

*About Berkeley Sensor & Actuator Center:
The National Science Foundation
Industry/University Cooperative Research Center on MEMS*



***Goal: MEMS Commercialization
Through Industry-University Collaboration***





30+ Years

National Science Foundation Center



30-40 Partner Organizations



140+ Researchers 80+ Projects



13 Faculty CoDirectors
26 Collaborating Faculty



7 Engineering Departments
Three Campuses of UC System

BSAC Center Statistics





Ming Wu
Electrical Engineering



Richard Muller
Electrical Engineering



Mike Cable
Executive Director



Richard White
Electrical Engineering



Bernhard Boser
Electrical Engineering



David Horsley
Mechanical Engineering



Kris Pister
Electrical Engineering



Ali Javey
Electrical Engineering



Clark Nguyen
Electrical Engineering



Luke Lee
Bioengineering



Michel Maharbiz
Electrical Engineering



Roya Maboudian
Chemical Engineering



Liwei Lin
Mechanical Engineering



Dorian Liepmann
Bioengineering



BSAC Membership Benefits

Biannual meetings

Website/database access

Faculty and student access

Prepublication

Early IP access

Optional supported project

Project organization and access
are key elements

Invention Process BSAC



BSAC Inventions Disclosed First (90 Days):

- **To All Industrial Members** (if Funded by federal, state, or Membership Fees)
- **To Sponsoring Company** (if Funded through Sponsored Project)



Member Requests Enabling Disclosure

- *Usually Fulfilled within 1-2 work days of request*



License or Time-Reserved Option Negotiated with OTL/IPIRA*

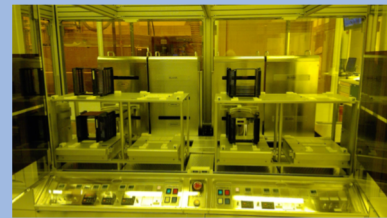
*(Office of Technology Licensing)

BSAC Industrial Members




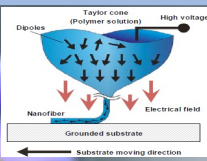
Marvell Nano Fabrication Laboratory

15,000 sf; 350 Users, BSAC access advantages
BSAC VIF receive reduced recharge rates
(same as Graduate Students)
BSAC Nanolab Researchers=Superusers



Major Thrusts

TRILLIONS OF
CONNECTED
SENSING DEVICES

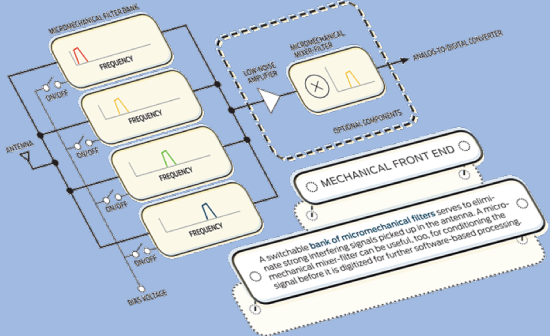



**Conformal Electronics
& Active Fabrics**

**Motion / Environmental Sensing:
Gyro, Accelerometer,
Magnetometer, Ultrasound,
Pressure, Particulates, Gas...**



**RF, Wireless, and
Mechanical Radio**



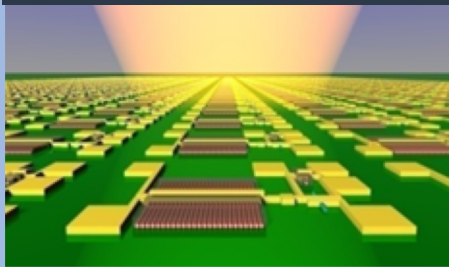
**Microfluidics &
BioMEMS**



Energy Industries	Geothermal	Oil & Gas Exploration	Industrial Gas Turbines	Automotive Engines	Aircraft Engines
Minimum Sensing Temperatures	374°C	275°C	600°C	300°C	600°C
Desired Sensing Measurands	Pressure Temperature H ₂ S Strain	Pressure Temperature Hydrocarbon Strain	Pressure Temperature Flame Speed Acceleration	Pressure Temperature Flame Speed O ₂	Pressure Temperature Flame Speed Acceleration

**Harsh Environment Materials,
Processes, Devices**

Integrated Photonics



**Wireless, MicroEnergy Generation,
Sensing, Storage**

