



Tohoku University Global COE Program:
World Center of Education and Research for Trans-disciplinary Flow Dynamics

2010 Application Guideline for
Double Doctoral Degree Program

Tohoku University Global COE Program “World Center of Education and Research for Trans-disciplinary Flow Dynamics” (hereafter the GCOE) provides several kinds of Student Promotion Programs to encourage and support to grow competent graduate students by hiring awarded students as Research Assistant (RA) for certain years of period. Such Student Promotion Programs are listed below :

- International “Takenoko” (Bamboo Shoot) Student Promotion Program
- Program for Special Research Students to study at the Institute for International Advanced Research and Education, Tohoku University
- Special Research Student of International Leading Researcher Hatchery Program
- Senior Research Assistant (SRA) Program
- Double Doctoral Degree Program

Double Doctoral Degree Program

Double Doctoral Degree Program (hereafter DD Program) is a program in which two or more universities are co-working together to educate a graduate student to be conferred for his/her doctoral degree. In general, in case two universities are to be involved, the participating student in a DD Program (hereafter the Student) must be enrolled concurrently in the two universities, and each university, respectively, will designate a supervisor to be responsible for education and research works of the Student. The two supervisors will work cooperatively for the most efficient research works to be conducted by the Student

during the period before obtaining the degree. Types of the doctoral degree to be conferred, benefits and obligations of the participating students, submission and examination processes of the thesis and the students to be conferred for doctoral degree and so on are to be defined and determined precisely in a agreement between the two universities, arranged for the case of each participating student, respectively.

Tohoku University has a keen interest in early implementation of its DD Program, and is now working for preparation of general guidelines for.

1. Candidates

The GCOE encourages the graduate students, in doctoral courses in the universities around the world, and are interested in participating in the DD Program with the cooperation of his/her currently enrolled university and Tohoku University, to make a contact with the GCOE for further assistance and consultations, the contact address will be shown later in the web page.

The GCOE, in general, supports the graduate students who are coming to Tohoku University for participating in the DD Program under the supervision of the Program Members and Research Cooperation Members of the GCOE, who are listed in the Table 1 and Table 2 below.

The GCOE also supports the graduate students who are coming to Tohoku University for participating in the DD Program under the supervision of certain professors of the Division of Mechanical Engineering, Tohoku University, which is depicted in Table 3 below.

Table 1. Program Members of Tohoku University Global COE Program “World Center of Education and Research for Trans-disciplinary Flow Dynamics”

| Name | Affiliated Department, position title |
|--------------------|---|
| Shigenao MARUYAMA | Institute of Fluid Science, Professor |
| Toshiyuki TAKAGI | Institute of Fluid Science, Professor |
| Masami NAKANO | Institute of Fluid Science, Professor |
| Kazuhiro NAKAHASHI | Department of Aerospace Engineering, Graduate School of Engineering, Professor |
| Jun ISHIMOTO | Institute of Fluid Science, Associate Professor |
| Makoto OHTA | Institute of Fluid Science, Associate Professor |

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| Kaoru MARUTA | Institute of Fluid Science, Professor |
| Mamiko SASAO | Department of Quantum Science and Energy Engineering, Graduate School of Engineering, Professor |
| Takatoshi MIURA | Department of Chemical Engineering, Graduate School of Engineering, Professor |
| Goro MASUYA | Department of Aerospace Engineering, Graduate School of Engineering, Professor |
| Hideya NISHIYAMA | Institute of Fluid Science, Professor |
| Hideaki KOBAYASHI | Institute of Fluid Science, Professor |
| Taku OHARA | Institute of Fluid Science, Professor |
| Akira MIYAMOTO | New Industry Creation Hatchery Center, Professor |
| Junichiro MIZUSAKI | Institute of Multidisciplinary Research for Advanced Materials, Professor |
| Michio TOKUYAMA | WPI Research Center : Advanced Institute for Materials Research, Professor |
| Seiji SAMUKAWA | Institute of Fluid Science, Professor |
| Tetsuya KODAMA | Graduate School of Biomedical Engineering, Professor |
| Takashi TOKUMASU | Institute of Fluid Science, Associate Professor |
| Shigeru OBAYASHI | Institute of Fluid Science, Professor |
| Yu FUKUNISHI | Department of Mechanical Systems and Design, Graduate School of Engineering, Professor |
| Keisuke ASAI | Department of Aerospace Engineering, Graduate School of Engineering, Professor |
| Keisuke SAWADA | Department of Aerospace Engineering, Graduate School of Engineering, Professor |
| Hidetoshi HASHIZUME | Department of Quantum Science and Energy Engineering, Graduate School of Engineering, Professor |
| Takatoshi ITO | Institute of Fluid Science, Professor |

