

RIKEN International Graduate Program

Graduate school of Frontier Sciences

The University of Tokyo

2010, 2011

【RIKEN - Univ. Tokyo International School

AUTUMN and SPRING program 】

1. General Prospectus

RIKEN (<http://www.riken.jp/eng/index.html>), a leading advanced research institute in Japan, and the University of Tokyo (hereafter referred to as Univ. Tokyo) inaugurate RIKEN -Univ. Tokyo International School on October 1st 2007. Its main purpose is to offer overseas students an opportunity to enroll in the Doctoral program at school of frontier sciences, Univ. Tokyo under the supervision of faculties with a joint appointment between RIKEN and University of Tokyo. RIKEN will partially provide the student living cost. We have two periods of enrollment in this school; Autumn program (enrollment in October 2010) and Spring program (enrollment in April 2011).

2. Program

RIKEN-Univ. Tokyo International School is one of the International Graduate Programs supported by RIKEN. This program financially supports graduate students from abroad, who are supervised by faculties listed below in one of the four departments in school of frontier sciences; department of advanced materials, department of complexity science and technology, department of computational biology and department of medical genome sciences. These faculties listed below, under joint appointment between Univ. Tokyo and RIKEN, have their research laboratory at one of the RIKEN campuses (Wako, Harima, Yokohama) and can accept graduate students of Univ. Tokyo. The successful candidate can conduct PhD study at RIKEN as a Univ. Tokyo student with reasonable amount of support for daily life.

Departments and Members

| Department Name | Type of Degree | Department Outline |
|--------------------|-------------------|---|
| Advanced Materials | Doctor of Science | Department of advanced materials consist of about 40 faculties with background of condensed matter physics, chemistry and materials science. Active areas of the department include nano-science and technology, functional oxides, molecular solid, polymers, photonic materials, semiconductor hetero-structure, and advanced spectroscopy on condensed matter. |

| Members | E-mail Address | Key Words |
|-----------------------|----------------------------|---|
| Prof. Maki Kawai | maki(at)k.u-tokyo.ac.jp | Surface Chemistry and Nano-Science. We explore exotic chemistry and physics on solid surfaces and interfaces mainly by scanning probe microscopy/spectroscopy. http://www.riken.jp/engn/r-world/research/lab/wako/surface-chemi/index.html |
| Prof. Hidenori Takagi | htakagi(at)k.u-tokyo.ac.jp | Physics and chemistry of complex transition metal oxides. We aim to develop novel functions such as superconductivity, thermoelectricity, magnetism originating from strongly correlated d-electrons and to uncover the physics behind them. http://www.riken.jp/engn/r-world/research/lab/wako/magnetic/index.html |
| Prof. Mizuo Maeda | mizuo(at)riken.jp | Bioengineering. We study on soft materials comprising biological components to develop new methodology for bioanalysis and medical diagnosis. |

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| | | http://www.riken.jp/lab-www/bioengineering/index-e.htm |
| Prof. Shik Shin | shin(at)issp.u-tokyo.ac.jp | Spectroscopy using soft x-ray. Ultra high resolution photoemission spectroscopy http://www.riken.jp/engn/r-world/research/lab/harima/group-o/excitation/index.html |
| Prof. Yoshichika Otani | yotani(at)issp.u-tokyo.ac.jp | We perform experimental studies on spin-electronics including magnetic and spin dependent transport of nano-structured magnetic /non-magnetic (superconductive) hybrid systems. http://www.riken.jp/lab-www/nanomag/index.html |
| Prof. Masaki Takata | takatama(at)spring8.or.jp | We are tackling the research of the electron density level structure-property relationship of novel functional materials by the charge density mapping method using Maximum Entropy Method(MEM). For the purpose, we are also developing an advanced SR powder diffraction method using high brilliance synchrotron radiation beam of SPring-8. In addition, we are challenging the time-resolved experiment in pico-second scale to unravel the mechanism of the photo induced phase transition, gas adsorption, and etc. The application of MEM charge density mapping to protein molecule is the next our target. http://www.riken.jp/engn/r-world/research/lab/harima/st-material/index.html |

