

**The Jacobs School of Engineering  
welcomes new professors for 2016.**



# Jacobs School of Engineering

## 280 faculty by 2020

We aim to grow the Jacobs School of Engineering faculty to 280 by 2020. We are growing to meet the great educational, research and technical workforce demands in San Diego, the state of California, and the nation.

### Robotics Cluster Hire and Leaders for Contextual Robotics Institute

Six robotics professors, including Contextual Robotics Institute leadership, have joined the Jacobs School.



#### HENRIK CHRISTENSEN

**Professor**

Ph.D. Aalborg University, Denmark

Christensen will lead the Contextual Robotics Institute at UC San Diego. His research covers computer vision, artificial intelligence and robotics. His primary emphasis has been on a systems-oriented approach to machine perception, robotics, and design of intelligent machines. He leads the effort to draft a U.S. national robotics roadmap.

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

Computer  
Science &  
Engineering

Previously: KUKA Chair of Robotics, Georgia Institute of Technology



#### TODD HYLTON

**Professor of Practice**

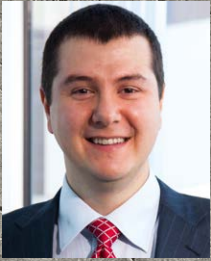
Ph.D. Stanford University

Hylton has a track record of creating successful programs and products both in government and industry, including a multi-million dollar DARPA effort to create a neuromorphic chip. He has been awarded 19 patents. His research interests include machine learning algorithms and natural intelligence.

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

Electrical &  
Computer  
Engineering

Previously: Executive VP, Brain Corporation



#### NIKOLAY ATANASOV

**Assistant Professor**

Ph.D. University of Pennsylvania

Atanasov aims to design estimation and control techniques that increase the autonomy and reliability of robotic sensing systems. He focuses on controlling teams of aerial and ground robots to collect metric, semantic and topological information in applications such as environmental monitoring, security and surveillance, localization and mapping, and search and rescue.

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

Electrical &  
Computer  
Engineering

Previously: Postdoctoral Researcher, University of Pennsylvania



#### NICK GRAVISH

**Assistant Professor**

Ph.D. Georgia Institute of Technology

Gravish combines robotics, biology and physics to discover how organisms and robots move and interact. He focuses on organizing principles for collective behavior in biology and robotics and the dynamics of rapid, stable locomotion of individuals in complex environments. He studies motions of flying and running organisms and constructs microrobots to understand microscale locomotion and manipulation.

[ngravish@eng.ucsd.edu](mailto:ngravish@eng.ucsd.edu)

Mechanical  
& Aerospace  
Engineering

Previously: Postdoctoral Fellow, Harvard University



#### NDAPA NAKASHOLE

**Assistant Professor**

Ph.D. Saarland University, Germany

Nakashole aims to develop algorithms that enable computers to understand, generate and analyze human language. She has developed methods for machine reading, harvesting knowledge from the web, and analyzing trustworthiness of web documents. Her work has applications in several areas of artificial intelligence including robotics, computer vision and digital personal assistants.

[ndapa.nakashole@gmail.com](mailto:ndapa.nakashole@gmail.com)

Computer  
Science &  
Engineering

Previously: Postdoctoral Fellow, Carnegie Mellon University



#### LAUREL RIEK

**Associate Professor**

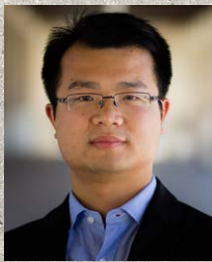
Ph.D. University of Cambridge, England

Riek's research enables robots to solve problems in real-world, safety-critical human environments such as hospitals, homes and factories. Her research tackles fundamental and applied problems that make complex, real-world perception and interaction in these spaces difficult for machines and has applications in manufacturing, neuro-rehabilitation and emergency medicine.

[lriek@eng.ucsd.edu](mailto:lriek@eng.ucsd.edu)

Computer  
Science &  
Engineering

Previously: Luce Assistant Professor, University of Notre Dame



## ZHENG CHEN

**Assistant Professor**

Ph.D. University of California Los Angeles

Chen develops novel nanostructured and polymeric materials for batteries, supercapacitors and fuel cells; flexible and printed devices; and sustainable water resources. His research also focuses on understanding the fundamental properties of these new materials in device operation.

