biomedical study for both academic and professional careers. In 2007 Tokyo Medical and Dental University has started a new International Graduate Program for Biomedical Science to offer more opportunities for international students to study in this area. In 2014 this program was reformed. In this program, all courses are lectured in English. Tokyo Medical and Dental University gratefully accepts motivated applicants and promotes the diversity of the graduate school.

We offer you our best wishes for your successful application to the Program.

Caution:

The International Graduate Program for Biomedical Science is supported by a Japanese Educational Government subsidy. Tokyo Medical and Dental University ensures to provide scholarship for international students who will start their study from the master’s program and continue to complete the doctor’s program in totally up to 5 years. In other words, the International Graduate Program Scholarship is not allowed to those who will start the study from the doctor’s program in Tokyo Medical and Dental University.

2. Academic policies

Outline of the Biomedical Science and Technology (BST) Track

Although the Biomedical Science and Technology (BST) Track constitutes one of the two tracks of Disease Prevention Global Leader Program (DP-GLP), the BST track covers broad fields in biomedical sciences and engineering. Recent development in bioscience, bioinformatics and biotechnology made important advancements in medicine by allowing us to study genomic information on disease susceptibility, molecular mechanisms on disease development, and development of new therapies through drug discovery and regenerative medicine. Effective management of health issues urgently requires nurturing professionals and leaders who have research capability and practical knowledge and skills in biomedical sciences and technology.

The DP-GLP is a rigorous and flexible program. Japan has the highest level of bioscience and medicine in the world, with the quality of advancement in bioscience and biotechnology, and Tokyo Medical and Dental University has been consistently ranked by Citation Index as one of the top five medical schools in Japan. The students will be exposed to an environment with high standards of research. At the same time, the students will be given opportunities to study across disciplines from bioscience and biotechnology to public health while developing their own specialty.

Furthermore, students are able to have advisors from other disciplines such as chemistry, pharmaceutical science and nutrition, and to participate in various educational
programs outside the classroom. For example, there is an internship program at international enterprises as a part of the collaborative education program of “Tokyo Interdisciplinary Life Science Consortium” where members are four excellent universities with strength in bioscience in Tokyo, i.e., Tokyo Medical and Dental University, Kitasato University, Ochanomizu University and Gakushuin University.

List of Supervisors

<table>
<thead>
<tr>
<th>Supervisor</th>
<th>Field</th>
<th>Contact Address</th>
<th>Research Projects</th>
</tr>
</thead>
</table>
| Hiroshi Nishina (Professor) | Developmental and Regenerative Biology | nishina.dbio@mri.tmd.ac.jp | 1. Signaling pathways that regulate organ formation  
2. Signaling pathways that regulate vertebrate early embryogenesis |
| Takeshi Tsubata (Professor)        | Immunology                        | tsubata.imm@mri.tmd.ac.jp | 1. Molecular mechanisms for immunogenicity  
2. Glycan signals regulating B lymphocytes  
3. Self-tolerance and autoimmunity  
4. Development of new immuno-stimulant and new cancer immunotherapy |
| Nobutoshi Ito (Professor)       | Structural Biology                 | ito.str@tmd.ac.jp        | 1. Structure analysis by protein crystallography for disease-related proteins, including immune-system, nuclear receptors, and autophagy-related proteins.  
| Nobutoshi Ito (Professor)       | Neuroscience                       | ito.str@tmd.ac.jp (*)    | 1. Prevention of the neuropsychiatric and neurological disorders  
2. Generation of animal models for neuropsychiatric disorders  
3. Role of the glial cells in brain function |

