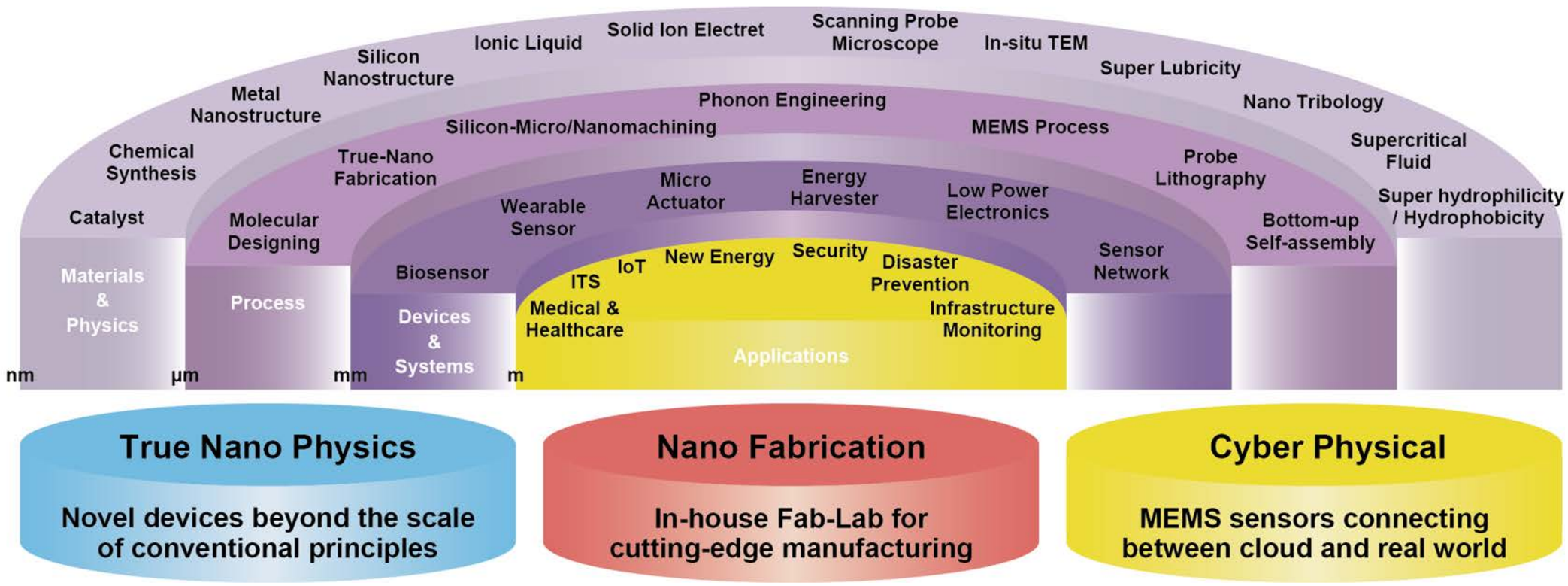
Centre for Interdisciplinary Research on Micro-Nano Methods (CIRMM)

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.

Dept.2
Ce-B02

Coupling to the Nano Regime

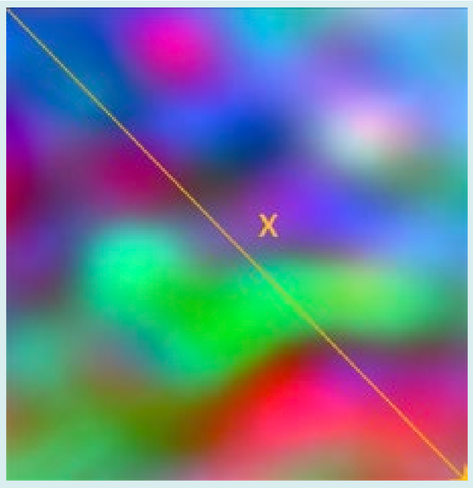
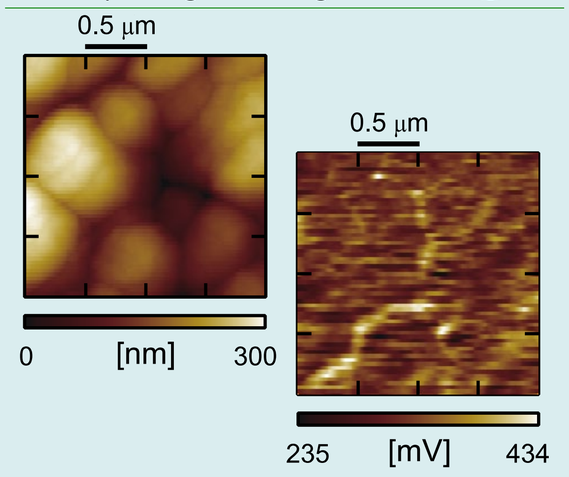


Image of silicon acquired with the Colour AFM

Takahashi Lab.

