

Embedded nano-battery

## RELEVANCE + EXCELLENCE

Through research, education and entrepreneurship, we solve global challenges while creating career opportunities, generating IP, launching companies and supporting industry clusters.

## INTERDISCIPLINARY INITIATIVES

- Engineering and Clinical Medicine
- Materials and Energy
- Global Entrepreneurism
- Oceans and Environment
- Maker Space and Design
- Global Production and Innovation
- Contextual Robotics

## UC San Diego by the numbers

\$1.0 Billion 5th in USA	Research Enterprise For Federal R&D Expenditures
1,611 26,590 7,145	UC San Diego Faculty Undergraduates (Fall 2015) Graduate Students (Fall 2015)

## 224 PROFESSORS

- 18 New faculty hired in 2015
- 17-23 New faculty to be hired in 2016

## 8,921 ENGINEERING STUDENTS

- 6,677 Undergraduate students
- 1,198 Bachelors degrees conferred
- 1,177 Masters students
- 438 Masters degrees conferred
- 1,067 PhD students
- 163 PhD degrees conferred

## \$162M IN RESEARCH FUNDING

- \$117M Government-sponsored research
- \$45M Industry-sponsored research +  
income from gifts/endowments

## CONTEXTUAL ROBOTICS INSTITUTE

We develop safe, useful robotics systems that will act based on real-time context for disaster response, medicine, transportation and more. Launched by the Jacobs School of Engineering and the Division of Social Sciences at UC San Diego.

## AGILE RESEARCH CENTERS

- CaliBaja Center for Resilient Materials & Systems
- Center for Extreme Events Research
- Center for Microbiome Innovation
- Center for Visual Computing
- Center for Wearable Sensors
- CHO Systems Biology Center
- Sustainable Power and Energy Center

**BIOENGINEERING**

25 Faculty  
621 Undergraduates  
252 Graduate students



- bioinformatics / genomics
- biomechanics / biomaterials
- biophotonics / biosensors
- cardiac mechanics, cardiology, cardiovascular engineering
- cartilage tissue engineering
- cell / tissue mechanics
- genomic engineering
- metabolic bioengineering
- microcirculation / microhemodynamics
- molecular / cellular bioengineering
- nanotechnology
- neuroengineering
- stem cells / regenerative medicine
- systems biology

**MECHANICAL & AEROSPACE ENGINEERING**

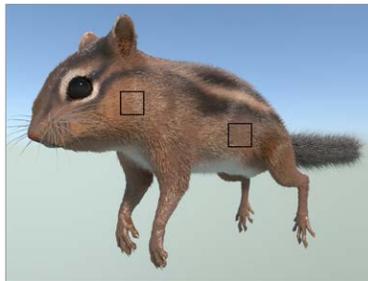
44 Faculty  
1,008 Undergraduates  
477 Graduate students



- biomaterials / biomimetics
- cell / membrane mechanics
- control, estimation and optimization
- energy technologies
- environmental technologies
- hard disk drive tribology
- high-energy materials processing
- materials for extreme conditions
- medical device technology
- MEMS for extreme and biological environments
- metamaterials
- robotics / networked systems
- solid and soft matter
- turbulence, geophysical flows, macro/microfluidic flows

**COMPUTER SCIENCE & ENGINEERING**

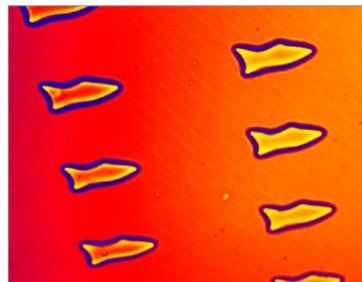
54 Faculty  
2,279 Undergraduates  
586 Graduate students



- bioinformatics
- computer architecture
- computer science pedagogy
- databases
- embedded systems & design
- graphics and vision
- machine learning
- programming languages and compilers
- security / cryptography
- software engineering
- systems and networking
- theoretical computer science

**NANOENGINEERING**

26 Faculty  
912 Undergraduates  
146 Graduate students



- nanobiotechnology
- nanomedicine
- computational materials science
- advanced nanomaterials
- nanomanufacturing
- nanorobotics
- nanotechnologies for energy storage and conversion
- stretchable electronics
- chemical engineering

**ELECTRICAL & COMPUTER ENGINEERING**

51 Faculty  
1,269 Undergraduates  
587 Graduate students



- bioinformatics / bionanotech
- brain imaging / mapping
- cyber-physical sys. security
- electromagnetics
- electronic circuits and systems
- embedded systems
- info tech / communications
- intelligent systems / robotics
- machine learning
- magnetic and optical storage
- medical devices and robotics
- nanoelectronics
- network infrastructure
- neural interfaces
- photonics / nanophotonics
- signal/image/video processing
- systems energy engineering
- wearable sensors

**STRUCTURAL ENGINEERING**

24 Faculty  
588 Undergraduates  
196 Graduate students



- large-scale experimental research
- earthquake engineering and infrastructure renewal
- multi-hazard mitigation for earthquakes, blasts and more
- computational mechanics for extreme events damage prediction
- aerospace structures / safety
- composites / nanomaterials
- computational fluid-structure interaction analysis
- biomechanics / geomechanics
- geotechnical engineering
- risk analysis / visualization
- structural health monitoring / nondestructive examination