



THE UNIVERSITY OF ARIZONA

College of Engineering

NEW TENURED/TENURE-TRACK FACULTY RECRUITMENTS 2021



Prepared December 2020 by

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This profile is intended to provide information about the University of Arizona tenured and tenured eligible faculty positions in the College of Engineering. It is designed to assist qualified individuals in assessing their interest in these positions.

Multiple Faculty Opportunities

Fueled by visionary leadership and resourced for success, the College of Engineering at the University of Arizona is entering an era of unprecedented growth in student enrollment and faculty hires. Thus, the College invites applications for up to 12 tenure-track or tenured positions – assistant, associate and full professors – in multiple departments. Anticipated start date is August 2021. Further details are provided on Page 5 of this document.

This large, diverse and forward-thinking cohort of new faculty is being recruited as part of the University of Arizona's ambitious strategic plan, including support of transformational growth in the College of Engineering, where student enrollment is expected to increase by 33% over the next six years. The opportunity to contribute to the future of engineering education, research and outreach in Arizona, and beyond, has never been greater.



Premier University

The University of Arizona is a premier R1 research university. It is among only seven in the country that share these characteristics:

- state flagship land grant institution
- large medical school within the main campuses
- among the 65 members of the Association of American Universities

The University is ranked among the National Science Foundation's top 25 for research funding, and it is a Times Higher Education top 20 U.S. public research institution. The University is a designated space grant institution with deep NASA funding and strong physical sciences. Forbes has recognized the UA for its combination of first-rate educational opportunities and affordable pricing. Further, the UA is the state's first four-year public university to be federally recognized as a Hispanic Serving Institution. The designation is granted to institutions with at least 25% Hispanic undergraduate student enrollment.

Expansive Engineering Research Enterprise

Research expenditures have risen 28% in the last 4 years, and they are expected to climb even higher as the College adds faculty, students and staff. Priority fields of inquiry include the following:

- Artificial & Machine Learning
- Built Environments & Sustainability
- Cancer Engineering
- Climate & Atmospheric Conditions
- Cognitive Remote Sensing
- Cybersecurity
- Electromagnetism, Optics & Imaging
- Energy, Renewables & Storage
- Health & Biomedical Advances
- Human Factors & Sociotechnical Systems
- Hypersonic Flight
- Lean Engineering & Systems
- Logistics & Supply Chain Management
- Mechanobiology
- Micro & Nano Technology for Molecular Manipulation
- Mining & Automation
- Network Science & Optimization
- Quantum Networking
- Robotics & Autonomy
- Smart Manufacturing
- Soft Materials
- Space
- Transportation & Autonomy
- Water
- Wireless Networks



Forward-Thinking Academic Offerings

The College of Engineering offers 13 graduate degrees and 15 undergraduate majors through 10 departments, including two jointly administered in other colleges. Please visit UA Engineering department websites to learn more.

- **Aerospace and Mechanical Engineering:** ame.engineering.arizona.edu
- **Biomedical Engineering:** bme.engineering.arizona.edu
- **Biosystems Engineering:** be.arizona.edu
- **Chemical and Environmental Engineering:** chee.engineering.arizona.edu
- **Civil and Architectural Engineering and Mechanics:** caem.engineering.arizona.edu
- **Electrical and Computer Engineering:** ece.engineering.arizona.edu
- **Materials Science and Engineering:** mse.engineering.arizona.edu
- **Mining and Geological Engineering:** mge.engineering.arizona.edu
- **Optical Sciences and Engineering:** optics.arizona.edu/research/faculty-specialties/optical-engineering
- **Systems and Industrial Engineering:** sie.engineering.arizona.edu

Degree programs include Bachelor of Science, Accelerated Master's Programs, Online Master's Programs, Master of Science, Master of Engineering and PhD.

Extensive Faculty Onboarding

A faculty onboarding program empowers faculty to become drivers of the College's success. The program engages faculty in lifelong learning and career growth. During the first year, faculty focus on trainings and workshops directed toward effective project management, grant funding proposal strategies, engaging pedagogy and academic leadership. Extended topics include project budgeting, tailored growth of research enterprises, hands-on training for learning management systems, strategic online learning, engaging diverse student populations, and others. New faculty also have opportunities to grow professionally through mentorship, learning communities and cohort groups.

