Department of Precision Engineering

School of Engineering, The University of Tokyo

2015

Admission

Application procedure for regular applicants

For regular applicants, the Department of Precision Engineering offers two types of selection both for the master's and PhD programs, which are *regular selection* based on written exams and *document-based selection*.
Applicants for these selections must obtain and submit the application form to the *Graduate School of Engineering Office*.

Application procedure for MEXT (Monbukagakusho) scholarship applicants

The applications from *MEXT scholarship* applicants are directly handled by the *Graduate School of Engineering Office*, not by the *Department of Precision Engineering*.

For further information:

Admissions Information, Department of Precision Engineering:
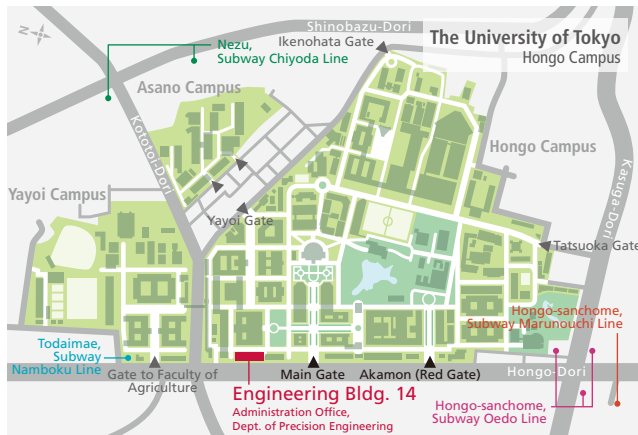http://www.pe.t.u-tokyo.ac.jp/admission/index_e.html

Admissions Information, School of Engineering:
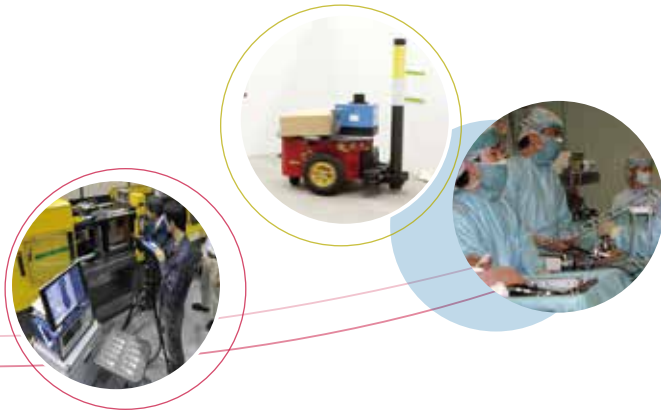http://www.t.u-tokyo.ac.jp/etpage/international_applicants/

**Administration Office
Department of Precision Engineering,
School of Engineering, The University of Tokyo**

Hongo 7-3-1, Bunkyo, Tokyo 113-8656, JAPAN
Phone: +81(0)-3-5841-6445   Fax: +81(0)-3-5841-8556
Website: http://www.pe.t.u-tokyo.ac.jp

Dept. of Precision Engineering
The University of Tokyo

Be precise, be flexible

The Department of Precision Engineering, The University of Tokyo has a long and remarkable history since 1886. Leading cutting-edge education and research related to precision engineering are carried out, while international academics consisting of students and researchers are brought together and honed to create an expanding network of sought-after experts.

Mission

Precision Engineering discusses methodologies on the approach to targets rather than the physical objects themselves. The department handles an extensive range of advanced technology from information devices to manufacturing technology and services in order to create a sustainable society based on harmony between man, resources, and the environment. Founded on the basic disciplines of mechanical physics, mathematical information, and measurement and control, the department promotes education and research on production science and the synthesis of products and services, as well as intelligent and robotic systems and biomedical devices.

Research fields:

1) The development of fundamental technology for production science, such as precision measurement, precision machining, microsystems, biomedical devices, mechatronics, and design and production systems.
2) Research into methodologies on the synthesis of intelligent machines, information and knowledge systematization for products, services, and their production processes.
3) Application of the above to manufacturing, biomedical fields, and service systems.

