Prof. Yasunori Sakai

Laboratory name

Smart Manufacturing Systems Laboratory

Keyword

Inteligent Manufacturing Systems, Composite Material,
Structural Vibration, Tribology, Mechatronics

Tasks in the laboratory

Precision engineering is a foundation technology that can be involved in all industrial fields such
as nanotechnology, information and communication, automobiles, environment / energy, and
aerospace. In our laboratory, we are conducting precision engineering research in the following
areas.
(1) Development of a manufacturing system that
     integrates real space and digital space
(2) Development of complex processing methods
     applying laser and vibration
(3) Elucidation of non-linear friction / vibration phenomena
     occurring in mechanical systems and
     application to motion control
(4) Development of composite materials and metastructures
     that create new value in materials
     In addition to these, we are energetically working on
     various researches related to precision engineering.

Program period

More than 2 months

Eligibility-school year

- ☑ Third year undergraduate
- ☑ Fourth year or higher undergraduate
- ☑ First year master degree
- ☑ Second year or higher master degree
- ☑ First year doctoral degree
- ☑ Second year doctoral degree
- ☑ Third year or higher doctoral degree

Eligibility-student's major/fields

- ☑ Mechanical
- ☐ Chemistry
- ☐ Material
- ☐ Electrical
- ☐ Electronic
- ☐ Computer Science
- ☐ Lifescience
- ☐ Mathematical
- ☐ Civil Engineering
- ☐ Architecture
- ☐ Engineering and design

Required skills

- Fundamental knowledge of dynamics, mechanics of material and machine system
control (Undergraduate level)
- Strong motivation to study latest precision engineering research

Desired skills（Preferred skills）

- Skills of CAD/CAM/CAE, Matlab/Simulink
- Knowledge of composite material and manufacturing process

URL: https://www.shibaura-it.ac.jp/en/research/lab/systems/gsys/yasunori_sakai.html

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