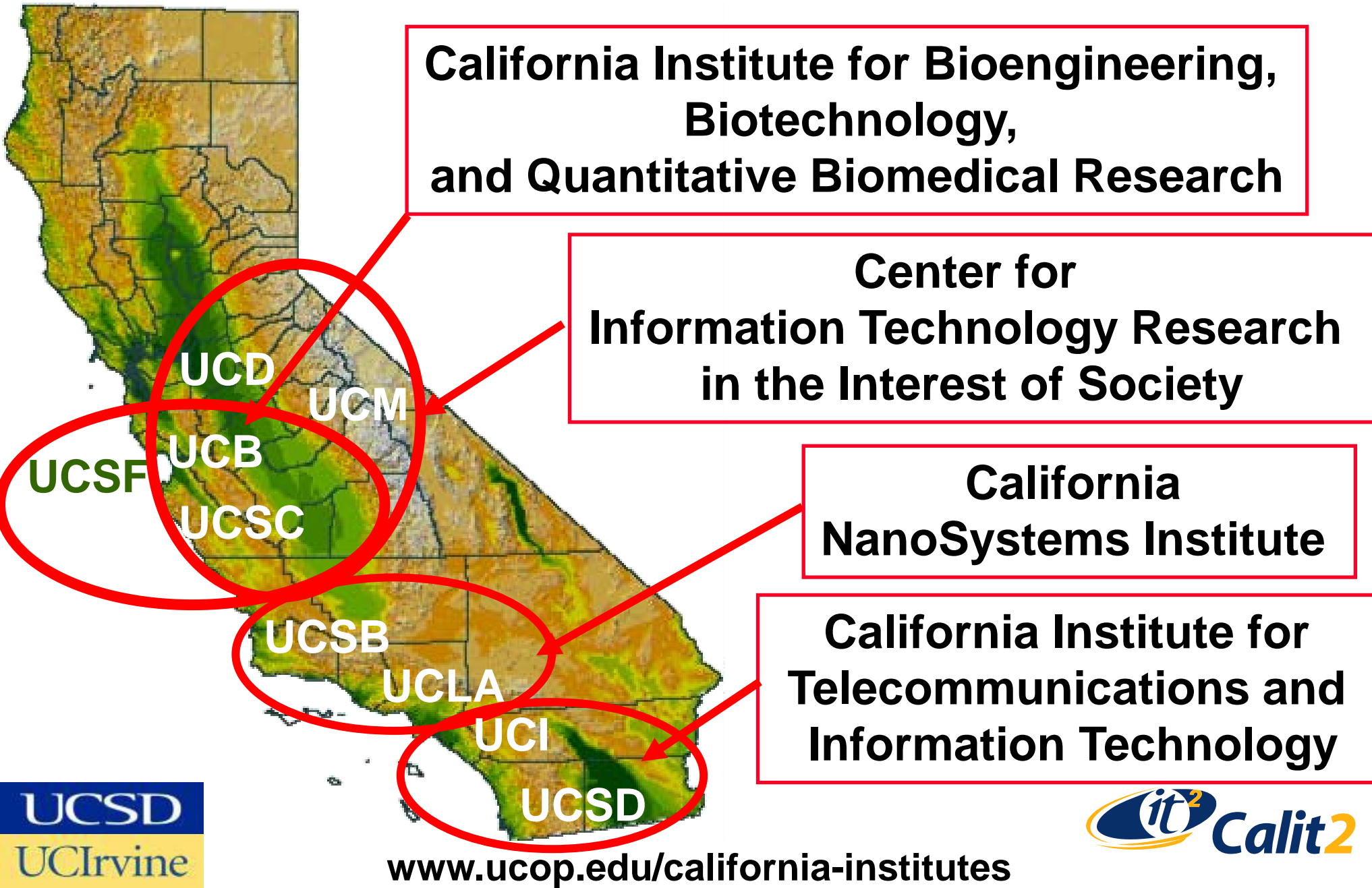


Overview of Interdisciplinary Research

Dr. G. P. Li

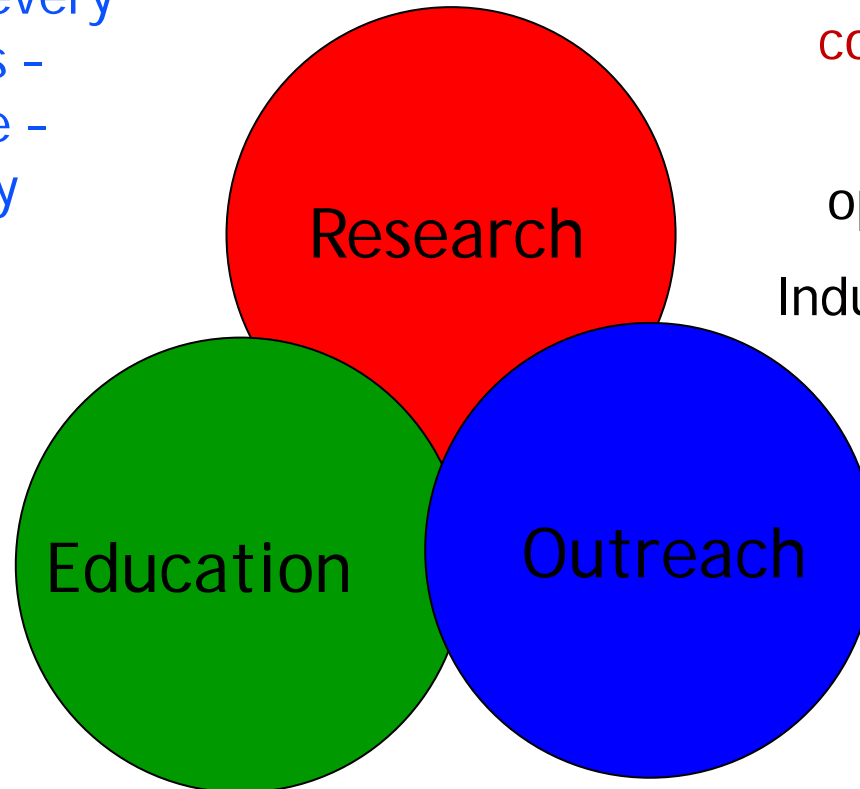
California Institute for Telecommunications and Information Technology
Integrated Nanosystems Research Facility
Dept. of Electrical Engineering and Computer Science
Dept. of Biomedical Engineering
Dept. of Chemical Engineering and Materials Science
Henry Samueli School of Engineering

California's Institutes for Science and Innovation: A Bold Experiment in Collaborative Research



An Institute to Create Collaborations

Calit2 partners with every school on UCI campus - from arts to medicine - more than 300 faculty affiliates



Cross-disciplinary collaborations

