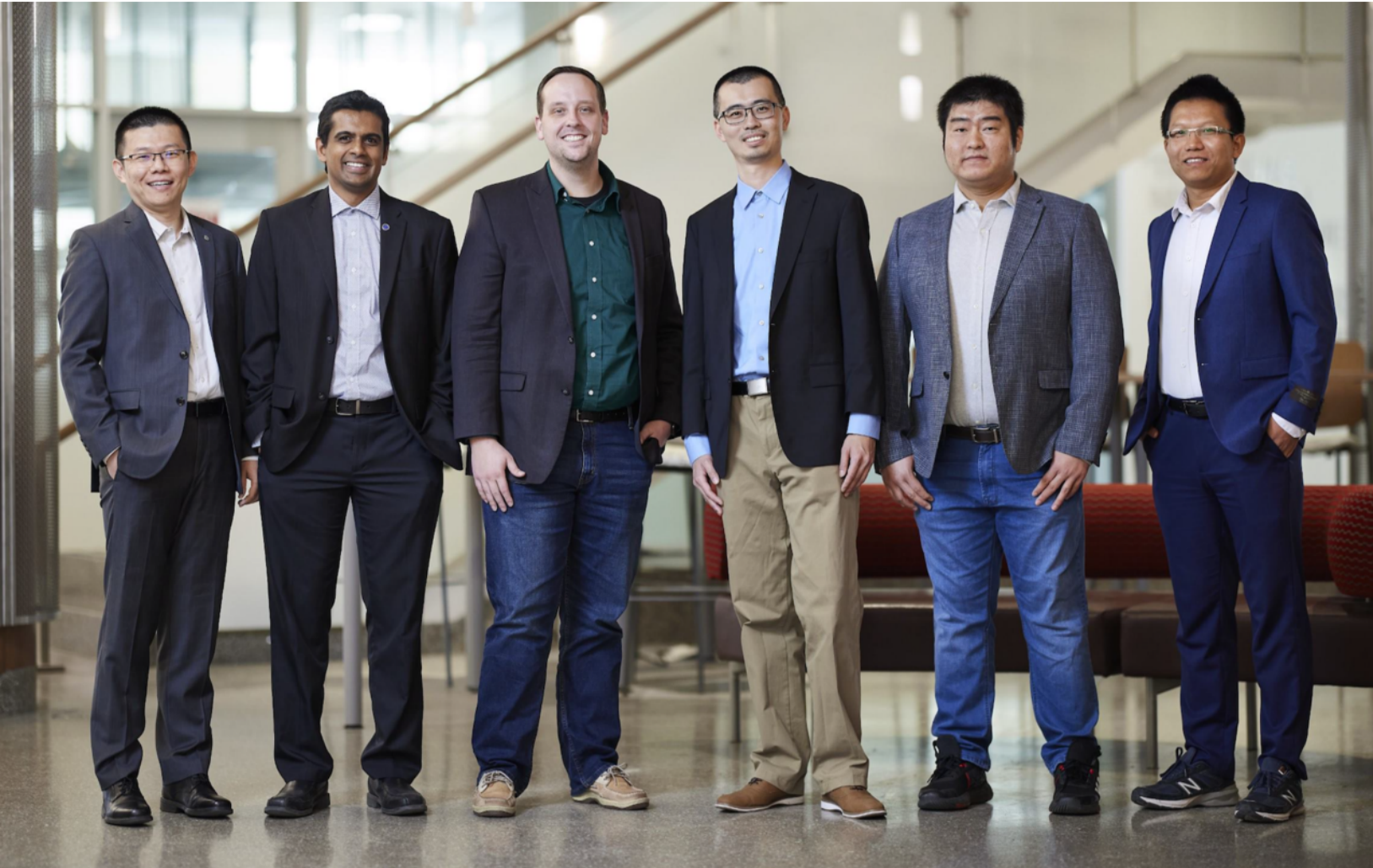


February 2023

A record year for OU Engineering – 6 NSF CAREER Award Winners



From left, Jie Cai, Paul Moses, Jay McDaniel, Yuan Yang, Tiantian Yang and Qinggong Tang.

OU Engineering faculty are bringing unprecedented success to the Gallogly College of Engineering, receiving six 2023 Early Career Development Awards, a National Science Foundation award recognizing junior faculty who have the potential to serve as academic role models in research and to lead research advances. In January, three NSF CAREER winners were announced, Jay McDaniel, Qinggong Tang and Tiantian Yang. This month, three more faculty members became CAREER awardees: Jie Cai, Paul Moses and Yuan Yang. Learn about each recipient's research:

Jie Cai, School of Aerospace and Mechanical Engineering, will focus on "CAS- Climate: An altruistic game theoretic framework to characterize environmental responsiveness of residential electricity consumption."

