

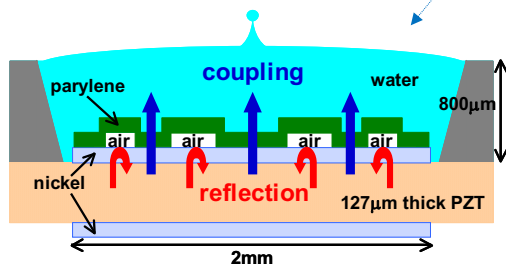
- Professor, Electrical and Computer Engineering
- Ph.D. in EE from UC Berkeley (1990)
  - B.S. & M.S. in EECS from UC Berkeley (1982, 1987)
- “Fundamentals of MEMS,” Textbook Published April 2021, Pages: 416 →
- IOP Fellow (1996), IEEE Fellow (2011)
- ≈250 refereed papers and 16 issued US patents

Fundamentals of  
Microelectromechanical  
Systems (MEMS)

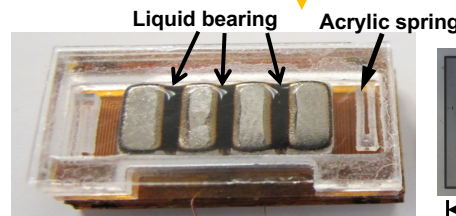


**Research interests:**

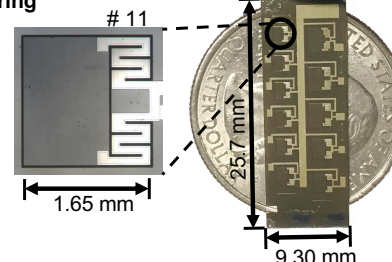
- Acoustic MEMS: underwater and air propellers, droplet ejector, **acoustic tweezers**, micromixer, active noise cancellation for hearing aids, **wearable stethoscope**
- Biomedical Applications of **Focused Ultrasound**: neural stimulation, cancer therapeutics
- Wireless and/or Battery-less Sensing Systems: **vibrational energy harvesters**



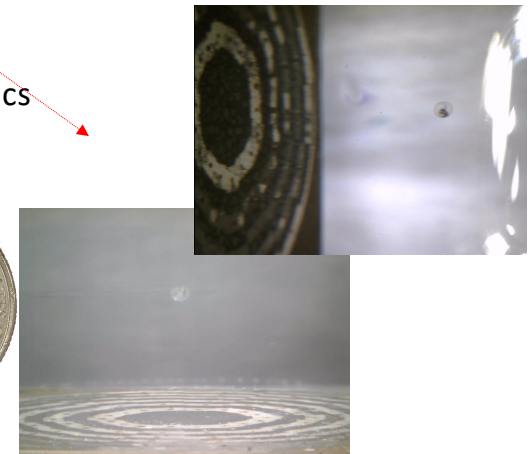
Self-focusing Acoustic Transducer (SFAT) with Air Cavity Lens



Non-resonant Electromagnetic Energy Harvester (1.1 cc, 2.5 g) with Liquid Bearing and 675-turn Coil Array



Array of 11 Piezocantilever-based Microphones with S-shape Support Beams



Trapping of Zebrafish Egg (1 mm in diameter, 1.4 mg in weight) with Acoustic Tweezers