# WE ARE BUILDING THE DIGITAL FUTURE IN SAN DIEGO

We are growing our faculty to 280 and broadening and strengthening our research in the areas necessary to invent the Digital Future – a future where humans and intelligent machines use real-time data to make decisions and act with speed, safety and precision.

To accommodate our growth in research and education, we are building a new kind of facility designed for innovation through academic-industry collaborations.

NEW DATA STREAMS
ACTIONS AND AGENTS
CYBER SECURE
REAL-TIME ANALYTICS
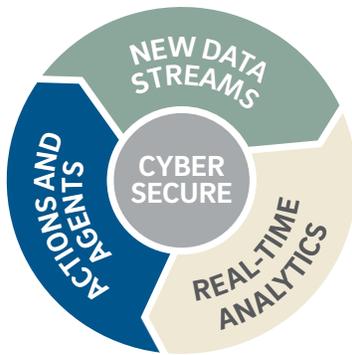
The Digital Future: Applications

- Context-aware robotics and autonomy
- Secure and resilient cyber and physical systems
- Low-carbon energy and transportation systems
- Cost-effective health care and public health
- Wearable sensing, diagnostics and treatments via secure 5G wireless systems

We Transfer our Innovations to Society

Research partnerships • Entrepreneurship mentoring
Commercialization accelerators • Access to capital

Medical robotics lab

228 PROFESSORS

13	New faculty hired in 2016
14-19	New faculty to be hired in 2017

$168M IN RESEARCH FUNDING

$121M	Government-sponsored research
$47M	Industry-sponsored research + income from gifts/endowments

8,696 ENGINEERING STUDENTS

6,061	Undergraduate students
1,541	Bachelors degrees conferred
1,498	Masters students
555	Masters degrees conferred
1,137	PhD students
160	PhD degrees conferred

UC San Diego by the numbers

$1.07 Billion	Research Enterprise
5th in USA	For Federal R&D Expenditures
1,722	UC San Diego Faculty
28,127	Undergraduates (Fall 2016)
7,689	Graduate Students (Fall 2016)

BIOENGINEERING

24	Faculty
633	Undergraduates
245	Graduate students

- autodigestion
- bioinformatics / genomics
- 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
- stem cells / regenerative medicine
- systems biology
- translational bioengineering

MECHANICAL & AEROSPACE ENGINEERING

44	Faculty
1,092	Undergraduates
547	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

57	Faculty
1,965	Undergraduates
795	Graduate students

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

NANOENGINEERING

27	Faculty
722	Undergraduates
174	Graduate students
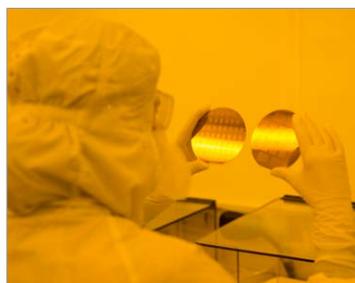
- advanced nanomaterials
- computational materials science
- nanobiotechnology
- nanomanufacturing
- nanomedicine
- nanophotonics
- nanorobotics
- nanosensors
- nanotechnologies for energy storage and conversion
- stretchable electronics

ELECTRICAL & COMPUTER ENGINEERING

52	Faculty
1,132	Undergraduates
673	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
517	Undergraduates
201	Graduate students

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