

We invent the wearable systems the world needs.

Wearable sensors are trending, but only UC San Diego is championing the unobtrusive, ultra-low power, highly adaptive sensor systems that are revolutionizing health, fitness, security, and energy – by way of the data available from our bodies.

The Center for Wearable Sensors has world-renowned faculty and top students working in the key areas that converge to invent and test the sensing platforms and technologies that fuel the future of sensor systems.

Join us.

Technologies and Systems Expertise

- Chemical Sensors and Biosensors
- Electrophysiological Monitoring
- Soft Electronics and Stretchable Materials
- Sensors-Electronics Integration and Fabrication
- Glucose Monitoring
- Wireless Communications
- On-Body Energy Harvesting
- Ultra-Low-Power Instrumentation
- Data Processing, Fusion and Machine Learning



Miniaturized energy-processing chips



Mouth guard prototype measures health markers in saliva.

Membership Opportunities

Access **experimental wearable sensor platforms** and a community of engineers and medical researchers developing these systems for real-world applications.

Keep abreast of breakthroughs relevant for growth in **your industry**.

Recruit a **qualified technical workforce** innovating the wearable sensing industry.

WHO WE ARE and WHAT WE DO

We design new sensors, sensor electronics, materials, and energy harvesters. We integrate our work into real systems whose designs are informed by leading clinicians and human interface design experts.

Joseph Wang

Non/minimally-invasive electrochemical sensing, printable sensors, soft bioelectronics

Patrick Mercier

Wireless communications, energy-harvesting integrated circuits, ultra-low-power systems

Gert Cauwenberghs

Wireless dry and non-contact biopotential monitoring

Chung-Kuan Cheng

Parallel processing, power network analysis for VLSI systems and circuits

Todd Coleman

Information theory, neuroscience, machine learning, bioelectronics

Shadi Dayeh

Electro-neural interfaces and compact wearable electronics

Harinath Garudadri

Signal processing, wearable electrophysiology

David Gough

Long-term glucose sensors, biocompatible materials

Drew Hall

Biosensors, medical electronics, sensor interfaces

Mike Heller

Sample-to-answer and POC diagnostics for cancer, brain injury, stroke, diabetes

Tzyy-Ping Jung

Dry & non-prep EEG sensors, wearable and wireless EEG systems

Gert Lanckriet

Machine learning, personalized mobile health

Darren Lipomi

Stretchable electronics, polymer chemistry, stimuli-responsive materials

Yu-Hwa Lo

Microfluidics, biomedical devices for in-vitro diagnostics, bio- and nanophotonics

Tse Nga (Tina) Ng

Free-form, flexible electronics fabrication

Kevin Patrick, MD

Mobile and social technologies for health care

Albert P. Pisano

MEMS, manufacturing, low-cost sensors

Gabriel Rebeiz

RFICs for microwave and mm-wave systems, low-power circuits

Tajana Rosing

Energy-efficient systems, embedded systems

Sheng Xu

Wearable electronics, advanced stretchable materials

Benjamin Bratton

Visual Arts, interface with VR and AR environments

HEALTH



SECURITY/FORENSICS



FITNESS



TEXTILES



Partner Benefits

- Recruit our top students
- Access to multidisciplinary researchers all focused on wearables
- Embed a Visiting Industry Fellow in our labs
- Industry-faculty-student research teams
- Fast-track research agreements
- Access to commercialization engine with lab-to-market focus
- Seat on the Center Advisory Board
- Invitations to Research Summits

Director

Joseph Wang

Professor and Chair
Dept. of NanoEngineering

josephwang@ucsd.edu
+1 (858) 246-0128

Co-Director

Patrick Mercier

Professor
Dept. of Electrical and Computer Engineering

pmercier@ucsd.edu
+1 (858) 534-6026

Anne O'Donnell

Executive Director
Corporate Research Partnerships

odonnell@ucsd.edu
+1 (858) 822-5963