

UC San Diego

JACOBS SCHOOL OF ENGINEERING

# 2020 NEW FACULTY

We hire faculty with clear-eyed determination, technical smarts, creativity, and the openness to collaborate across disciplines and industries.

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UC San Diego

JACOBS SCHOOL OF ENGINEERING

# WE BROKE INTO THE TOP NINE

**#9** Engineering School in the USA

**#1** in the nation for research

expenditures per faculty member,  
among US public engineering  
schools

**#2** Public Engineering School in California

**#5** Public Engineering School in the USA

2021 *US News and World Report* Rankings of  
Best Engineering Schools



**Brian  
Aguado**

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@BrianAguado

ASSISTANT PROFESSOR  
BIOENGINEERING

### EXPERTISE

Aguado's goal is to develop precision biomaterials that enable the evaluation of a patient's unique biology to diagnose and treat a variety of health disorders as a function of sex, age, and/or ancestry. Specifically, Aguado aims to develop sex-specific biomaterial technologies to treat cardiovascular diseases, including aortic valve disease and heart failure.

### PREVIOUSLY

Postdoctoral Fellow,  
University of Colorado Boulder

### PHD

Northwestern University



**Nick  
Antipa**

naantipa@gmail.com

ASSISTANT PROFESSOR  
ELECTRICAL & COMPUTER ENGINEERING

### EXPERTISE

Antipa's research aims to develop design frameworks that merge optical models with algorithms, allowing optimization of both components and enabling the development of cutting-edge imaging and display systems. By considering both the hardware and digital domains, new computational optical systems emerge that extend capability beyond what is available.

### PREVIOUSLY

Ph.D. Candidate, UC Berkeley

### PHD

UC Berkeley



**Sylvia  
Herbert**

sherbert@ucsd.edu

ASSISTANT PROFESSOR  
MECHANICAL & AEROSPACE ENGINEERING

### EXPERTISE

Herbert focuses on developing new techniques for safety and efficiency in autonomous systems. She has developed methods for scalable safety and real-time decision making that draw from control theory, cognitive science, and reinforcement learning, and which are backed by both rigorous theory and physical testing on robotic platforms.

### PREVIOUSLY

Graduate Researcher, UC Berkeley

### PHD

UC Berkeley



**Patricia  
Hidalgo-Gonzales**

phidalgogonzalez@ucsd.edu

ASSISTANT PROFESSOR  
MECHANICAL & AEROSPACE ENGINEERING

### EXPERTISE

Hidalgo-Gonzalez focuses on high penetration of renewable energy using optimization, control theory and ML. She co-developed a power system expansion model for Western North America's grid under climate change uncertainty. She is interested in power dynamics, energy policy, electricity market redesign, and learning for dynamical systems with safety guarantees.

### PREVIOUSLY

Ph.D. Candidate, UC Berkeley

### PHD

UC Berkeley



**Zeinab  
Jahed**

[zjahed@stanford.edu](mailto:zjahed@stanford.edu)  
@Zjahed

ASSISTANT PROFESSOR  
NANOENGINEERING

### EXPERTISE

Jahed designs electronics that integrate intelligently with biological systems at the nanoscale. She designs non-invasive and high-throughput bio-electronic tools to record and manipulate biological activities and uses AI and ML techniques to interpret the large data sets from these nano-bio-electronic tools to answer important biological questions.

### PREVIOUSLY

Postdoctoral Researcher, Stanford University

### PHD

UC Berkeley



**Carlos  
Jensen**

[cjensen@ucsd.edu](mailto:cjensen@ucsd.edu)

ASSOCIATE VICE CHANCELLOR,  
EDUCATIONAL INNOVATION  
COMPUTER SCIENCE & ENGINEERING

### EXPERTISE

Jensen's research lies at the intersection between usability and software engineering, with an emphasis on studying how Open Source communities operate and organize, and the tools and processes needed to make them more efficient. His recent work uses automated testing techniques to help developers improve the reliability of large and complex open source software.

### PREVIOUSLY

Associate Dean, Oregon State University

### PHD

Georgia Institute of Technology



**Mingu  
Kang**

mkang17@illinois.edu

ASSISTANT PROFESSOR  
ELECTRICAL & COMPUTER ENGINEERING

### EXPERTISE

Kang researches vertically-integrated VLSI information processing for machine learning and signal processing algorithms. His research focuses on energy- and latency-efficient integrated circuits, architectures, and systems by leveraging novel computing paradigms including in-memory, in-sensor, and neuromorphic computing with both CMOS and emerging devices.