*contact Prof. Koichi Tanaka (tanaka.aud@mri.tmd.ac.jp) for inquiry on research projects.
<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Email</th>
<th>Research Areas</th>
</tr>
</thead>
</table>
| Jun Takeuchi (Associate Professor) | Bio-informational Pharmacology | juntakeuchi.bip@mri.tmd.ac.jp | 1. Identification of heart cell fates using mouse and iPS technologies  
2. Analysis of the epigenetic factors in cardiac diseases and its regeneration  
3. Generation of novel technologies for understanding heart development |
| Noriko Sato (Associate Professor) | Epigenetic Epidemiology | nsato.epi@tmd.ac.jp | 1. Effects of intrauterine environment on neonate epigenome  
2. Gene-environment interaction in common diseases  
3. Integrated personal disease risk assessment for pre-emptive medicine. |
| Yumiko Oishi (Associate Professor) | Cellular and Molecular Medicine | yuooishi.dcmm@mri.tmd.ac.jp | 1. Mechanism of chronic inflammation as a common pathogenic condition of metabolic syndrome and cancer  
2. Mechanism of skeletal muscle regeneration and sarcopenia |
| Kohji Mitsubayashi (Professor) | Biomedical Devices and Instrumentation | m.bdi@tmd.ac.jp | 1. Soft contact-lens and Mouth guard biosensors for BLE telemetry  
2. Bio-sniffers and Sniff-camera for diagnosis with breath & body odor  
3. Real-time immune-sensors with re-generable protein for medical testing & residential allergies  
4. ‘Organic engine’ based on chemo-mech. energy conversion for artificial pancreas |
| Hiroyuki Kagechika (Professor) | Organic and Medicinal Chemistry | kage.chem@tmd.ac.jp | 1. Medicinal Chemistry of Retinoid and Nuclear Receptors  
2. Development of Novel Modulators of Gene Transcription or Signaling Pathway for Clinical Application toward Intractable Diseases  
3. Development of Functional Fluorescent Molecules for Elucidation of Cellular Signaling Pathway |
<table>
<thead>
<tr>
<th>Name</th>
<th>Field</th>
<th>Email</th>
<th>Research Areas</th>
</tr>
</thead>
</table>
| Hirokazu Tamamura   | Medicinal Chemistry and Organic Chemistry | tamamura.mr@tmd.ac.jp   | 1. Medicinal chemistry of small drugs: antagonists and inhibitors  
2. Organic chemistry of peptides and peptidomimetics  
3. Development of mid-size drugs  
4. Chemical biology for bioprobes  
5. Genome editing using zinc finger/TALEN/CRISPR-Cas9 |
| Akio Kishida        | Material-based Medical Engineering | kishida.mbme@tmd.ac.jp  | 1. Materials and engineering for tissue engineering and regenerative medicine  
2. Novel biomaterials based on interface science  
3. Basic study for biocompatibility |
| Takao Hanawa        | Metallic Biomaterials         | hanawa.met@tmd.ac.jp     | 1. Biofunctionalization of metals  
2. Development of MRI artifact compatible alloys  
3. Development of new titanium alloys through severe working process  
4. Patch test reagents for metal allergy |
| Nobuhiko Yui        | Organic Biomaterials          | yui.org@tmd.ac.jp        | 1. Surface design of supramolecular biomaterials for modulating cellular functions  
2. Design of supramolecular drug delivery systems for nano-scale therapy  
3. Design of supramolecular dental materials |
| Yuji Miyahara       | Bioelectronics                | miyahara.bsr@tmd.ac.jp   | 1. Electrochemical monitoring of nucleic acid amplification for infectious disease  
2. Exosome detection device for cancer testing  
3. Design and fabrication of nano-bio interface for cell functional monitoring |

3. Graduate Admission
- Admission Requirements

(1) Academic Background: Applicants must have a minimum of 16 years of education or will complete such education by the end of September 2017, and have a bachelor's degree or will gain such degree by the end of September 2017. Alternatively, applicant's ability must be recognized by Tokyo Medical and Dental University Graduate School as equal to or higher than that of a university graduate.

(2) Age: Applicants must be 34 years old or younger as of April 1, 2017.

(3) Applicants must not be those who live in Japan at the time of application.

(*1) Military personnel and civilian military employees registered on the active list are not eligible.

(*2) The grants will be cancelled if grantees fail to arrive in Japan by October 14, 2017.

(*3) An applicant who has already won scholarships awarded by the government of his/her own country or/from private organizations will not be selected unless he/she declares intention to decline receipt of these scholarships once he/she is selected as this scholarship student.

(*4) The grants will be cancelled if an applicant on a bachelor's program at the time of application fails to complete the bachelor's program by September 30, 2017.

(*5) The following people are not qualified to apply for this course;
1. Those who applied or will apply for the Japanese Government Scholarship for the year 2017 with the recommendation of universities other than Tokyo Medical and Dental University.
2. Those who applied or will apply for the Japanese Government Scholarship for the year 2017 or 2018 with a recommendation from a Japanese embassy.
3. Those who intend to study at a university in Japan under the Short-term Student Exchange Promotion Program Scholarship for the year 2017 offered by the Japan Student Services Organization (JASSO).

(*6) Visa acquisition: Tokyo Medical and Dental University will issue a letter of acceptance to the grantees of the Japanese Government Scholarship, which is required for Japan's "College Student" (ryugaku) visa application.

Applicants need to take contact with the prospective supervisor before sending application documents.

- Application Filing Period
   from January 4 to January 31, 2017

- Acceptance of Admission
   The results will be posted to all applicants by the beginning of July.