Commitment to Diversity and Inclusion

The American Society for Engineering Education and its Engineering Deans Council recognized the University of Arizona with a Bronze Award in the inaugural ASEE Diversity Recognition Program. UA Engineering was the first program in Arizona to receive this distinction. The honor is given to colleges that sign the ASEE Deans Diversity Pledge, build the infrastructure to support diverse populations, have at least one K-12 or community college pipeline activity, and commit to a diversity and inclusion plan that includes measurable goals.

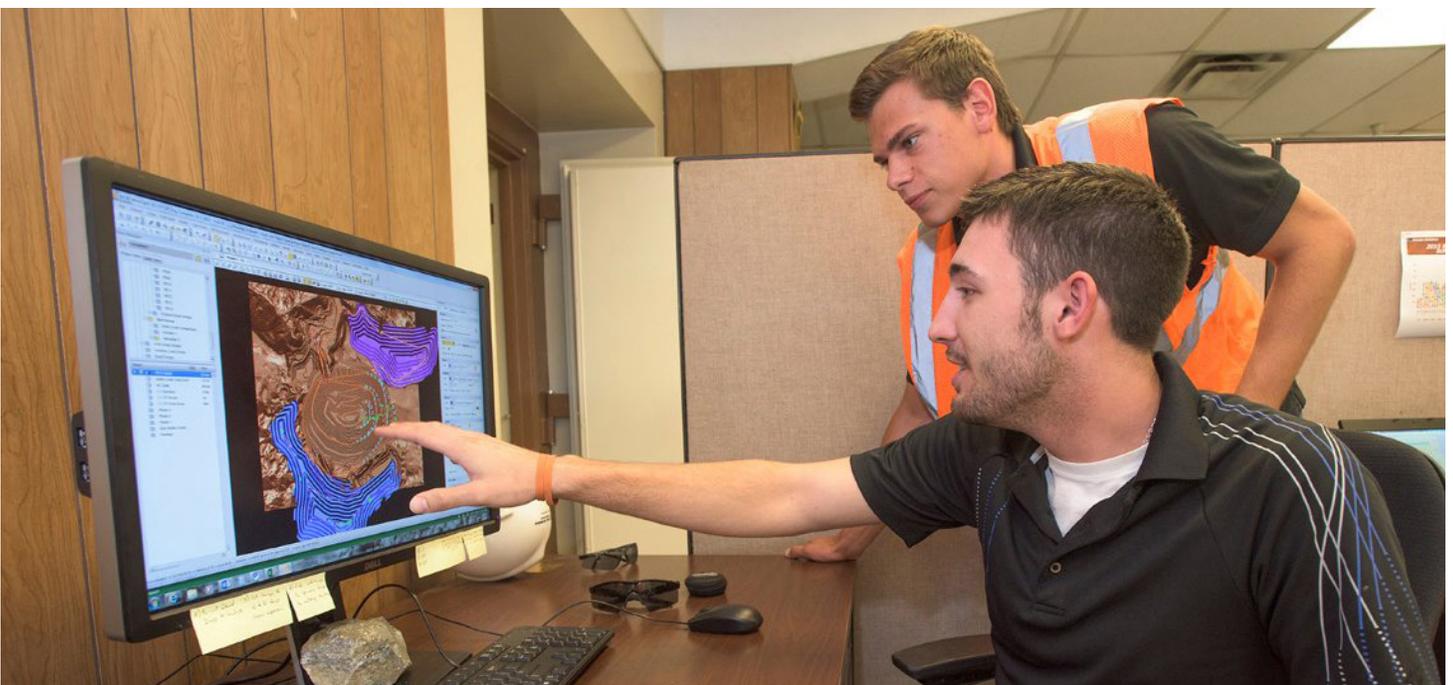


“Such recognition by ASEE reinforces our strong commitment to diversity and inclusion and sends the message to our students and faculty members that we are serious about these endeavors.”

DAVID W. HAHN, *Craig M. Berge Dean of the College of Engineering*

Women engineering faculty members are represented prominently in University leadership. Liesl Folks is senior vice president for academic affairs and provost, Elizabeth Cantwell is senior vice president for research and innovation, and Jennifer Barton is director of the interdisciplinary BIO5 Institute. Within the college, Kathleen Melde leads faculty affairs and inclusion, and Kriss Pope is the assistant dean of finance and administration.

The UA chapter of the ASEE Collaborative for Engineering Education Research and Outreach provides an interdisciplinary campus network for promoting engineering education and providing students with service, research and professional opportunities. The University is also home to student chapters of the National Society of Black Engineers, Society for Advancement of Hispanics/Chicanos and Native Americans in Science, Society of Asian Scientists and Engineers, Society of Hispanic Professional Engineers, and Society of Women Engineers.



