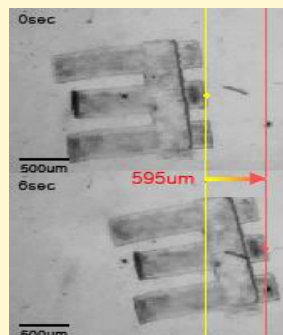


**Staff:** 10 researchers, Professor Kukjin Chun, 4 Master students, 5 Ph.D. students

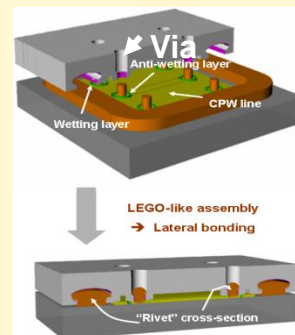
**Research fields:** RF MEMS, MEMS Packaging, Energy Harvester

## Research topics in Micro and Nano Systems

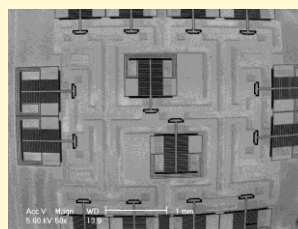
- RF MEMS: switch, antenna, inductor
- Bio MEMS: protein chip, biomimetic nanobot
- MEMS Packaging: wafer level packaging
- Energy Harvester: thermoelectric generator



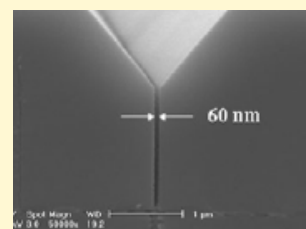
*Polymer micro-robot by cardiomyocytes*



*LEGO-like package*



*SP12T RF MEMS Switch*



*Photo-assisted electrochemical etching*

## Technology

- Si-through-via etching for stacked package
- Photo-assisted electrochemical etching
- Cu, Au, Ni electroplating
- Sn reflow bonding, Au/Sn Eutetic bonding
- Si/Glass anodic bonding
- Polymer(BCB, SU-8, DFR, Parylene) bonding
- Polyimide patterning / 3D PDMS structure
- Si nanowire
- High-k dielectrics( $Al_2O_3$ ) dry etching

## Design, simulation & characterization tools

- ANSYS, HFSS, Cadence, AutoCAD
- CFD-ACE+, Matlab
- Microscopes: SEM, AFM, fluorescent microscope
- Positioner system, Syringe pump
- Probe station, X-Y stage

**MINT**

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