Table 2. Research Cooperation Members of Tohoku University Global COE Program “World Center of Education and Research for Trans-disciplinary Flow Dynamics”

| | |
|------------------|--|
| Atsushi SHIRAI | Institute of Fluid Science, Associate Professor |
| Shinji EBARA | Department of Quantum Science and Energy Engineering, Graduate School of Engineering, Associate Professor |
| Yuriko TAKESHIMA | Institute of Fluid Science, Assistant Professor |
| Hideyuki AOKI | Department of Chemical Engineering, Graduate School of Engineering, Associate Professor |
| Takehiko SATO | Institute of Fluid Science, Associate Professor |

| | |
|-------------------|---|
| Hideo MIURA | Fracture and Reliability Research Institute, Graduate school of Engineering, Professor |
| Hiroo YUGAMI | Department of Mechanical Systems and Design, Graduate School of Engineering, Professor |
| Shigeru YONEMURA | Institute of Fluid Science, Associate Professor |
| Nozomu HATAKEYAMA | Department of Applied Chemistry, Graduate School of Engineering, Associate Professor |
| Hiroyuki MIKI | Institute of Fluid Science, Senior Assistant Professor |
| Kazuhisa SATO | Institute of Multidisciplinary Research for Advanced Materials, Assistant Professor |
| Katsuhide OHIRA | Institute of Fluid Science, Professor |
| Yutaka WATANABE | Department of Quantum Science and Energy Engineering, Graduate School of Engineering, Professor |
| Tetsuya UCHIMOTO | Institute of Fluid Science, Associate Professor |
| Noritaka YUSA | Department of Quantum Science and Energy Engineering, Graduate School of Engineering, Associate Professor |
| Atsuki KOMIYA | Institute of Fluid Science, Senior Assistant Professor |
| Yuka IGA | Institute of Fluid Science, Assistant Professor |

Table 3. Division of Mechanical Engineering, Tohoku University

(Please refer the following web site for the details <http://www.mech.tohoku.ac.jp/e/>)

| |
|---|
| Graduate School of Engineering |
| <ul style="list-style-type: none"> Department of Mechanical Systems and Design Department of Nanomechanics Department of Aerospace Engineering Department of Bioengineering and Robotics Department of Management Science and Technology |
| Fracture and Reliability Research Institute |
| <ul style="list-style-type: none"> Mechanics and Mechanisms of Fracture Fracture Prediction and Prevention Complex Fracture Systems Multi-Physics Computational Science Division of Advanced Electric Power Research |

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|---|
| Graduate School of Information Sciences |
| Mathematical Modeling and Computation Image Analysis Intelligent Control Systems Human-Robot Informatics Ultra-High-speed Information Processing Algorithm |
| Graduate School of Environmental Studies |
| Environment and Energy System Dynamics |
| Graduate School of Biomedical Engineering |
| Tissue Biomechanics Physiological Flow Studies Nano-device Engineering Medical Nano-system Engineering Medical Welfare Engineering Integrated Biomedical Simulation Biomedical Fluid System |

In the DD Program, the two Supervisors assigned in each of the two universities should work closely together for most efficiently educating of and carrying out of the research works of the Student participating in the DD Program. Because of that reason, the GCOE generally welcome the graduate students who are currently enrolled in the universities which have close cooperative relationships as 1) operating “Liaison Office” together with Tohoku University, as listed in Table 4 below, or, 2) having University-wide Exchange Agreement, as listed in Table 5.

Table 4 The Universities/Institutes with which Tohoku University is operating “Liaison Office” together.

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| 1) The University of New South Wales |
| 2) The university of Sydney |
| 3) Moscow State University |
| 4) KTH Royal Institute of Technology |
| 5) Syracuse University |
| 6) Korea Advanced Institute of Science and Technology |
| 7) Institut National des Sciences Appliquées de Lyon (INSA-Lyon) |

Table 5 The Universities/Institutes which have University-wide International Exchange Agreement with Tohoku University.

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|---|
| Università degli Studi di Roma "La Sapienza" |
| RWTH Aachen University |
| University of Science and Technology of China |
| Université Pierre Marie Curie (Paris VI) |
| Nanjing University |
| Pohang University of Science and Technology |
| National Taiwan University |
| The University of Nottingham |
| Helsinki University of Technology |
| The University of Auckland |
| Tampere University of Technology |
| Ecoles Centrale Group (Lyon, Paris, Lille, Nantes, Marseille) |
| Novosibirsk State University |
| Pusan National University |
| Xi' an Jiaotong University |
| Beihang University |
| Siberian Branch of Russia Academy of Science |
| Tsinghua University |
| National University of Singapore, Faculty of Engineering |
| Jilin University |
| Nanjing University of Aeronautics and Astronautics |
| Shanghai Jiao Tong University |

2. How to support the Student participating the DD Program by the GCOE.

The GCOE is willing to support the Students who are participating in the DD Program by hiring the students as Senior Research Assistants and paying his/her living allowances, as well as paying some parts of travel expenses, and also providing placement services and so forth. Details will be discussed and agreed upon between Students and the GCOE.

3. Please contact us for details to apply for DD Program at Tohoku University.

Any graduate students who are interested in participating in the DD Program at Tohoku

University as described above, please make a contact to the GCOE at the following address.

Tohoku University Global COE “World Center of Education and Research for Trans-disciplinary Flow Dynamics”

Katahira 2-1-1, Aoba-ku, Sendai, Miyagi-ken 980-8577 Japan

Telephone/Fax: +81-22-217-5301

E-mail: office@gcoe.ifs.tohoku.ac.jp