

## 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](http://www.pe.t.u-tokyo.ac.jp/admission/index_e.html)

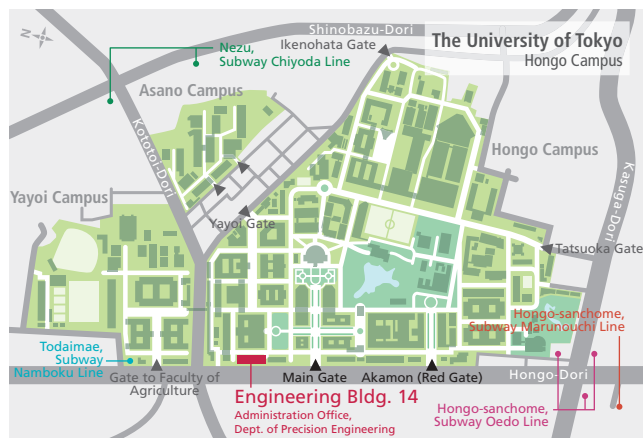
#### Admissions Information, School of Engineering:

[http://www.t.u-tokyo.ac.jp/etpage/international\\_applicants/](http://www.t.u-tokyo.ac.jp/etpage/international_applicants/)

# Department of Precision Engineering

School of Engineering, The University of Tokyo

2013



### 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

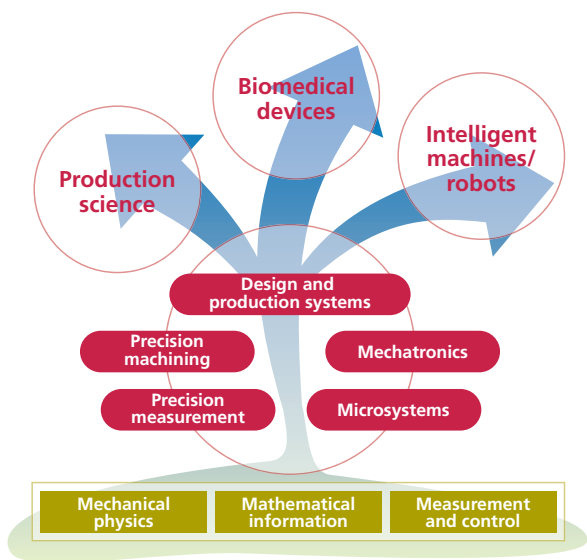


**The Department of Precision Engineering, The University of Tokyo** has a long and remarkable history of more than 120 years. Leading cutting-edge education and research related to precision engineering are carried out, while international academics consisting of students and researchers are brought 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	<i>S. Takahashi</i>
Coordinate metrology	<i>K. Takamasu</i>

## Biomedical precision engineering

Medical precision engineering	<i>I. Sakuma</i>
Computer assisted surgery and therapy	<i>E. Kobayashi</i>

## Fabrication technology

Polymer processing	<i>H. Yokoi</i>
System integration and packaging	<i>T. Suga</i>
Advances in micromachining	<i>M. Kunieda</i>
Approach to extreme precision in materials processing	<i>H. Mimura</i>
Joining manufacturing	<i>Y. Kajihara</i>

## Microsystems

Applied microfluidic systems	<i>T. Fujii</i>
Applied optical microsystems	<i>E. Higurashi</i>
Nano-micro mechanical systems	<i>K. Takamasu, T. Fujii, E. Higurashi, S. Takahashi</i>

## Robotics and mechatronics

Electromechanical control systems	<i>T. Higuchi</i>
Mechatronics for human and engineered environments	<i>H. Hosaka</i>
Cooperative artificial systems	<i>H. Asama</i>
Dynamic agent	<i>J. Ota</i>
Advanced robotics	<i>A. Yamashita</i>

## Design and production systems

Service engineering	<i>T. Hara</i>
Geometric modeling	<i>H. Suzuki</i>
Geometry data processing	<i>Y. Ohtake</i>

## Practice and project based learning

Prototyping technique for nano/micro systems I	<i>H. Kawakatsu</i>
Prototyping technique for nano/micro systems II	<i>B. Kim</i>
Prototyping technique for mechatronics systems I	<i>T. Niino</i>
Prototyping technique for mechatronics systems II	<i>A. Yamamoto</i>
Practice in international workshop on precision engineering	
Advanced practice of precision engineering	
Advanced lectures on precision engineering I-V	



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



Experimental facilities in the Hongo Campus.





# Faculty members



1. Hongo, Department of Precision Engineering, Eng. Bldg. 14, Hongo Campus.
2. RCAST, Research Center for Advanced Science and Technology, Komaba Research Campus.
3. IIS, Institute of Industrial Science, Komaba Research Campus.
4. RACE, Research into Artifacts, Center for Engineering, Kashiwa Campus.