Professional Qualifications

Successful candidates will have a record of achievement in scholarship and research, and/or professional practice commensurate with an appointment at the rank stated. The candidate should also demonstrate clear communication skills, and a commitment to diversity, shared governance and community engagement. The successful candidate must demonstrate high ethical standards and is expected to operate in a transparent and collegial way. Please follow the links below for further information and to apply.



Specific Areas of Interest for Hires

Aerospace and Mechanical Engineering (2)

- *hypersonic research, with an emphasis on solid mechanics for advanced materials and structures, and related advanced manufacturing*
<https://arizona.csod.com/ux/ats/careersite/4/home/requisition/3352?c=arizona>
- *machine learning and artificial intelligence, with an emphasis on control systems and autonomous aerospace and mechanical systems*
<https://arizona.csod.com/ux/ats/careersite/4/home/requisition/3338?c=arizona>

Biomedical Engineering (1 or 2)

- *tissue and cellular engineering, integrated biomechanics, soft hybrid systems, synthetic biology, and other areas of biomedical engineering closely connected to biology and physiology*
<https://arizona.csod.com/ux/ats/careersite/4/home/requisition/3560?c=arizona>

Chemical and Environmental Engineering (1)

- *atmospheric sciences, with a preference toward atmospheric aerosols, indoor and outdoor air pollution, and climate change*
<https://arizona.csod.com/ux/ats/careersite/4/home/requisition/3473?c=Arizona>

Civil and Architectural Engineering (3)

cyber-physical urban engineering systems, sustainable and resilient design and construction, and advanced materials in civil engineering

- Cyber/Phys Urban Eng Sys: <https://arizona.csod.com/ux/ats/careersite/4/home/requisition/4035?c=arizona>
- Sust/Resilient Design and Construction: <https://arizona.csod.com/ux/ats/careersite/4/home/requisition/4040?c=arizona>
- Adv Materials in Civ Eng: <https://arizona.csod.com/ux/ats/careersite/4/home/requisition/4045?c=arizona>

Materials Science and Engineering Department Head

- *working with leadership, executes a strong vision for the department*
<https://arizona.csod.com/ux/ats/careersite/4/home/requisition/4134?c=arizona>

Systems and Industrial Engineering (2 or 3)

- *software assurance, formal methods for complex systems, and model-based systems engineering, including model-driven architecture and engineering*
<https://arizona.csod.com/ux/ats/careersite/4/home/requisition/3375?c=arizona>
- *trustworthy artificial intelligence- and machine learning-based systems, human AI interaction, and high-performance computing and optimization*
<https://arizona.csod.com/ux/ats/careersite/4/home/requisition/3366?c=arizona>

Established Entrepreneurial Culture

The University of Arizona embraces the entrepreneurial spirit of its faculty, students and staff, and engineering is a major driver of invention and technological advancement. From experiential learning for students to industry sponsored research and strong commercialization support, the College has a long history of entrepreneurial success --including more than 20 active startups and several major acquisitions.