Curriculum

Sensing technology	
Optical measurement	S. Takahashi
Coordinate metrology	K. Takamasu
Biomedical precision engineering	
Medical precision engineering	I. Sakuma
Computer assisted surgery and therapy	E. Kobayashi
Neuroengineering	Y. Jimbo
Theory of measurement and analysis of biomedical signals	K. Kotani
Fabrication technology	
Polymer processing	H. Yokoi
System integration and packaging	T. Suga
Advances in micromachining	M. Kunieda
Ultra-precision machining	H. Mimura
Jointing manufacturing	Y. Kajihara
Microsystems	
Applied microfluidic systems	T. Fujii
Applied optical microsystems	E. Higurashi
Nano-micro mechanical systems	K. Takamasu, T. Fujii, E. Higurashi, S. Takahashi
Robotics and mechatronics	
Electromechanical control systems	A. Yamamoto
Mechatronics for human and engineered environments	H. Hosaka
Cooperative artificial systems	H. Asama
Dynamic agent	J. Ota
Advanced robotics	A. Yamashita
Additive manufacturing science	T. Niino
Design and production systems	
Service engineering	T. Hara
Society and design methodology	Y. Umeda
Geometric modeling	H. Suzuki
Geometry data processing	Y. Ohtake
Practice and project based learning	
Prototyping technique for nano/micro systems I	H. Kawakatsu
Prototyping technique for nano/micro systems II	B. Kim
Special lecture on decommissioning and dismantling	
Practice in international workshop on precision engineering	
Advanced practice of precision engineering	
Advanced lectures on precision engineering I–V	
Precision engineering production factory tour	T. Niino

Practice in international workshop on precision engineering: Practice classes acknowledge credits for international educational activities.

Experimental facilities in the Hongo Campus.

Faculty members

ASAMA, Hajime — Professor, Hongo
Service robotics, Smart space, Mobiligence, Body representation in brain
Website: http://www.robot.t.u-tokyo.ac.jp/asamalab/
E-mail: asama@robot.t.u-tokyo.ac.jp

FUJII, Teruo — Professor, IIS
Applied microfluidic systems
Website: http://www.microfluidics.iis.u-tokyo.ac.jp/
E-mail: tfujii@iis.u-tokyo.ac.jp

HARA, Tatsunori — Associate Professor, RACE
Service engineering, Product service systems, Manufacturing system engineering
Website: http://www.race.u-tokyo.ac.jp/haralab/
E-mail: hara_tatsu@race.u-tokyo.ac.jp

HIGURASHI, Eiji — Associate Professor, Hongo
Optical integration, Optical packaging, Optical microsystems
Website: http://www.su.t.u-tokyo.ac.jp/
E-mail: eiji@su.t.u-tokyo.ac.jp

HOSODA, Naoe — Professor, Hongo
Biomimetics, Adhesion, Reversible interconnection
Website: http://www.nims.go.jp/idg/, http://www.nims.go.jp/lfn.cluster/
E-mail: Hosoda.Naoe@nims.go.jp

JIMBO, Yasuhiko — Professor, Hongo
Biomedical engineering, Biological information processing, Neuroengineering
Website: http://neuron.t.u-tokyo.ac.jp/
E-mail: jimbo@neuron.t.u-tokyo.ac.jp

KAJIHARA, Yusuke — Associate Professor, IIS
Joining manufacturing, THz microscopy
Website: http://www.snom.iis.u-tokyo.ac.jp
E-mail: kajihara@iis.u-tokyo.ac.jp

KAWAKATSU, Hideki — Professor, IIS
Scanning probe microscopy, Nanomechanics
Website: http://www.inventio.iis.u-tokyo.ac.jp/
E-mail: kawakatu@iis.u-tokyo.ac.jp

KIM, Beomjoon — Professor, IIS
Micro components and system, Bio-MEMS
Website: http://www.kimlab.iis.u-tokyo.ac.jp/
E-mail: bjoonkim@iis.u-tokyo.ac.jp

