



THE UNIVERSITY OF ARIZONA

College of Engineering

BIOMEDICAL ENGINEERING DEPARTMENT HEAD



Prepared by

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August 2022

This document profiles the position of Department Head, Biomedical Engineering, College of Engineering at the University of Arizona. It is intended to help qualified individuals assess their interest in the position.

The Opportunity

Position Summary

Biomedical Engineering at the University of Arizona is seeking nominations and applications for a department head with excellent leadership skills and enthusiasm for world-class research, innovative teaching, and across-the-board collaborations in the health care arena – with industry, government and communities.

The department head, who reports to the College of Engineering dean, must be a visionary who can lead a diverse group of faculty, staff and students; oversee modern educational research laboratories and facilities; and, most importantly, spearhead the continuing transformation of BME for the challenges of the 21st century.

Top-Notch Program Blending Engineering and Medicine

Biomedical engineering at the University of Arizona has a strong local, national and international reputation for undergraduate and graduate education and research. The department has 21 tenured or tenure track faculty, two career track faculty, and 32 joint faculty. More than 170 undergraduates (sophomore-senior only), a total of 31 MS students, and 42 PhD students are enrolled. Undergraduate research is a major emphasis, with 90% of undergraduates working in research labs and nearly 50% going on to graduate school. Graduate students obtain leadership positions in industry, government and nonprofit organizations, as well as positions at top academic institutions.

With strong support from university leadership and resources from the Arizona Board of Regents' New Economy Initiative, both the College of Engineering and BME are embarking on a period of transformative change.

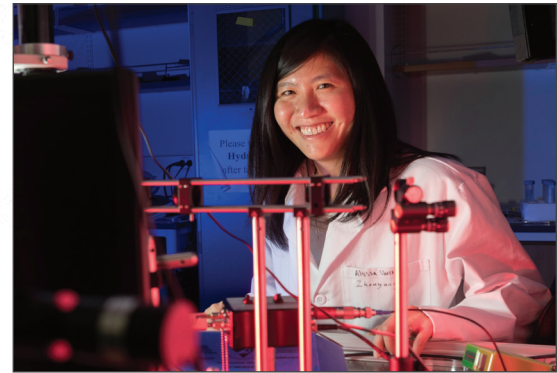


BME houses a highly ranked research program covering a broad range of traditional, emerging and interdisciplinary areas of interest. Among the department's research strengths are:

- Biomedical imaging and spectroscopy
- Biomedical informatics
- Bioinstrumentation and devices
- Biomaterials and tissue engineering
- Biomechanics
- Biosensors
- Neuroengineering
- Nanomedicine
- Cardiovascular biomedical engineering

Annual research expenditures for the department exceed \$3 million, and faculty collaborate extensively across campus in the following major centers:

- BIO5 Institute
- Arizona Center on Aging
- Center for Biomedical Informatics and Biostatistics
- Evelyn F. McKnight Brain Institute
- Institute of the Environment
- Sarver Heart Center
- UArizona Cancer Center
- Arizona Center for Accelerated Biomedical Innovation (ACABI)



The Cancer Engineering Initiative brings together faculty from the College of Engineering and the University of Arizona NCI-Designated Cancer Center to promote problem-solving research across engineering, science and medicine and create strong educational pathways to biotech careers.

The University of Arizona is a top-tier research and land-grant institution, and a recognized Hispanic-Serving Institution. With more than \$734 million in annual research expenditures, the university ranks in the top 4% of all U.S. universities in research and development expenditures, according to the National Science Foundation.

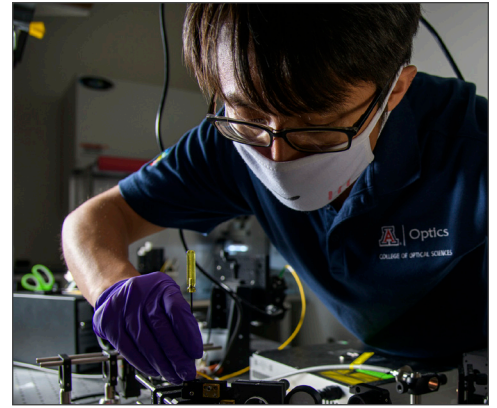
A distinguishing feature of the department is the diverse and highly collaborative faculty. The department is housed in modern buildings with faculty located close to relevant entities such as the Banner University Medical Center. Applicants are invited to visit bme.engineering.arizona.edu to learn more about the department.