NanoEngineering

[zhc199@ucsd.edu](mailto:zhc199@ucsd.edu)

Previously: Postdoctoral Associate, Stanford University



## VERONICA ELIASSON

**Associate Professor**

Ph.D. KTH Royal Institute of Technology

Eliasson's work combines fluid mechanics and gas dynamics theory with solid mechanics and fracture dynamics. She aims to better understand failure modes of solids during highly dynamic, short duration tests to assess the response of structures. Applications include minimizing or avoiding earthquake impact on dams, underwater explosions on naval structures, and non-invasive kidney stone treatment.

Structural Engineering

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

Previously: Associate Professor, University of Southern California



## JOE GIBBS POLITZ

**Teaching Professor**

Ph.D. Brown University

Politz studies computer science education, programming languages, compiler design, web programming and web security. He has two complementary focuses: using peer code review in undergraduate courses and developing the programming language Pyret for use in computer science curricula from middle school to the undergraduate level.

Computer Science & Engineering

[joe.politz@gmail.com](mailto:joe.politz@gmail.com)

Previously: Visiting Instructor, Swarthmore College



## MELISSA GYMREK

**Assistant Professor**

Ph.D. Massachusetts Institute of Technology

Gymrek studies genetic variations in humans called short tandem repeats, or microsatellites, and how these and other complex variations affect human traits. She found a way to create variation profiles from high throughput sequencing data. This allowed questions about the variations' properties on genome- and population-wide scales to be answered for the first time.

Computer Science & Engineering

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

Previously: Massachusetts General Hospital and Broad Institute



## ARUN KUMAR

**Assistant Professor**

Ph.D. University of Wisconsin-Madison

Kumar's research focuses on the intersection of data management and machine learning, especially on problems related to usability, performance and scalability. Systems and ideas from his research have been adopted by the MADlib open-source library, shipped in products from EMC, Oracle, Cloudera and IBM, and used internally by Facebook. Microsoft and LogicBlox might join this list soon.

Computer Science & Engineering

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Previously: Ph.D. University of Wisconsin-Madison



## PIYA PAL

**Assistant Professor**

Ph.D. California Institute of Technology

Pal designs sensing and sampling techniques to improve the efficiency of big data collection and processing. She develops new algorithms that ensure the acquisition of the most useful, relevant data in order to reduce the energy costs associated with tasks such as radar tracking, surveillance, biomedical imaging and machine learning.

Electrical & Computer Engineering

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

Previously: Assistant Professor, University of Maryland



## AARON SCHULMAN

**Assistant Professor**

Ph.D. University of Maryland

Schulman studies how novel hardware can help software developers build efficient, secure, and reliable energy systems. He investigates how power measurement devices can help software developers find battery-draining bugs, and how radio broadcast receivers can improve web security. His research spans computer systems, networking, security, and embedded systems.

Computer Science & Engineering

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Previously: Postdoctoral Fellow, Stanford University

## Strategic Growth + \$1 Billion in UC San Diego Research

The Jacobs School of Engineering launched the following institutes, centers and initiatives in 2015-2016.

The backdrop: UC San Diego research funding surpassed \$1 billion in 2015-2016. Campus ranked #1 among public institutions for contributions to the public good (*Washington Monthly*).




**CONTEXTUAL ROBOTICS INSTITUTE**  
Developing safe, useful robotics systems that rely on real-time context.  
[ContextualRobotics.ucsd.edu](http://ContextualRobotics.ucsd.edu)



**INSTITUTE FOR THE GLOBAL ENTREPRENEUR**  
Empowering engineers to drive innovation in organizations large and small.  
[IGE.ucsd.edu](http://IGE.ucsd.edu)




**CENTER FOR MICROBIOME INNOVATION**  
Studying and manipulating microbiomes for health and the environment.  
[Microbiome.ucsd.edu](http://Microbiome.ucsd.edu)



**CALIBAJA CENTER FOR RESILIENT MATERIALS & SYSTEMS**  
Design, testing, making of materials & systems for extreme environments.  
[ResilientMaterials.ucsd.edu](http://ResilientMaterials.ucsd.edu)



**DEEP DECARBONIZATION INITIATIVE**  
Addressing policy and tech challenges to get to zero global carbon emissions.  
[DeepDecarbon.ucsd.edu](http://DeepDecarbon.ucsd.edu)



**ENVISION ARTS & ENGINEERING MAKER STUDIO**  
Hands-on education facility where engineering and visual arts converge.  
[EnVision.ucsd.edu](http://EnVision.ucsd.edu)

Albert P. Pisano    Dean  
George Tynan    Associate Dean  
Pamela Cosman    Associate Dean for Students  
Ahmed Elgamal    Associate Dean for Faculty Affairs and Welfare

[JacobsSchool.ucsd.edu](http://JacobsSchool.ucsd.edu)