Funding opportunities

Industrial support

Multi-disciplinary Design programs

Training programs (e.g., NSF IGERT)

Industry internships

Business incubator: TechPortal

Industrial partnerships

Technology transfer

Commercialization

Academia • Government • Industry

Calit2 Application Thrusts

The Digital Transformation of....

Culture



Energy



Environment



Healthcare



Calit2 Foundation

Enabling Technologies

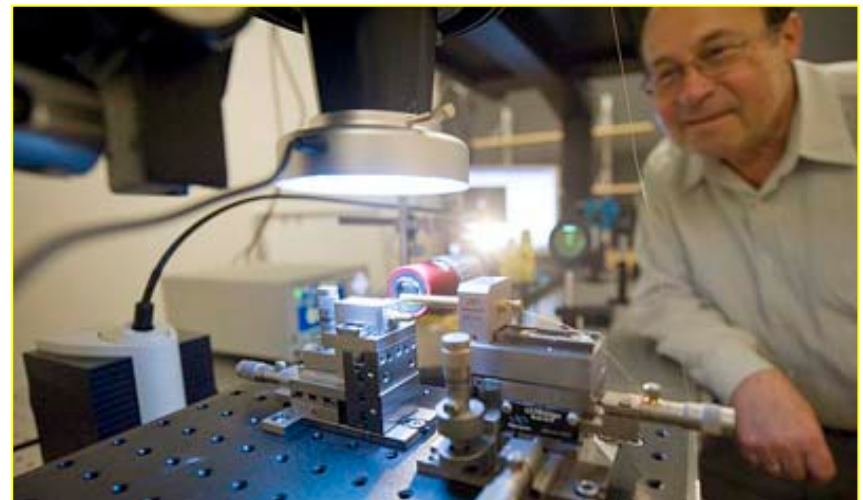
Wireless Systems



Cyberspace



Photonics



Nano /MEMs



CULTURE: e-Media Studio and Distributed Arts Collaboratory

Embodied Interaction – combines processed video, computer-generated animation, motion capture and real-time motion tracking