Jay McDaniel, School of Electrical and Computer Engineering, will use his CAREER award to innovate UAS-radar technologies for studying snowpack.

Paul Moses, School of Electrical and Computer Engineering, will focus on "Untangling chaotic electromagnetic transient phenomena in power systems mixed with volatile inverter-based renewable energy resources."

Qinggong Tang, Stephenson School of Biomedical Engineering, will develop microscopic imaging technology to improve needle placement for medical treatments

Tiantian Yang, School of Civil and Environmental Science Engineering, will explore "CAS-Climate: Forecast-informed flexible reservoir system modeling enabled by artificial intelligence algorithms using subseasonal-to-seasonal hydroclimatological forecasts."

Yuan Yang, Stephenson School of Biomedical Engineering, will focus on "Neuro-navigation guides non-invasive brain stimulation for individualized precision rehabilitation in stroke."

OU Engineers Strive to Better Treat Deadly Aneurysms

OU engineer **Chung-Hao Lee**, School of Aerospace and Mechanical Engineering, will oversee a five-year research project that will lead to designing a device that can be customized to better treat unique aneurysms. **The project**, "Improving outcomes in endovascular treatment of intracranial aneurysms: Combining additive manufacturing, in-silico modeling, and shape memory polymers," is funded by the National Heart, Lung and Blood Institute of the National Institutes of Health.

Lee is working with **Yingtiao Liu**, School of Aerospace and Mechanical Engineering, Bradley N. Bohnstedt, M.D., a neurosurgeon at Indiana University School of Medicine; and Hyowon Lee, Ph.D., a biomedical engineer at Purdue University.



Achieving Global Sustainability: OU Leaders Seek Solutions

Alberto Striolo, a professor in the School of Chemical, Biological and Materials Engineering, organized the 2023 Sustainability Forum held in January at the University of Oklahoma. The forum centered on the United Nations' 2030 Agenda for Sustainable Development. At its heart are **17 United Nations Sustainable Development Goals** that involves synergism between higher education, industry and the public.

Heard Around the Quad:

Jinsong Pei, School of Civil Engineering and Environmental Science, has received funding from the National Science Foundation for work titled "BRITE Relaunch: Improving structural health by advancing interpretable machine learning for nonlinear dynamics." The Boosting Research Ideas for Transformative and Equitable Advances in Engineering (BRITE) Relaunch award will focus on advancing interpretable machine learning to match accuracy with transparency and will provide structural engineers with a superior and trustworthy tool to model nonlinear dynamical systems.



As part of the Presidential Dream Course at OU, Todd Bridges, U.S. Army senior research scientist for environmental science, kicked off a public lecture series titled "Engineering the Nature of Change" on Feb 7 at the National Weather Center.

Bridges' talk focused on "Engineering with Nature: Innovating for a More Resilient and Sustainable Future."



Tanvir Ahad



Sergio Pineda Castillo



Jasmine DeHart



Alejandra Gomez



Seren Hamsici



Tahere Hemati



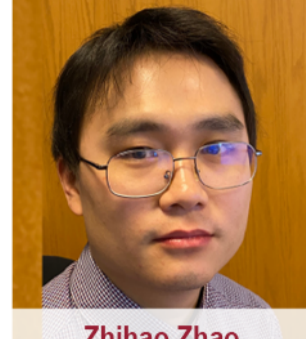
Sai Kiran R. Maryada



Colton Ross



Zuyuan Zhang



Zhihao Zhao

One step closer to the finish line: Doctoral students receive GCoE Excellence Awards

Ten Gallogly College of Engineering students were selected to receive Engineering Dissertation Awards, a \$5,000 award created to encourage doctoral students to graduate with excellence. The award helps scholars near completion of their Ph.D. Read about [their research](#).

Student-led AI Symposium Draws Standing Room-Only Audience

More than 200 students and guests took part in the Artificial Intelligence Symposium in January at the Oklahoma Memorial Union.

Sponsored by ConocoPhillips, the event was co-headlined by David Ebert, Gallogly Chair in Electrical and Computer Engineering, and the director of the Data Institute for Societal Challenges, and Dean Hougen, interim director of the School of Computer Science.

Making a special video appearance was 1962 aerospace engineering alum Donna Shirley who had a 30-year career at NASA's Jet Propulsion Laboratory retiring in 1998 as the manager of the Mars Exploration Program. During her time at NASA, she led the team who built and successfully landed the Mars rover "Sojourner." She later served as assistant dean of OU Engineering.

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