Role of the Biomedical Engineering Department Head

- Collaboratively develop and annually review a three-year department plan that supports the University of Arizona's strategic goals and aligns with related programs at the university and in the College of Engineering.
- Implement a plan, keeping internal and external stakeholders informed on progress and changes.
- Make equity-informed decisions on faculty recruitment, diversity, development, performance, retention and promotion.
- Lead the department in achieving student and faculty recruitment and retention goals.
- Keep the department focused on educating biomedical engineering graduates who are well prepared to be productive in a modern industrial setting, graduate school, medical and other professional schools.
- Identify and promote research opportunities and actively facilitate and participate in interdisciplinary research.
- Maintain existing and create new relationships with alumni and the biomedical engineering industry and research community.
- Leverage relationships with the biomedical industry and research community to connect students with employment opportunities, including internships and full-time positions.
- Increase the department's research expenditures and national rankings.
- Drive research excellence and cross-disciplinary collaborations, particularly with health sciences.
- Maintain an inclusive, positive workplace environment.
- Work with college and university leadership on opportunities to expand programs, including satellite campuses.
- Strengthen existing ties and build new relationships with industry and leading graduate and medical schools.
- Oversee the department's operations, including budgets, resources, fiscal management and ABET accreditation.
- Foster a sense of community for students, alumni, staff and faculty.
- Assist the College of Engineering in fundraising activities.

Professional Qualifications, Personal Qualities

The successful candidate will have a distinguished record of achievement in scholarship, research and/or professional practice commensurate with an appointment at the rank of full professor with tenure. The candidate should also be an effective leader and clear communicator with a commitment to shared governance; community engagement; and diversity, equity and inclusion. The successful candidate must demonstrate high ethical standards and is expected to operate in a transparent and collegial way. The candidate must be responsive in a timely manner to the needs of faculty, staff and students in the department.



Minimum Qualifications

- Earned doctorate in biomedical engineering, or related field
- Scholarly achievement, including a record of technical papers published in internationally recognized, peer-reviewed journals
- Strong communication skills
- Proven leadership skills with multidisciplinary teams
- Play an integral role in advancing development of education, technology and workforce training focused on cancer treatment
- Track record of collaboratively building a vision and the skills to follow through to make the vision a reality
- Ability to inspire and recruit great students as well as exceptional faculty and staff
- History of successful funding from industry and government
- Commitment to an inclusive departmental culture

“The one constant I hear from industry and government is strong support for a deep and richly diverse pool of talented and well-trained engineers. My unwavering goal is to deliver these students.”

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



Preferred Qualifications

- Administrative experience as head or associate head, center director, or equivalent leadership position
- Membership on boards of academic journals and/or professional associations
- Established internationally renowned research program with high-impact output
- Experience collaborating with medical schools, university health science centers, or other private and government health care organizations.
- Experience working with stakeholders, either through direct employment or cooperative research and development activities; skills necessary to perform as an effective communicator to internal and external constituents
- Commitment to participatory decision making
- Demonstrated record of engagement with equity issues and diverse faculty, staff and student communities
- Experience in fundraising

Procedure for Candidacy

Please submit applications online at talent.arizona.edu (citing **req11141**), and include the following:

- Cover letter
- Curriculum vitae
- Leadership statement, including commitment to diversity, equity & inclusion
- Statement of teaching philosophy
- Statement of research interests
- Contact information for three professional references

Alternately, candidate nominations and inquiries will be considered. Questions should be directed to the chair of the search committee, Sammy Tin, department head of Materials Science and Engineering (tin@arizona.edu) or Kathleen L. Melde, College of Engineering associate dean for faculty affairs and inclusion (melde@arizona.edu). The initial review of applications will commence in November 2022.

