



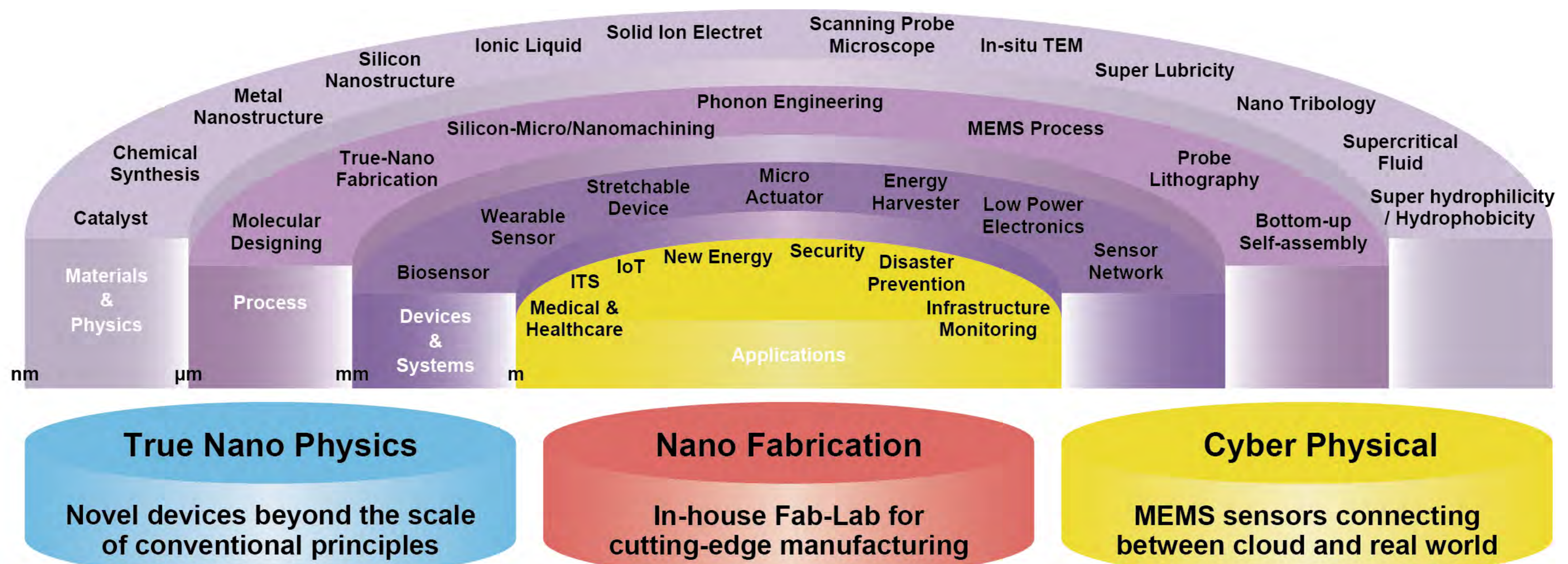
# Centre for Interdisciplinary Research on Micro-Nano Methods (CIRMM)

Materials Engineering  
Mechanical 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.

<p><b>Kawakatsu Lab.</b> Dept. 2 Ce-B02 Coupling to the Nano Regime</p> <p>Image of silicon acquired with the colour AFM</p>	<p><b>Takahashi Lab.</b> Dept. 3 Ee-305 Nano-probing Technologies</p> <p>Images of topography and photovoltage on Cu(In,Ga)Se<sub>2</sub> solar cell</p>	<p><b>Toshiyoshi Lab.</b> Dept. 3 Ee-308 MEMS/NEMS</p> <p>Electret MEMS vibrational energy harvester in operation</p>	<p><b>Nomura Lab.</b> Dept. 3 Fe-207 Nanoscale Heat Transfer and Thermoelectrics</p> <p>Nanoscale heat transfer and thermoelectrics</p>
<p><b>Mizoguchi Lab.</b> Dept. 4 Fe-312 Understanding Role of Atom and Electron in Material</p> <p>Atomic resolution image of multiple-twin boundary in photovoltaic cell material</p>	<p><b>Kim Lab.</b> Dept. 2 De-B02/Dw-304 Micro Components &amp; Systems</p> <p>Porous microneedles for sensing</p>	<p><b>Tixier-Mita Lab.</b> Dept. 3 Ee-308 Bio CMOS/MEMS Platforms</p> <p>Electrophysiology of cardiomyocyte cells culture on a thin-film-transistor active matrix device</p>	<p><b>Matsuhisa Lab.</b> Dept. 3 /RCAST Ee-412 Interactive electronic devices</p> <p>Exceptional skin-conformability of the soft and stretchable display</p>
	<p><b>Tochigi Lab.</b> Dept. 1 Cw-305 Microstructures and Mechanical behavior</p> <p>Local strain analysis based on atomic-resolution in situ TEM loading experiment</p>	<p><b>Takamiya Lab.</b> Dept. 3 Ew-206 Integrated Power Management</p> <p>Millimeter-scale LED based on acoustic levitation for mid-air display</p>	