15 new faculty in 2018

Faculty with clear-eyed determination, technical smarts, creativity, and the openness to collaborate to make bold ideas possible.

That’s who we hire at the Jacobs School of Engineering.

That’s how we’ll work in Franklin Antonio Hall.

90 faculty hires in 5 years
Faculty with clear-eyed determination, technical smarts, creativity, and the openness to collaborate to make bold ideas possible. That's who we hire at the Jacobs School of Engineering. That's how we'll work in Franklin Antonio Hall.

Franklin Antonio Hall

A new engineering facility designed for collaborative research, active learning, and technology transfer.

Franklin Antonio Hall is designed to facilitate cross-discipline collaborations that are critical for solving the toughest health, energy, autonomy, security, communications, and materials challenges facing society.

Theory + Practice

“Our Collaboratories for the Digital Future are at the heart of Franklin Antonio Hall. These multi-PI labs will empower our faculty, students and industry partners to bring theory and practice together for ever greater positive impact.”

— Albert P. Pisano
Dean, UC San Diego Jacobs School of Engineering

FAH.ucsd.edu
JINHYE BAE  
Assistant Professor  
Ph.D. University of Massachusetts Amherst  
Bae focuses on understanding the deformation and assembly of soft matter at the nano- and micro-scales. Her research integrates the unique characteristics of soft materials such as hydrogels and elastomers into new approaches for applications in biomedical devices, soft robotics, actuators, and sensors.  
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Previously: Postdoctoral Research Associate, Harvard University

MAZIAR GHAZINEJAD  
Assistant Teaching Professor  
Ph.D. University of California, Riverside  
Ghazinejad applies active learning techniques to develop curricula and pedagogical models in engineering mechanics, design, and materials engineering. He has developed new courses on microanalysis, design, and nanoengineering. His research also focuses on fabrication and device integration of nanomaterials and microelectromechanical systems (MEMS).  
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Previously: Assistant Professor, California State University, Fresno

TAYLOR BERG-KIRKPATRICK  
Assistant Professor  
Ph.D. University of California, Berkeley  
Berg-Kirkpatrick focuses on developing machine learning techniques for understanding structured human data – including language, but also sources like music, historical ciphers, document images, and other complex artifacts. His research group aims to design unsupervised methods for such data that are able to learn without relying on labeled examples.  
tbergkirkpatrick@ucsd.edu  
Previously: Assistant Professor, Carnegie Mellon University

TZU-CHIEN HSUEH  
Assistant Professor  
Ph.D. University of California, Los Angeles  
Hsueh develops analog and mixed-signal integrated circuits for communications systems, data centers, and computing networks. His research focuses on wireline electrical/optical transceivers, channel equalizations, clock-and-data recovery, data-conversion circuits, on-chip performance monitors, and signal processing techniques.  
tzhueh@ucsd.edu  
Previously: Senior Research Scientist, Intel Corporation

JUSTIN ELDRIDGE  
Assistant Teaching Professor  
Ph.D. The Ohio State University  
Eldridge's research focuses on machine learning theory and artificial intelligence; his Ph.D. thesis developed correctness guarantees for clustering methods. His teaching practice will focus on data science for undergraduate students.  
jeldridge@ucsd.edu  
Previously: Presidential Fellow, The Ohio State University

JOHN T. HWANG  
Assistant Professor  
Ph.D. University of Michigan  
Hwang develops optimization algorithms for boosting the efficiency and performance of engineering vehicles and systems. His methods optimize up to tens of thousands of parameters for the design or control of a system. He has applied these methods to the design of commercial airliners, satellites, small electric aircraft, and material systems.  
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Previously: Research Engineer, NASA Glenn Research Center