## ASAMA, Hajime

Professor, Hongo

Robotics, Service engineering, Ambient intelligence, Mobiligence

**Website:** <http://www.robot.t.u-tokyo.ac.jp/asamab/>

**E-mail:** [asama@robot.t.u-tokyo.ac.jp](mailto: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](mailto: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](mailto:hara_tatsu@race.u-tokyo.ac.jp)



## HIGUCHI, Toshiro

Professor, Hongo

Mechatronics, Actuator, Advanced production engineering

**Website:** <http://www.aml.t.u-tokyo.ac.jp/>

**E-mail:** [higuchi@aml.t.u-tokyo.ac.jp](mailto:higuchi@aml.t.u-tokyo.ac.jp)



## HIGURASHI, Eiji

Associate Professor, RCAST

Optical integration, Optical packaging, Optical microsystems

**Website:** <http://www.su.t.u-tokyo.ac.jp/>

**E-mail:** [eiji@su.t.u-tokyo.ac.jp](mailto:eiji@su.t.u-tokyo.ac.jp)



## KAJIHARA, Yusuke

Lecturer, IIS

Micro-fabrication, THz microscopy

**Website:** [http://www.snom.iis.u-tokyo.ac.jp](http://www.snom.iis.u-tokyo.ac.jp/)

**E-mail:** [kajihara@iis.u-tokyo.ac.jp](mailto:kajihara@iis.u-tokyo.ac.jp)



## KAWAKATSU, Hideki

Professor, IIS

Scanning probe microscopy, Nanomechanics

**Website:** [http://www.inventio.iis.u-tokyo.ac.jp](http://www.inventio.iis.u-tokyo.ac.jp/)

**E-mail:** [kawakatu@iis.u-tokyo.ac.jp](mailto:kawakatu@iis.u-tokyo.ac.jp)



## KIM, Beomjoon

Associate 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](mailto: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](mailto:etsuko@bmpe.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](mailto: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](mailto:mimura@edm.t.u-tokyo.ac.jp)



## NIINO, Toshiaki

Professor, IIS

3D printing, Molded interconnect device, Mechatronics

**Website:** <http://lams.iis.u-tokyo.ac.jp/>

**E-mail:** [niino@iis.u-tokyo.ac.jp](mailto:niino@iis.u-tokyo.ac.jp)



## OHTAKE, Yutaka

Associate Professor, Hongo

Geometry processing, Computer graphics

**Website:** <http://www.den.rcast.u-tokyo.ac.jp/~yu-ohtake/>

**E-mail:** [yu-ohtake@den.rcast.u-tokyo.ac.jp](mailto:yu-ohtake@den.rcast.u-tokyo.ac.jp)



## OTA, Jun

Professor, RACE

Robotics, Production engineering

**Website:** <http://www.race.u-tokyo.ac.jp/otalab/>

**E-mail:** [ota@race.u-tokyo.ac.jp](mailto: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](mailto:sakuma@bmpe.t.u-tokyo.ac.jp)



## SUGA, Tadatomo

Professor, Hongo

System integration and packaging, Interconnect ecodeign

**Website:** <http://www.su.t.u-tokyo.ac.jp/>

**E-mail:** [suga@pe.t.u-tokyo.ac.jp](mailto:suga@pe.t.u-tokyo.ac.jp)



## SUZUKI, Hiromasa

Professor, RCAST

Digital engineering, CAD, CG, Geometric modeling

**Website:** <http://www.den.rcast.u-tokyo.ac.jp/>

**E-mail:** [suzuki@den.rcast.u-tokyo.ac.jp](mailto:suzuki@den.rcast.u-tokyo.ac.jp)



## TAKAHASHI, Satoru

Associate Professor, Hongo

Laser applied nano-measurement, Laser applied nano-machining

**Website:** <http://www.nanolab.t.u-tokyo.ac.jp/>

**E-mail:** [takahashi@nanolab.t.u-tokyo.ac.jp](mailto:takahashi@nanolab.t.u-tokyo.ac.jp)



## TAKAKUSAKI, Kaoru

Professor, Hongo

Neurophysiology, Pathophysiological neurology, Molecular biology

**Website:** <http://www.robot.t.u-tokyo.ac.jp/kusakilab/>

**E-mail:** [kusaki@robot.t.u-tokyo.ac.jp](mailto:kusaki@robot.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](mailto:takamasu@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](mailto: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](mailto: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](mailto:hiyokoi@iis.u-tokyo.ac.jp)