College of Engineering

The University of Arizona College of Engineering offers 13 graduate degrees and 16 undergraduate degrees through 10 departments, including two in other colleges that jointly administer programs. College of Engineering departments are:

- Aerospace and Mechanical Engineering
- Biosystems Engineering
- Biomedical Engineering
- Chemical and Environmental Engineering
- Civil and Architectural Engineering and Mechanics
- Electrical and Computer Engineering
- Materials Science and Engineering
- Mining and Geological Engineering
- Optical Sciences and Engineering
- Systems and Industrial Engineering

Among the college's research strengths are:

- hypersonic flight and space surveillance
- disease diagnostics, implants and wearable medical devices
- quantum communication and photonic sensing
- additive manufacturing
- mining and mineral resources
- intelligent traffic systems
- water reuse
- solar power and biofuels

U.S. News & World Report ranks the college as one of the top engineering schools in the nation.

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. The College of 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 with measurable goals.

Women engineering faculty and staff 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, Kriss Pope is the assistant dean of finance and administration, and Margie Puerta Edson is assistant dean of development and corporate relations.

The university 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 of Arizona 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.





Statement of Diversity

At the University of Arizona, we value our inclusive climate because we know that diversity in experiences and perspectives is vital to advancing innovation, encouraging critical thinking, solving complex problems, and creating an inclusive academic community. As a Hispanic-Serving Institution and a Native American/Alaska Native-Serving Institution, we translate these values into action by seeking individuals who have experience and expertise working with diverse students, colleagues and constituencies.

Because we seek a workforce with a wide range of perspectives and experiences, we provide equal employment opportunities to applicants and employees without regard to race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity or genetic information.

As an Employer of National Service, we also welcome alumni of AmeriCorps, Peace Corps, other national service programs, and other individuals who will help advance our Inclusive Excellence initiative aimed at creating a university that values student, staff and faculty engagement in addressing issues of diversity and inclusiveness.

Established Entrepreneurial Culture

The University of Arizona embraces the entrepreneurial spirit of its faculty, students and staff, as 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 dozens of active startups and several major acquisitions.

Craig M. Berge Design Program, an Experiential Undergraduate Curriculum

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 the last couple of years, about 600 students and 100 companies have participated annually in the Craig M. Berge Design Day, which showcases senior projects.

Tech Launch Arizona

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 while providing 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 Management 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.

Under his leadership, the College of Engineering has embarked on a bold program of growth in all aspects — including students, staff and faculty members — with a goal of doubling the overall engineering enterprise. With strong support from senior university leadership and the State Board of Regents through the New Economy Initiative, the College of Engineering has received considerable investment of one-time and recurring funds to support its strategic expansion.



Working at the University of Arizona and Living in Tucson

University of Arizona employees appreciate its collegial and inclusive culture, commitment to diversity and shared decision making. Members of the university community enjoy competitive benefits, a nationally recognized work/life program, innovative leadership development initiatives, generous tuition reductions for dependents, and family friendly options, such as paid parental leave. For extensive information about the benefits of working at the University of Arizona, visit talent.arizona.edu.

The University is located in a tech corridor well represented in aerospace and defense, border technology, optics and photonics, solar and renewable energy, mining and bioscience. Tucson may be in a semi-arid region, which certainly lends to the College of Engineering's expertise in water conservation and energy sustainability. But the Sonoran Desert – one of the most diverse desert ecosystems in the world – is anything but typical. Mountain ranges towering upwards of 9,000 feet surround the city of a half million, and many students, faculty members and their families spend their free time hiking and biking the canyon floors and mountain trails. In town, a streetcar service connects the university to a bustling Fourth Avenue and downtown with endless choices for dining, family and cultural events, nightlife, concerts and theater.

See visitTucson.org to find out why and how Tucson is calling you!





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engineering.arizona.edu