### PREVIOUSLY

Research Scientist, IBM Research

### PHD

U of Illinois at Urbana–Champaign



**Tzu-Mao  
Li**

tzumao@mit.edu

ASSISTANT PROFESSOR  
COMPUTER SCIENCE & ENGINEERING

### EXPERTISE

Li connects classical computer graphics and image processing algorithms with modern data-driven methods to facilitate exploration. His work added 3D understanding to computer vision models; used data to improve camera imaging pipeline quality; and made light transport simulation faster by using information implicitly defined by rendering programs.

### PREVIOUSLY

Postdoctoral Researcher, UC Berkeley and MIT

### PHD

Massachusetts Institute of Technology



**Stephanie  
Lindsey**

stlindsey@ucsd.edu

ASSISTANT PROFESSOR  
MECHANICAL & AEROSPACE ENGINEERING

### EXPERTISE

Lindsey's work lies at the interface of fluid mechanics, numerical analysis and cardiovascular developmental biology. She seeks to determine causal-effect relationships for the creation of cardiac malformations and address important challenges in clinical treatment of congenital heart defects through a combined computational-experimental approach.

### PREVIOUSLY

Postdoctoral Researcher, Stanford University

### PHD

Cornell University



**Marko  
Lubarda**

mlubarda@ucsd.edu

ASSISTANT  
TEACHING PROFESSOR  
MECHANICAL & AEROSPACE ENGINEERING

### EXPERTISE

Lubarda is dedicated to engineering pedagogy and enriching students' learning experiences through curriculum design, teaching innovations, and support of undergraduate student research. He works in the areas of computational analysis, engineering mathematics, materials science, solid mechanics, device physics, and magnetic nanotechnologies.

### PREVIOUSLY

Assistant Professor, University of Donja Gorica, Montenegro

### PHD

UC San Diego



### Florian Meyer

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ASSISTANT PROFESSOR  
ELECTRICAL & COMPUTER ENGINEERING

#### EXPERTISE

Meyer researches statistical signal processing for navigation, mapping, and multiobject tracking in applications including maritime situational awareness, autonomous driving, and indoor localization. He investigates efficient and scalable high-dimensional nonlinear estimation using graphical models where the number of states to be estimated may also be unknown.

#### PREVIOUSLY

Postdoctoral Fellow and Associate,  
MIT

#### PHD

Vienna University of Technology



### Karcher Morris

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ASSISTANT  
TEACHING PROFESSOR  
ELECTRICAL & COMPUTER ENGINEERING

#### EXPERTISE

Morris's teaching aims to embed project-based learning throughout the undergraduate electrical and computer engineering curriculum, complementing theoretical foundations. By connecting students with application-oriented coursework and industry-relevant challenges, Morris promotes an early engagement between students and their research/industry goals.

#### PREVIOUSLY

Ph.D. Candidate, UC San Diego

#### PHD

UC San Diego





**Lonnie  
Petersen**

lpetersen@health.ucsd.edu

ASSISTANT PROFESSOR  
MECHANICAL & AEROSPACE ENGINEERING

### EXPERTISE

Dr. Petersen is a physician scientist specializing in space and aviation physiology and development of countermeasure devices for use in space. During the COVID-19 pandemic, she co-lead a team that developed a low-cost, easy to use ventilator and other ways to support critically ill COVID19 patients and mitigate the spread of disease.

### PREVIOUSLY

Postdoctoral Researcher, UC San Diego School of Medicine

### PHD

University of Copenhagen



**Lisa  
Poulikakos**

lpoulikakos@eng.ucsd.edu

ASSISTANT PROFESSOR  
MECHANICAL & AEROSPACE ENGINEERING

### EXPERTISE

Poulikakos harnesses nanophotonics, the study and manipulation of light on the nanoscale, to bridge engineering and biomedicine. The resulting in-vivo and ex-vivo nanophotonic probes aim to elucidate the origin and propagation of a range of diseases, leading to low-cost medical diagnostics; rapid, on-chip biochemical drug testing; or in-situ biomedical imaging.

### PREVIOUSLY

Postdoctoral Researcher, Stanford University

### PHD

ETH Zurich



**Aaron  
Rosengren**

ajrosengren@eng.ucsd.edu

ASSISTANT PROFESSOR  
MECHANICAL & AEROSPACE ENGINEERING

### EXPERTISE

Rosengren conducts fundamental and applied research in astrodynamics, space situational awareness, and space traffic management to define perennial, ad-hoc practices and policies to make space a sustainable resource. His contributions are in the fields of celestial mechanics and nonlinear dynamics, with a strong focus on space debris and small Solar-System bodies.