ActiveSpace software development



**IT for understanding
orthopaedic anatomy and
mechanics of the lower
extremity in dancers**



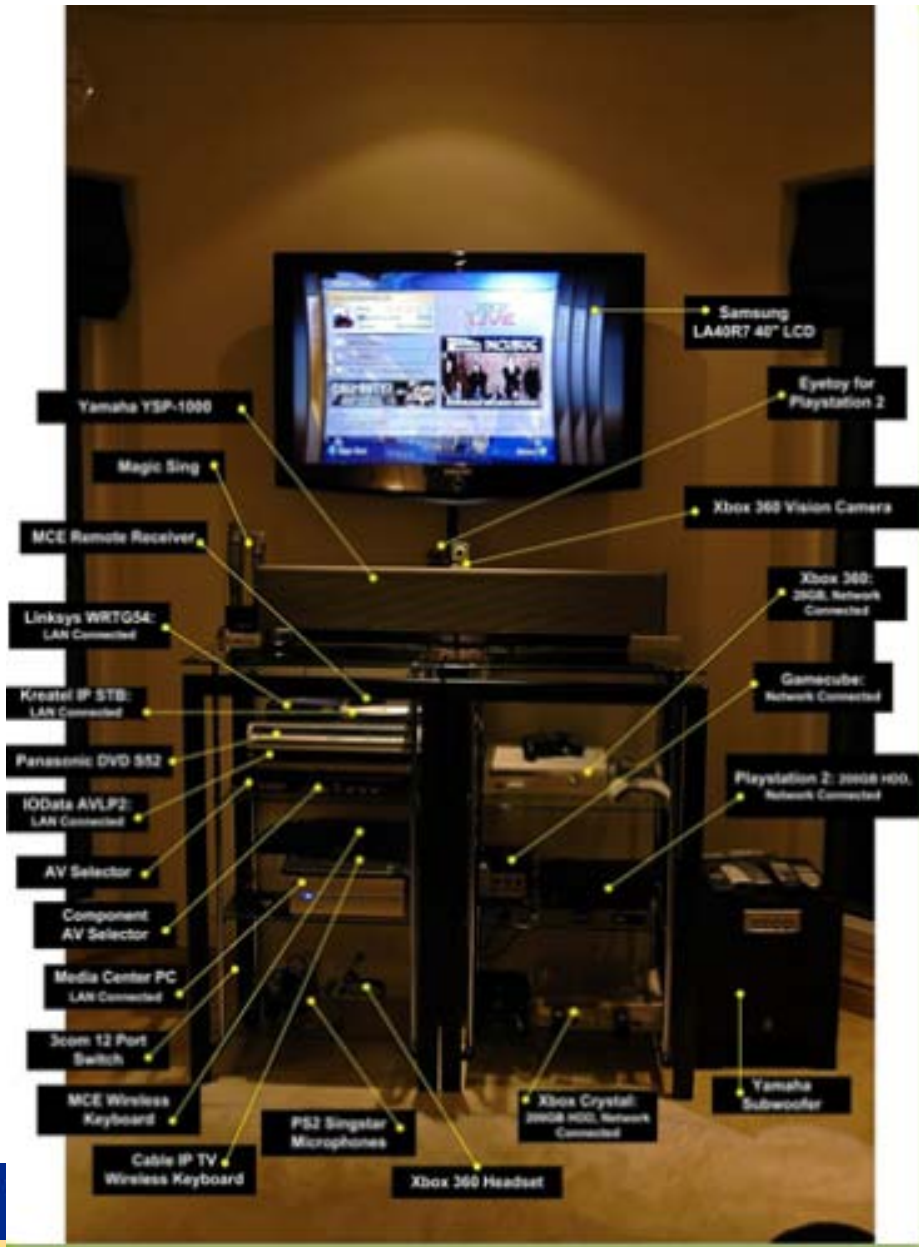
ENERGY: Cal-Plug Center

Engineering Research:

Applied research, including the physical sciences

Work will include:

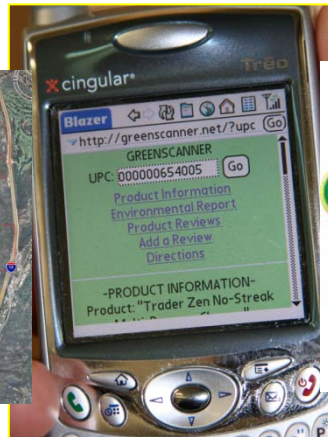
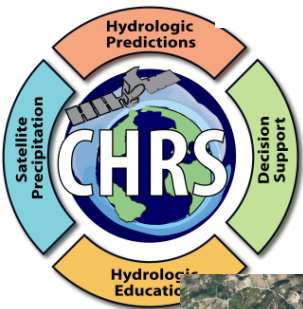
- developing test standards
- lab testing of appliances & equipment
- circuit design
- adding intelligence and remote control
- computer modeling and simulation
- mechanical engineering design
- construction of prototypes
- demonstration projects



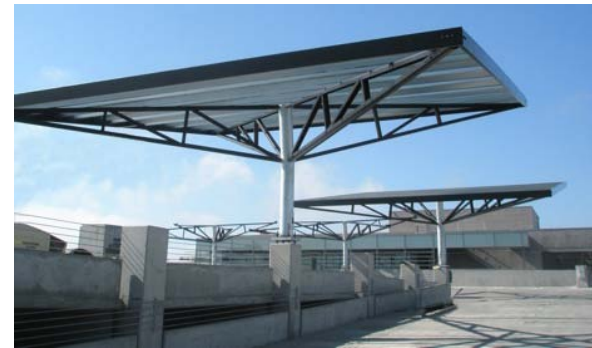
ENVIRONMENT: Empowering the Green World



- Deployment of IT for smart environmental monitoring, ie water infrastructure
- Intelligent transportation
 - Water resources and environmental health
 - Atmospheric sciences (global warming)
- Deployment of IT for smart power grid and its integration with distributed energy generation



**GREEN
INFORMATION
TECHNOLOGY**

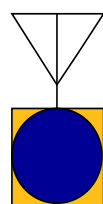


**zen
et**

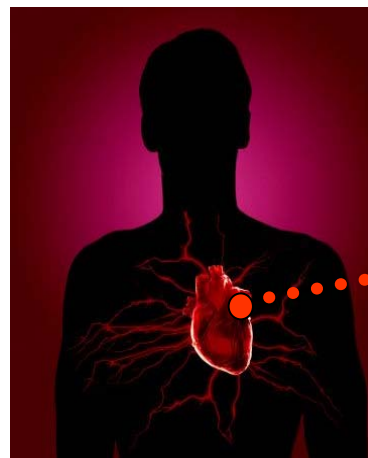
brilliant concept for commuters

HEALTHCARE: e-Health Collaboratory

TELIOS – Telepresence Interactive Operating System



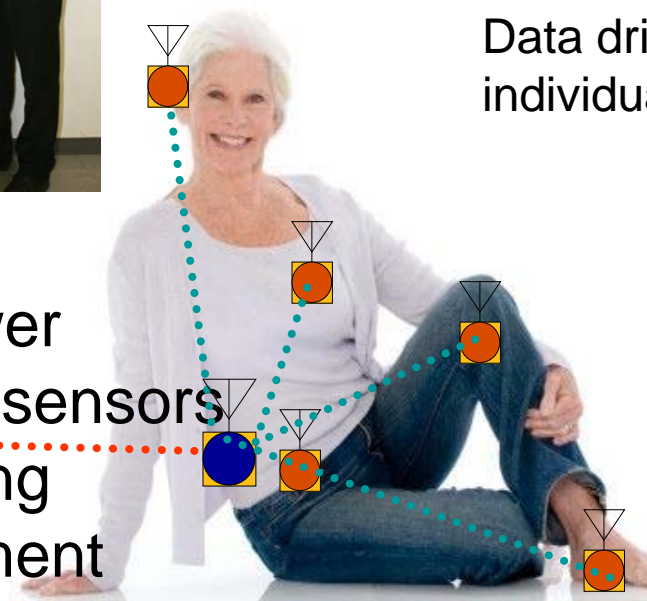
Low power
wireless sensors
monitoring
environment



Personalized Telemedicine

Data driven medical devices for
individualized medicine

“How are you feeling
today? Have you been
taking your medicine?
It looks like your
implant needs to be
checked.”

