Koç University-Optical Microsystems Laboratory
http://mems.ku.edu.tr
Assoc. Prof. Hakan Urey, Director of Optical Microsystems Laboratory
E-mail: **hurey@ku.edu.tr**

Optical Microsystems Laboratory (OML) was established in 2001 at Koç University-Istanbul (Turkey) and focuses on design, testing, and characterization of: MOEM (micro-opto-electro-mechanical) and MEMS devices and systems. Locally OML is a part of Koç University Optoelectronics Research Center. Externally OML has a wide array of sponsors from industry, national government and EC.

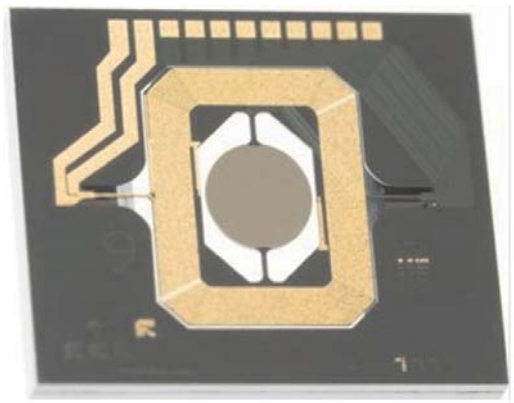
Ongoing research

- Microscanners for display and imaging systems (funded by Microvision Inc. USA)
- MEMS spectrometer (in collaboration with Fraunhofer IPMS, Germany)
- MOEM infrared camera
- Microlens beam steering for imaging (partially funded by FP6-NEMO)
- Nanowires as biological sensors (funded by TÜBITAK (Scientific and Technical Research Council of Turkey)
- Polymer magnetic actuators (partially funded by Microvision Inc. USA. and KÜMPEM-MIGROS, Turkey)
- Auto-stereoscopic 3D displays (partially funded by FP6-3DTV)

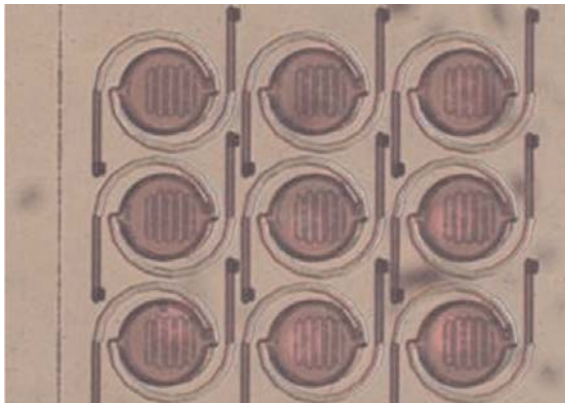
Ongoing FP6-projects

- EC Framework 6 Project MINOS– EURONET: “Networking in micro-nanosystems in Europe”.
- EC Framework 6 project Network of Excellence in Micro-Optics (NEMO). A networking platform for micro-optics in Europe with thirty partners.
- EC Framework 6 Network of Excellence 3DTV. A project for integration of all European research in all technical aspects of Three-Dimensional Television.

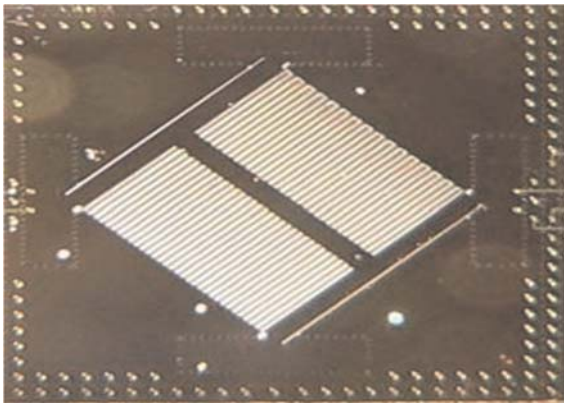
The OML group



2D MEMS Scanner



MOEM IR detectors



MEMS FT Spectrometer

Facilities

- Test and Design Laboratory: Has Optical, electrical and mechanical characterisation and inspection tools and equipment. Member of Europractice network. List of software in use: CADENCE, ANSYS-Multiphysics, FEMLAB, ZEMAX, MATLAB, SIMULINK, MATHEMATHICA, LabView.
- Clean room (completed March 2006) so far has MA45 Mask Aligner (Karl Süss), Dektak 8 (Veeco) and resist spinner will give the opportunity to fabricate and characterise MEMS locally.
- Electroplating lab different metals and alloys are successfully plated for magnetically actuated scanners and other uses.

The publication of this page is supported by the ***MINOS-EURONET*** project (EC Contract No 015704)