UC San Diego
JACOBS SCHOOL OF ENGINEERING

SNAPSHOT
2024

WE MAKE **BOLD** POSSIBLE.

IN DIGITAL HEALTH

We make bold transitions to data-driven preventive health care possible. With strengths in clinical-grade wearable biometric sensing, Artificial Intelligence, cybersecurity, and human-centered engineering and computer science, we partner with researchers and clinicians in UC San Diego's forward-thinking Health System. Our collaboration is unique in the world – and we are improving health outcomes across San Diego and well beyond.

IN ADVANCED MICROELECTRONICS

We are creating a bold new national resource for the U.S. microelectronics industry by way of a powerful Southern California collaboration. With CHIPS and Science Act of 2022 funding, California DREAMS (Defense Ready Electronics And Microdevices Superhub) is creating an easy-access platform to design and manufacture prototypes of advanced electronic modules such as heterogeneous semiconductors.

IN FUSION ENGINEERING

We are advancing fusion engineering and driving collaborations across UC San Diego, the UC System, the U.S. National Labs, academia and industry. Our bold move is to solve the engineering challenges needed to realize fusion science's promise of nearly limitless low-carbon energy.

IN LOW-CARBON MANUFACTURING

We are engineering a new era of scalable, low-carbon and zero-carbon manufacturing. We are combining our expertise in engineered microbial systems, renewable energy, electro-chemistry and more to harness carbon and nitrogen in the air and oceans. Our broad teams of bioengineers, genome engineers, chemical engineers, nano engineers, Artificial Intelligence pioneers and roboticists are poised to move the needle in bold ways.

A BOLD PLATFORM

We built a school-wide process to identify, evaluate and accelerate bold, cross disciplinary projects that address society's pressing challenges.

Learn more: JacobsSchool.ucsd.edu

#1 IN CALIFORNIA
FOR RESEARCH EXPENDITURES

*2023 U.S.News Rankings of Best Engineering Schools

#2 Public engineering school in California*
#8 Public engineering school in the USA*
#12 Engineering School in the USA*

$256M	Total research expenditures for 2022-2023 at the Jacobs School of Engineering
42%	Approximately 42% of our research expenditures come from university-industry research partnerships and philanthropy
#2	The Jacobs School of Engineering is the second largest engineering school in California
5,822	Undergraduate Engineering Students (Fall '23)
3,297	Graduate Engineering Students (Fall '23) 1,867 MS / 1,430 PhD
3,100	Degrees (2022-2023) 1,457 BS / 1,418 MS / 225 PhD
288	Faculty at the Jacobs School 18 New faculty hired in 2023 175+ faculty hired in the last 11 years

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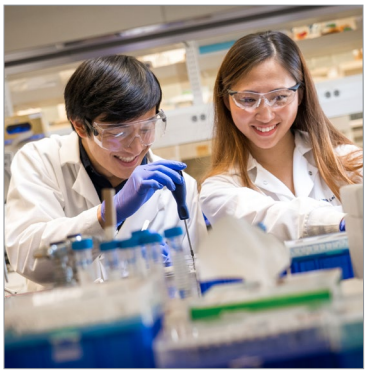
UC San Diego
JACOBS SCHOOL OF ENGINEERING

ACADEMIC DEPARTMENTS

BIOENGINEERING

SHU CHIEN-GENE LAY
DEPARTMENTOF BIOENGINEERING

32 Faculty
552 Undergraduates
447 Graduate students



- autodigestion
- bioinformatics
- biomaterials / biomechanics
- cell / tissue mechanics
- biophotonics / biosensors
- cardiac mechanics
- cardiovascular engineering and imaging
- cartilage / tissue engineering
- genomic engineering
- metabolic bioengineering
- microcirculation / transfusion medicine
- molecular / cellular bioengineering
- nanotechnology
- neuroengineering
- regenerative medicine / stem cells
- systems bioengineering
- translational bioengineering

MECHANICAL & AEROSPACE ENGINEERING

58 Faculty
1,112 Undergraduates
573 Graduate students

- aerospace technologies
- biomaterials, bio-inspired tech
- cell / membrane mechanics
- control and optimization
- combustion
- high-energy materials processing
- materials for extremes
- medical device technologies
- MEMS for extremes
- networked control systems
- renewable and carbon-neutral energy technologies
- robotics and design
- solid and soft matter mechanics of metamaterials
- thermo-physics, heat and mass transfer
- tribology for memory storage
- turbulence, geophysical flows, macro/microfluidic flows

COMPUTER SCIENCE & ENGINEERING

73 Faculty
1,607 Undergraduates
1,016 Graduate students

- artificial intelligence / machine learning
- bioinformatics
- computer architecture
- computer science pedagogy
- databases and info mgmt.
- embedded systems, VLSI/CAD
- graphics and vision
- human-computer interaction
- programming languages
- robotics
- security and cryptography
- software engineering
- systems and networking
- theoretical computer science

NANOENGINEERING

30 Faculty
574 Undergraduates
137 Graduate students

- advanced nanomaterials
- computational materials science
- nanobiotechnology
- nanomanufacturing
- nanomedicine
- nanophotonics
- nanorobotics
- nanosensors
- nanotechnologies for energy storage and conversion
- stretchable, flexible electronics
- sustainable nanoengineering
- wearable devices

ELECTRICAL & COMPUTER ENGINEERING

68 Faculty
1,348 Undergraduates
958 Graduate students

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

STRUCTURAL ENGINEERING

27 Faculty
629 Undergraduates
166 Graduate students

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