AARON FRAENKEL  
Assistant Teaching Professor  
Ph.D. University of California, Berkeley  
Fraenkel uses machine learning and experimental design to study large-scale abusive behaviors on the internet, particularly robot-driven events. His teaching expertise is in the end-to-end practice of data science, drawing from his industry experience with cybersecurity, anti-fraud, and anti-abuse systems.  
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Previously: Senior Scientist, Amazon.com

TANIA K. MORIMOTO  
Assistant Professor  
Ph.D. Stanford University  
Morimoto’s research interests include robotics, haptics, and human-in-the-loop interfaces. Her main work involves the design and control of flexible or soft robots for increased dexterity and accessibility in unstructured environments, including minimally invasive surgical interventions.  
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Previously: Ph.D. Stanford University
**NanoEngineering**

**KENJI NOMURA**  
Assistant Adjunct Professor  
Ph.D. Tokyo Institute of Technology  
Nomura aims to develop next-generation electronic devices that are transparent, flexible and low-cost, for applications such as solar cells, wearable sensors, and displays. His research combines experimental and theoretical methods to design and develop new oxide semiconductor materials and high-performance optoelectronic devices.  
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**OLIVER SCHMIDT**  
Assistant Professor  
Ph.D. University of Stuttgart  
Schmidt specializes in computational flow physics with an emphasis on flow instability, direct numerical simulation, and modal decomposition techniques. The goal of his research is to synergize data-driven modal decomposition and stability theory to facilitate physical understanding, modeling, and control of complex flows.  
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**JON POKORSKI**  
Associate Professor  
Ph.D. Northwestern University  
Pokorski exploits both polymer chemistry and engineering to make materials that tackle complex biomedical problems. The Pokorski lab is particularly interested in engineering low-cost devices for immunotherapy, developing the next generation of polymer-conjugated protein therapeutics, and implementing novel chemistry for advanced wound dressings.  
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**SHABNAM SEMNANI**  
Assistant Professor  
Ph.D. Stanford University  
Semnani focuses on characterization and modeling of geomaterials across scales, and development of multi-scale and multi-physics models through a combination of computational, experimental, and statistical techniques. Some of the applications of her work include carbon sequestration, hydrocarbon recovery, and geothermal energy production.  
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**ABHISHEK SAHA**  
Assistant Professor  
Ph.D. University of Central Florida  
Saha’s research focuses on fundamentals of combustion and fluid mechanics with application in propulsion, energy, printing, and materials synthesis. He studies flame-dynamics towards clean and efficient operation of car/aircraft engines. He also investigates droplet-dynamics to improve inkjet printing and thermal sprays.  
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**NICOLE STEINMETZ**  
Professor  
Ph.D. University of East Anglia  
Steinmetz engineers plant-virus-based nanomaterials for human and plant health applications. She uses chemical biology methods to repurpose plant viruses to yield nanoparticles for applications such as drug delivery, molecular imaging, and next-generation vaccines and immunotherapies targeting cancer, cardiovascular disease, and infectious disease.  
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**JOHN R. SANFORD**  
Professor of Practice  
Ph.D. École Polytechnique Fédérale de Lausanne  
Sanford is interested in the application of artificial intelligence to the design of antennas, filters, signal processing routines and self-organizing networks. He recently served as CTO of Ubiquiti Networks, where he helped develop the world’s highest capacity wireless network. He has also founded two successful startups.  
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**Previously:**  
Nomura: Principal Engineer, Obsidian Sensors, Inc.  
Pokorski: Assistant Professor, Case Western Reserve University  
Saha: Research Staff, Princeton University  
Sanford: Chief Technology Officer, Ubiquiti Networks  
Schmidt: Postdoctoral Scholar, California Institute of Technology  
Semnani: Ph.D. Stanford University  
Steinmetz: Professor of Practice, Case Western Reserve University
Super awesome message

introducing the new faculty for 2018.

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Albert P. Pisano, Dean
George Tynan, Associate Dean
Karen Christman, Associate Dean for Students
Ahmed Elgamal, Associate Dean for Faculty Affairs and Welfare