4. Application Documents
The applicant should first obtain approval of a course of study from the supervisor of the laboratory you wish to belong to. The supervisors are listed at http://sbsn.tmd.ac.jp/eng/faculty/

Applicants must submit the following documents:

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<tr>
<th></th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Application form for Japanese Government (MEXT: Monbukagakusho) Scholarship (digital file and a paper version printed on both sides)</td>
<td>1 (original)</td>
</tr>
<tr>
<td>2</td>
<td>Field of Study and Study Program (digital file and a paper version printed on both sides)</td>
<td>1 (original)</td>
</tr>
<tr>
<td>3</td>
<td>Recommendation Report: Form1 (filled out by the prospective supervisor)</td>
<td>1 (original)</td>
</tr>
<tr>
<td>4</td>
<td>Total academic Report: Form3 (filled out by the prospective supervisor)</td>
<td>1 (original)</td>
</tr>
<tr>
<td>5</td>
<td>Certificates of graduation (or expected graduation) from university. Certificate of completion (or prospective completion) of graduate course or degree, if any</td>
<td>1 (original)</td>
</tr>
<tr>
<td>6</td>
<td>Official academic transcripts from university and/or graduate school attended which certifies the achievement of an excellent academic record issued by the last school you attended (e.g. GPA, classification, ranking, etc)</td>
<td>1 (original)</td>
</tr>
<tr>
<td>7</td>
<td>Thesis or its equivalent by which the applicant earned his/her bachelor's degree, if any. Only documents in English are acceptable. If the applicant attended a bachelor's program which does not require a thesis, please state so and submit its equivalent, if any</td>
<td>1 (copy)</td>
</tr>
<tr>
<td>8</td>
<td>Certificate of family register or citizenship in the applicant's home country, if any</td>
<td>1 (original)</td>
</tr>
<tr>
<td>9</td>
<td>A photocopy of your passport, if any</td>
<td>1 (original)</td>
</tr>
<tr>
<td>10</td>
<td>A letter of reference from a head of the institution the applicant belongs to and another reference is desirable from a supervisor who knows the applicant personally. All recommendation letters should be addressed to “the President of Tokyo Medical and Dental University” .</td>
<td>1 (original)</td>
</tr>
<tr>
<td>11</td>
<td>A photograph taken within the past 6 months (4.5×3.5 cm-sized, upper frontal view without a hat) Write the name and nationality on the back, and paste it on the application form as indicated.</td>
<td>1 (original)</td>
</tr>
<tr>
<td>12</td>
<td>A document to certify English proficiency, such as a TOEFL score, when an applicant is not a native in English.</td>
<td>1 (original)</td>
</tr>
<tr>
<td>13</td>
<td>Medical Certificate (should be within last six months) :Form4</td>
<td>1 (original)</td>
</tr>
</tbody>
</table>

All of the above documents should be sent by email and also by express mail in a single package to:

Foreign Student Support Unit,
Global Gateway Division, Institute of Global Affairs

Tokyo Medical and Dental University
5-45, Yushima 1-Chome
Bunkyo-ku, Tokyo 113-8510
Japan
TEL +81-3-5803-4076/4077; FAX: +81-3-5803-0366
E-mail: fssu@ml.tmd.ac.jp
The documents must be received by January 31, 2017.

Caution: Applicants need to take contact with the prospective supervisor before sending application documents.

5. Japanese Government (MEXT) Scholarship

Students accepted to the program will be financially supported by Monbukagakusho (MEXT) Scholarship through university recommendation.

Although the master’s and doctoral programs are independent from each other, this scholarship will only be granted to students who will start their study at Tokyo Medical and Dental University from the master’s program and continue to complete the doctoral program. The scholarship gives a monthly stipend (147,000 Yen for master’s program students, 148,000 Yen for doctoral program students*) for two years. If Japanese government approves extension of scholarship, you can receive the scholarship for a maximum of five years (*This stipend is subject to changes by the rule of Monbukagakusyo).

Successful applicants for the Monbukagakusho Scholarship are not requested to pay the entrance examination, admission and tuition fees during the master’s program. If you can extend the scholarship for five years, you are not requested to pay the entrance examination, admission and tuition fees for the doctor’s program during the master’s program.

6. Features of the Program

(1) Students engage in study and research using English
(2) Applicants are allowed to take the entrance examination in their countries of residence
(3) Once students gain required credits at master’s and PhD courses, submit a dissertation on their research work, and pass a final examination, students will be awarded a Master’s degree (Science or Engineering) and PhD degree (Science or Engineering).

7. Selection

Successful applicants will be selected based on their application documents and the interview (direct or over the Internet) with our professors. Applicants except for those from CMU will be interviewed by Internet in February, and are informed of the details of interview by email at the beginning of February. Applicants from CMU must contact the International Exchange Center, CMU, to obtain information of interview.
8. Enrollment Term

October 1, 2017

9. Contacting the Application Processing Service

If you have questions about your application, please ask by e-mail.

E-mail: fssu@ml.tmd.ac.jp

Foreign Student Support Unit,
Global Gateway Division, Institute of Global Affairs
Tokyo Medical and Dental University
5-45, Yushima 1-Chome,
Bunkyo-ku, Tokyo 113-8510,
JAPAN