### PREVIOUSLY

Assistant Professor, U. of Arizona

### PHD

University of Colorado Boulder



**Yuanyuan  
Shi**

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ASSISTANT PROFESSOR  
ELECTRICAL & COMPUTER ENGINEERING

### EXPERTISE

Shi's research interests are in the area of energy systems and cyber-physical systems, spanning from machine learning, to optimization and control. She works on data-driven control for complex networked systems and market mechanism design under multi-agent learning dynamics.

### PREVIOUSLY

Postdoctoral Researcher, Caltech

### PHD

University of Washington



**Benjamin  
Smarr**

bsmarr@eng.ucsd.edu

ASSISTANT PROFESSOR  
BIOENGINEERING  
HALICIOĞLU DATA SCIENCE INSTITUTE

### EXPERTISE

Smarr's research focuses on time series analysis in biological systems, with an emphasis on practical information extraction for translational applications. His main project is TemPredict, which brings together wearable device data from 50K people with over 2 million daily symptom reports and is used to identify signs of COVID-19 onset, progression, and recovery.

### PREVIOUSLY

Postdoctoral Fellow, UC Berkeley

### PHD

University of Washington



**Georgios  
Tsampras**

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ASSISTANT PROFESSOR  
STRUCTURAL ENGINEERING

### EXPERTISE

Tsampras' research goal is to improve the seismic response and simplify the life management of structures and civil infrastructures. He conducts integrated experimental and analytical research on components, connections, and systems that enhance the safety and reliability of structures and civil infrastructures against earthquakes.

### PREVIOUSLY

Falcon Vehicle Structures Engineer,  
SpaceX

### PHD

Lehigh University



### Yatish Turakhia

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 @yatishturakhia

ASSISTANT PROFESSOR

ELECTRICAL & COMPUTER ENGINEERING

#### EXPERTISE

Turakhia develops algorithms and hardware accelerators to enable faster and cheaper progress in biology and medicine. He also develops computational methods that enable biological discoveries, such as new genotype-phenotype relationships.

#### PREVIOUSLY

Postdoctoral Researcher,  
UC Santa Cruz

#### PHD

Stanford University



### Kristen Vaccaro

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ASSISTANT PROFESSOR

COMPUTER SCIENCE & ENGINEERING

#### EXPERTISE

Vaccaro focuses on how to design machine learning systems to give users a sense of agency and control. She found that some existing ways of providing control for social media can function as placebos, increasing user satisfaction even when they do not work. She will help develop systems to give users control and oversight, and ethical guidelines and policies.

#### PREVIOUSLY

Research Assistant, U. of Illinois  
at Urbana-Champaign

#### PHD

U. of Illinois at Urbana-Champaign



**Jon  
Wade**

jpwade@eng.ucsd.edu

PROFESSOR OF PRACTICE  
MECHANICAL & AEROSPACE ENGINEERING

### EXPERTISE

Wade's objective is to ensure that the research conducted and the curriculum developed in systems engineering has the greatest impact on addressing the critical challenges that face our global society and nation. He leads research in the area of complex, evolving systems engineering methods, processes, tools, and education.

### PREVIOUSLY

Research Professor, Stevens  
Institute of Technology

### PHD

Massachusetts Institute of  
Technology



**Rose  
Yu**

roseyu@eng.ucsd.edu

ASSISTANT PROFESSOR  
COMPUTER SCIENCE & ENGINEERING

### EXPERTISE

The goal of Yu's research is to advance machine learning and enable interpretable, efficient, and robust large-scale spatiotemporal reasoning. Her work has been successfully applied to solve challenging domain problems in sustainability, health, and physical sciences.

### PREVIOUSLY

Assistant Professor, Northeastern  
University


### PHD

University of Southern California



**Yang  
Zheng**

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 @YangZhe46859983

ASSISTANT PROFESSOR

**ELECTRICAL & COMPUTER ENGINEERING**

## EXPERTISE

Zheng develops methods and frameworks for the optimization and control of network systems and their applications to cyber-physical systems, especially autonomous vehicles and traffic systems. His goal is to develop computationally efficient and distributed solutions for large-scale network systems by exploring and exploiting real-world system structures.

## PREVIOUSLY

Postdoctoral Researcher, Harvard

## PHD

University of Oxford

**UC San Diego**

**JACOBS SCHOOL OF ENGINEERING**

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