CIRMM
Centre for Interdisciplinary Research on Micro-Nano Methods (CIRMM)

Materials Engineering
Precision Engineering Department
Department of Advanced Interdisciplinary Studies
Department of Electrical Engineering and Information Systems

http://www.cirmm.iis.u-tokyo.ac.jp/

MEMS and True-Nano Technology for Cyber-Physical-System (CPS) Implementation

We focus on exploring new methods of detection, imaging, selection and filtering of molecules and atoms, harvesting of energy from the nanometric level, control of friction, fabrication, diagnosis and even treatment. In parallel, we envisage large scale implementation of things small, such as sensors, energy harvesters, optical and diagnostic nano tools.

As the name of the centre implies, we put emphasis on exploring new Methods, as opposed to improving existing techniques.

Kawakatsu Lab.
Coupling to the nano regime
Image of silicon acquired with the Colour AFM

Takahashi Lab.
Nano-probing Technologies
Images of topography (left) and photovoltage (right) on Cu(In,Ga)Se$_2$ solar cell

Kim Lab.
Micro Components & Systems
Porous Microneedles for sensing

Toshiyoshi Lab.
MEMS/NEMS
MEMS environmental vibrational energy harvester

Takamiya Lab.
Integrated Power Management
Millimeter-scale LED based on acoustic levitation for mid-air display

Tixier-Mita Lab.
Bio CMOS/MEMS Platforms
Integrated 2D electronic platform for electrical interaction and manipulation of biological cells

Nomura Lab.
Nanoscale heat transfer and thermoelectrics
Nanostructured Si thermoelectric energy harvester

Mizoguchi Lab.
Understanding role of atom and electron in material
Atomic resolution image of multiple-twin boundary in photovoltaic cell material