KOBAYASHI, Etsuko — Associate Professor, Hongo
Biomedical engineering, Computer aided surgery
Website: http://www.bmpe.t.u-tokyo.ac.jp/
E-mail: etsuko@bmpe.t.u-tokyo.ac.jp

KOTANI, Kiyoshi — Associate Professor, RCAST
Biomedical signal processing, Nonlinear dynamics, Human interface
Website: http://neuron.t.u-tokyo.ac.jp/
E-mail: kotani@neuron.t.u-tokyo.ac.jp

KUNIEDA, Masanori — Professor, Hongo
Non-traditional machining, Micromachining, Die and mold technologies
Website: http://www.edm.t.u-tokyo.ac.jp/
E-mail: kunieda@edm.t.u-tokyo.ac.jp

MIMURA, Hidekazu — Associate Professor, Hongo
Ultraprecision machining, X-ray optics
Website: http://www.edm.t.u-tokyo.ac.jp/
E-mail: mimura@edm.t.u-tokyo.ac.jp

NIINO, Toshiki — Professor, IIS
3D printing, Molded interconnect device, Mechatronics
Website: http://lams.iis.u-tokyo.ac.jp/
E-mail: niino@iis.u-tokyo.ac.jp

OHTAKE, Yutaka — Associate Professor, Hongo
Geometry processing, Computer graphics
Website: http://www.den.t.u-tokyo.ac.jp/
E-mail: yu-ohtake@den.t.u-tokyo.ac.jp

OTA, Jun — Professor, RACE
Robotics, Embodied-brain systems science, Service engineering
Website: http://www.race.u-tokyo.ac.jp/otalab/
E-mail: ota@race.u-tokyo.ac.jp

SAKUMA, Ichiro — Professor, Hongo
Biomedical engineering, Computer aided surgery, Biomedical instrumentation
Website: http://www.bmpe.t.u-tokyo.ac.jp/
E-mail: sakuma@bmpe.t.u-tokyo.ac.jp

SUGA, Tadatomo — Professor, Hongo
System integration and packaging, Interconnect ecodesign
Website: http://www.su.t.u-tokyo.ac.jp/
E-mail: suga@pe.t.u-tokyo.ac.jp

SUZUKI, Hiromasa — Professor, Hongo
Digital engineering, CAD, CG, Geometric modeling
Website: https://sites.google.com/site/fdenghome/
E-mail: suzuki@den.t.u-tokyo.ac.jp

TAKAHASHI, Satoru — Professor, RCAST
Photon based advanced manufacturing science, Cell-in-micro-factory
Website: http://www.nanolab.t.u-tokyo.ac.jp/
E-mail: takahashi@nanolab.t.u-tokyo.ac.jp

TAKAMASU, Kiyoshi — Professor, Hongo
Precision measurement, Nanometrology
Website: http://www.nanolab.t.u-tokyo.ac.jp/
E-mail: takamasu@pe.t.u-tokyo.ac.jp

TAMURA, Yusuke — Associate Professor, Hongo
Robotics, Human interface
Website: http://www.tamlab.jp/
E-mail: tamura@robot.t.u-tokyo.ac.jp

UMEDA, Yasushi — Professor, Hongo
Design theory, Life cycle engineering, Sustainability science
Website: http://www.susdesign.t.u-tokyo.ac.jp/
E-mail: umeda@pe.t.u-tokyo.ac.jp

YAMAMOTO, Akio — Associate Professor, Hongo
Mechatronics, Actuator, Haptic/Tactile interface
Website: http://am.t.u-tokyo.ac.jp/
E-mail: akio@aml.t.u-tokyo.ac.jp

YAMASHITA, Atsushi — Associate Professor, Hongo
Robotics, Computer vision, Image processing
Website: http://www.robot.t.u-tokyo.ac.jp/yamalab/
E-mail: yamashita@robot.t.u-tokyo.ac.jp

YOKOI, Hidetoshi — Professor, IIS
Polymer processing, Visualization, In-process measurement
Website: http://www.iis.u-tokyo.ac.jp/~hiyokoi/
E-mail: hiyokoi@iis.u-tokyo.ac.jp