| Course Name | Type of Degree | Course Outline |
|------------------------------------|-------------------|--|
| Complexity Science and Engineering | Doctor of Science | <p>Department of Complexity Science and Engineering was established with the aim of investigating various problems related to complexity through an integrated approach, combining the science of complexity and the engineering of complexity, and training scientists and engineers who can create new paradigms of complexity science and engineering.</p> <p>http://www.k.u-tokyo.ac.jp/complex/index-e.html</p> |

| Members | E-mail Address | Key Words |
|-----------------------|--------------------------|--|
| Prof. Tomoki Fukai | tfukai(at)brain.riken.jp | <p>Computational Neuroscience. The network-level mechanism of higher brain functions largely remains unknown. We attempt to clarify how neurons and their networks represent and process information through computational modeling and experimental data analysis.</p> <p>http://www.riken.jp/engn/r-world/research/lab/nokagaku/comp/neural/index.html</p> |
| Prof. Yasutaka Takata | takatay(at)spring8.or.jp | <p>Spectroscopy using synchrotron radiation. We develop new synchrotron based techniques and use them to study electronic structure and chemical bonding in functional materials.</p> <p>http://www.riken.jp/engn/r-world/research/lab/harima/optics/index.html</p> |

| Course Name | Type of Degree | Course Outline |
|-----------------------|-------------------|---|
| Computational Biology | Doctor of Science | Systems biology of mammalian signal transduction network based on experimental and computational analysis |

| Members | E-mail Address | Key Words |
|--------------------|--------------------------|--|
| Prof. Mariko Okada | marikogh(at)gsc.riken.jp | signal transduction, cell fate control mathematical analysis, bioinformatics http://www.riken.jp/engn/r-world/research/lab/rcai/csmt/index.html |
| Prof. Makoto Taiji | taiji(at)gsc.riken.jp | http://www.riken.jp/engn/r-world/research/lab/asi/cs-bio/index.html |

| Course Name | Type of Degree | Course Outline |
|-------------------------|-------------------|---|
| Medical Genome Sciences | Doctor of Science | Department of Medical Genome Sciences pursues research in tailored therapy, genome-based drug discovery, regenerative medicine, genome therapy, proteome analysis, model organism creation, and other fields that make up 21 st century medical science. |

| Members | E-mail Address | Key Words |
|-----------------|------------------|---|
| Prof. Yoko Aida | aida(at)riken.jp | Retorovirology, HIV-1, Human and bovine leukemia viruses, Influenza virus, Emerging virus, Nuclear Import, New antiviral strategy, Small molecule. We aim to understand the molecular mechanisms of AIDS induced by HIV-I and leukemogenesis induced by HTLV-I and BLV, and in addition, to develop new methods for prevention of their |

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| | | viral replication and pathogenesis. http://www.riken.jp/engn/r-world/research/lab/spunit/viral/index.html |
| Prof. Wonkyung Kang | wkkang(at)riken.jp | Molecular biology and baculovirology. We aim to understand the infection mechanism of baculovirus that that infect particularly Lepidopteran insects. http://www.riken.jp/engn/r-world/research/lab/wako/entomology/index.html |

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3. Eligibility

Foreign students who satisfy the conditions to apply for PhD course of the four departments listed above.

4. How to Apply

Students who wish to apply for this program should first contact by e-mail with each faculty member by whom they would like to be supervised. The application can be made only through faculties in the list.

The acceptance by the program will be determined by the screening committee and the result will be informed by the faculty of contact. The successful candidate then should successfully pass the entrance examination of one of the three departments and must be accepted as a regular PhD course student of Univ. Tokyo. Otherwise, the acceptance will be withdrawn automatically.

5. Nature of financial support

RIKEN shall, pay the following expenses;

1. ¥5,200(JPY)per day living expenses.
2. Accommodation allowance up to ¥70,000 (JPY) (utility cost such as electricity, gas, water, and telephone not included).

6. Entrance Examination, Admission, and Tuition Fees

Those admitted to PhD course of Univ. Tokyo will be asked to pay first ¥30,000 (JPY) (entrance examination fee) and then ¥260,400 (JPY) (admission fee). The yearly tuition fee of ¥520,800 (JPY) for the PhD course may be waived by approval of a candidate's application for a Tuition Waiver.

Contact:

Prof. Mizuo Maeda mizuo(at)riken.jp

Prof Hidenori Takagi htakagi(at)k.u-tokyo.ac.jp