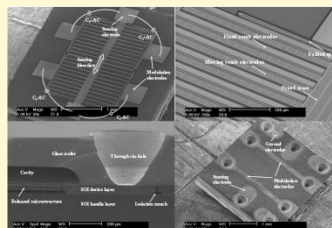


Staff: 15 researchers, Professor Dong-il "Dan" Cho, 1 Post-doc., 5 Ph.D. students, 8 Master students

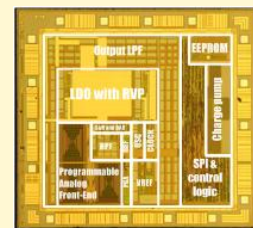
Research fields: Microsensor, Bio-mechano-informatics, Control Systems

Research topics in Micro and Nano Systems

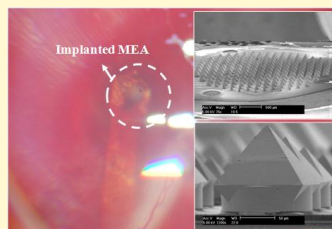
- MEMS fabrication (silicon micromachining, LIGA, polymer micromachining, wafer-level packaging)
- High-performance MEMS inertial sensor
- Low-voltage, low-noise CMOS readout ASIC design
- Bio MEMS & applications
 - 3D MEA for artificial retinal system
 - Micro spike for capsular endoscope
 - Active drug delivery system using bacteria
- MEMS inertial sensor applications
 - Vision tracking system for robots using MEMS sensor
 - Position estimation for robots using GUI



MEMS microaccelerometer



Signal processing ASIC design



3D MEA on Flexible substrate



Micro spike for capsular endoscope

Technology

- Silicon micromachining process
 - Sacrificial Bulk Micromachining (SBM) process
 - Extended SBM process
- LiGA process
- Si, poly-Si, Au, PDMS, polyimide, PLGA/PGA/PLA
- Polymer micromachining process
 - PDMS, polyimide
- Wafer level packaging process
- Vestibulo-ocular Reflex based Gaze Control System for Mobile robots using MEMS inertial sensor

Design, simulation & characterization tools

- Cadence, AutoCAD, ANSYS, FEMLAB, VHDL
- Probe station
- Rate table, Vibration system
- X-Y stage, Positioner system
- Microscopes: fluorescent microscope
- Contact angle analyzer
- Environmental chamber