Dept.3
Ee-305

Nano-probing Technologies

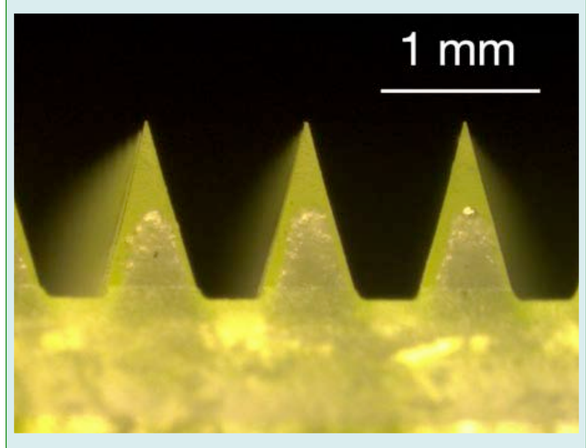


Images of topography (left) and photovoltage (right) on $Cu(In,Ga)Se_2$ solar cell

Kim Lab.

Dept.2
De-B02
Dw-304

Micro Components & Systems

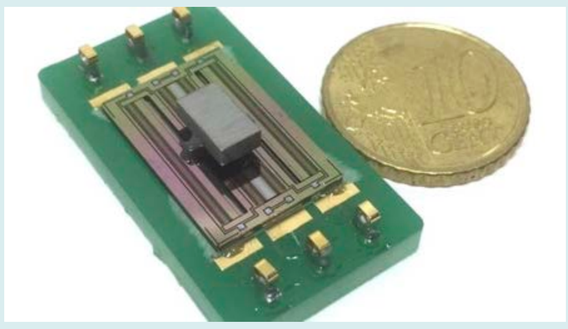


Porous Microneedles for sensing

Toshiyoshi Lab.

Dept.3
Ee-308

MEMS/NEMS

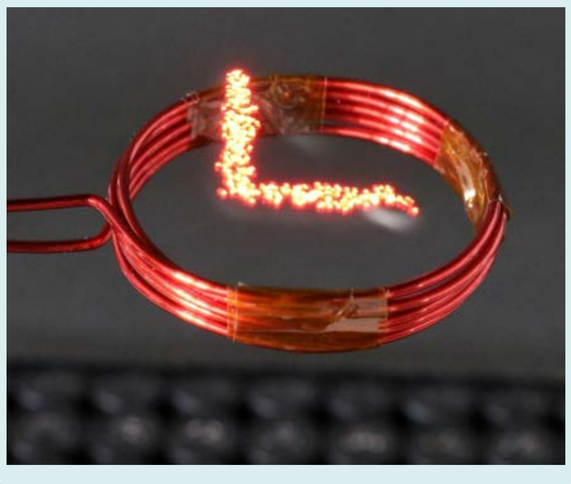


MEMS environmental vibrational energy harvester

Takamiya Lab.

Dept.3
Ew-206

Integrated Power Management

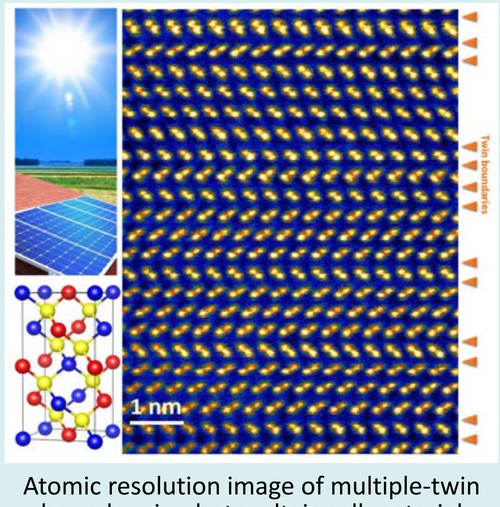


Millimeter-scale LED based on acoustic levitation for mid-air display

Mizoguchi Lab.

Dept.4
Fe-312

Understanding Role of Atom and Electron in Material

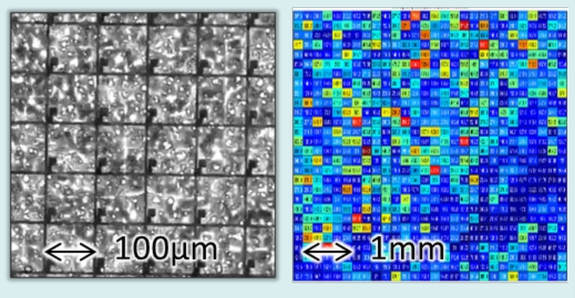


Atomic resolution image of multiple-twin boundary in photovoltaic cell material

Tixier-Mita Lab.

Dept.3
Ee-308

Bio CMOS/MEMS Platforms

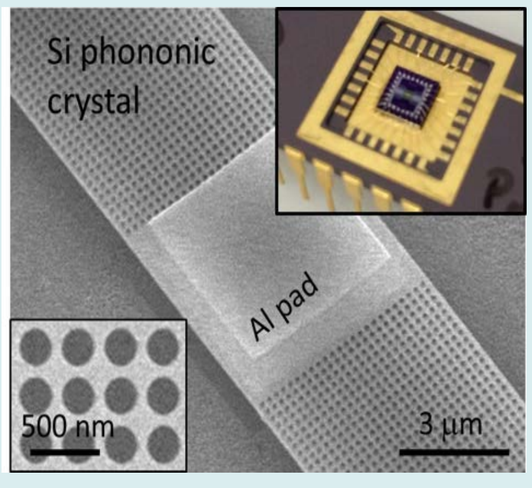


Electrophysiology of cardiomyocyte cells culture on a thin-film-transistor active matrix device

Nomura Lab.

Dept.3/
RCAST
Fe-207

Nanoscale Heat Transfer and Thermoelectrics



Nanostructured Si thermoelectric energy harvester