► **Design-Focused Undergraduate Curriculum: Craig M. Berge Design Program**

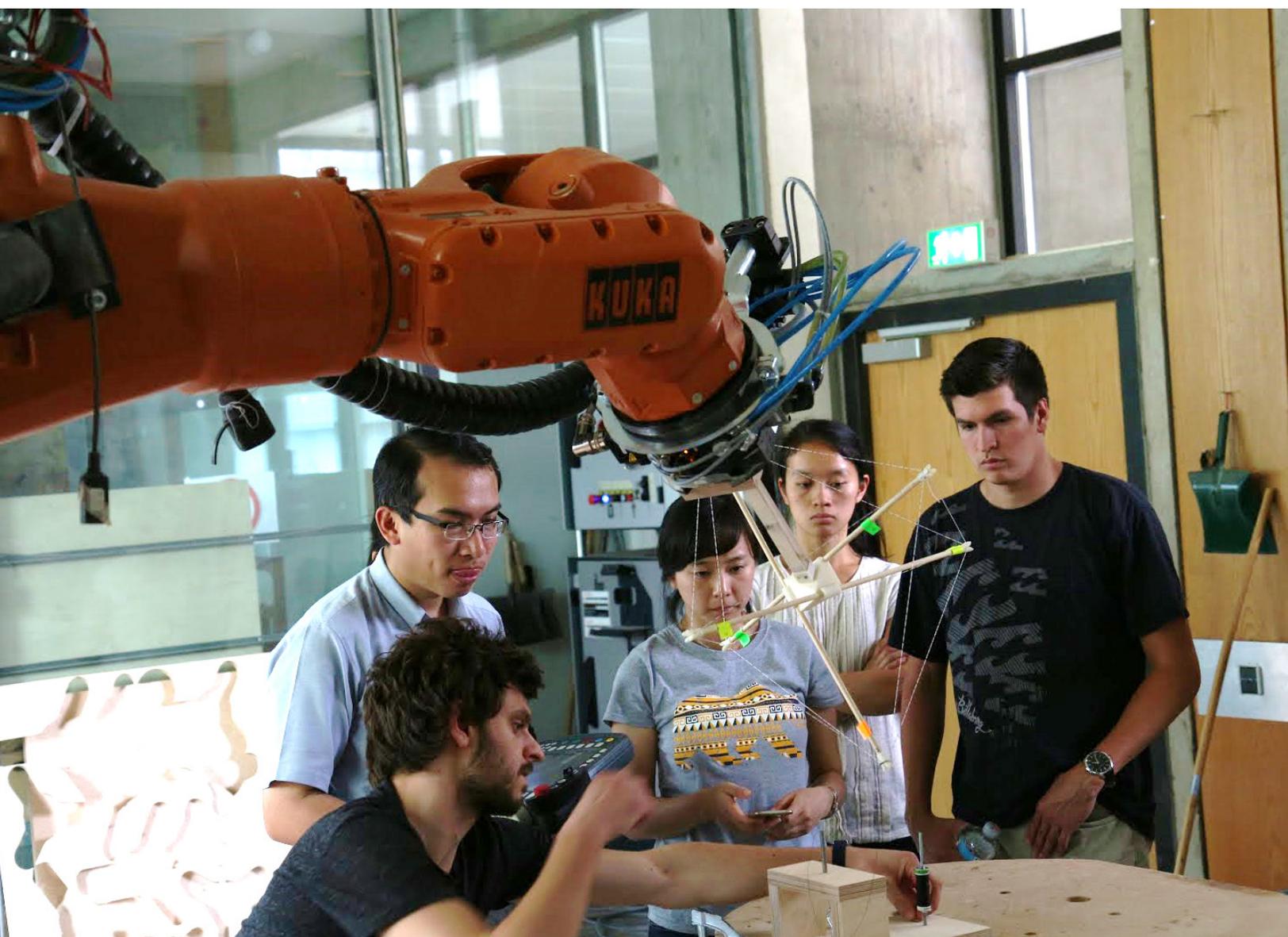
Through a generous donation, the College launched the Craig M. Berge Engineering Design Program in 2019. From first-year competitions and maker fests to industry-sponsored capstone projects, this four-year program ties design, manufacturing and commercialization to all levels of the undergraduate curriculum. It immerses students in hands-on design, community projects and business instruction, major-specific design courses, and real-life projects. In 2020, more than 400 students and 100 companies participated in the Craig M. Berge Design Day, which showcases senior projects.

► **Tech Launch Arizona, the Commercialization Arm**

Inventors work with Tech Launch Arizona to secure their intellectual property, typically through patent applications, and identify the best paths to commercialization. Additionally, TLA puts on workshops and seminars and provides seed funding for product prototypes.

► **McGuire Center for Entrepreneurship**

Resources such as the New Venture Program in the McGuire Center for Entrepreneurship at the Eller College of Business also assist students and faculty with moving products to market.



Accomplished, Visionary College Leadership

DAVID W. HAHN, *Craig M. Berge Dean*

David Hahn, who earned a bachelor's degree in 1986 and a doctorate in 1992 from Louisiana State University, is an accomplished mechanical engineer specializing in thermal sciences and laser-based diagnostics, including renewable energy and biophotonics. A champion of diversity in engineering, he has more than two decades of experience in higher education and with national agencies and laboratories.

Hahn joined the college as dean in 2019 as it embarked on establishment of a four-year undergraduate design program with renewed commitment to strengthening experiential education and focusing on today's most pressing issues – food and water, energy, health care, and security.

He had a 20-year career at the University of Florida, where he served most recently as chair of mechanical and aerospace engineering. Under his leadership, the university built a 4,000-square-foot student design center, his department grew to the largest on campus in terms of student enrollment, and the female student population in mechanical and aerospace engineering increased to 50% above the national average.







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