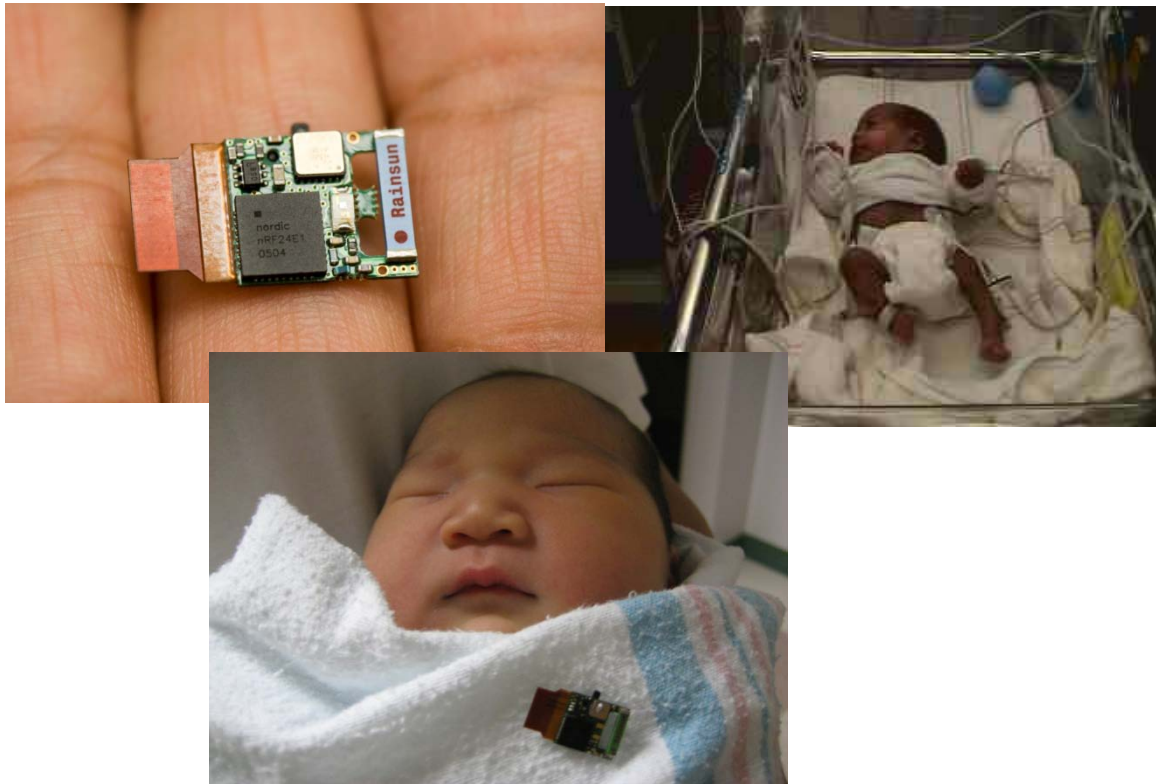


HEALTHCARE: Wireless Sensor Lab

Eco-Node Sensors

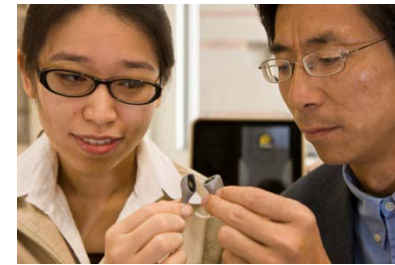
Pre-term infant motion monitoring

Wearable ECG, vital sign monitoring



Bionic & Assistive Technologies

Cochlear Implants



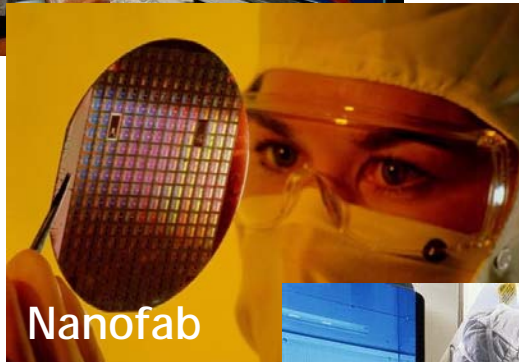
X-Sense



MEMs for Balance



Calit2@UCI Innovation Pipeline



Calit2 empowers technology innovation through its “Innovation Pipeline.”
Innovate. Integrate. Incubate. Ignite.

**We welcome collaborative
opportunities.**

Thank You!