

## FROM THE CHAIR / Spring 2024

Dear friends and colleagues,

As we embrace the vibrant energy of spring, it is with great pleasure we share the latest news from the **Department of Mechanical Engineering** at Northwestern University. From multimillion-dollar research endeavors aimed at enhancing the accessibility and safety of power wheelchairs to groundbreaking work at the forefront of computational tribology, we remain committed to pioneering advancements with significant societal impact.

We are especially proud to highlight the remarkable achievements of our students, including triumphs such as winning the esteemed NASA BIG Idea Challenge and contributing to the historic first US moon mission in 50 years. These successes underscore the exceptional talent and ingenuity within our department.

Furthermore, we celebrate the many prestigious honors and awards our faculty and students have received nationally and internationally for their technical excellence and leadership.

Thank you for your continued support and partnership. Please take a moment to explore the exciting updates below.



**Wei Chen**  
Wilson-Cook Professor in Engineering Design  
Professor and Chair  
Department of Mechanical Engineering  
McCormick School of Engineering

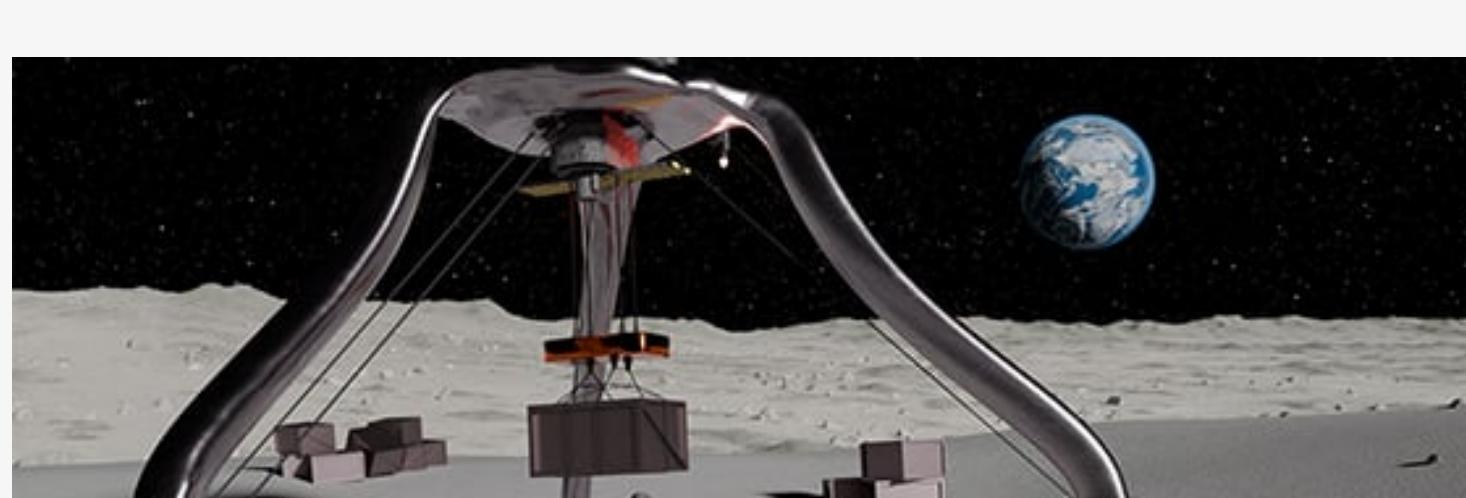
### Accelerating the Accessibility and Safety of Power Wheelchairs



A multidisciplinary team of academic, industry, and non-profit partners led by Professor **Brenna Argall** received a \$5 million NSF Convergence Accelerator Phase 2 grant, aiming to enhance safety and facilitate independent wheelchair operation. **VIDEO**

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### Student Team Selected for NASA BIG Idea Challenge



The Northwestern proposal to explore expandable technology for lunar structures received \$146,420.85 in funding. **VIDEO**

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### Northwestern Robotics Team Demonstrates Mocobots to Tech Leaders



Led by Professor **Kevin Lynch**, researchers in the Center for Robotics and Biosystems demonstrated their Omnid mocobots at the annual invite-only MARS Conference hosted by Jeff Bezos. **VIDEO**

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### Northwestern Student Makes History in Space



As a software engineering intern for Intuitive Machines, mechanical engineering student **Benjamin Coveler** contributed to the first US moon mission in 50 years.

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### Instant Evolution: AI Designs New Robot from Scratch in Seconds



The artificial intelligence developed by Professor **Sam Kriegman** is the first AI capable of intelligently designing new robots that work in the real world. **VIDEO**

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### Smoothing the Future



Working at the forefront of tribology, Professor **Q. Jane Wang** and her team continue to advance next-generation technology. **VIDEO**

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### Faculty News



**Jian Cao** received the **2023 ASME Ted Belytschko Applied Mechanics Division Award** at the International Mechanical Engineering Congress and Exposition. The award is named for the late Professor Ted Belytschko, who passed away in 2014.



**Wei Chen** was among 250 members **elected to the American Academy of Arts and Sciences** in 2024, one of the nation's oldest and most prestigious honorary societies.



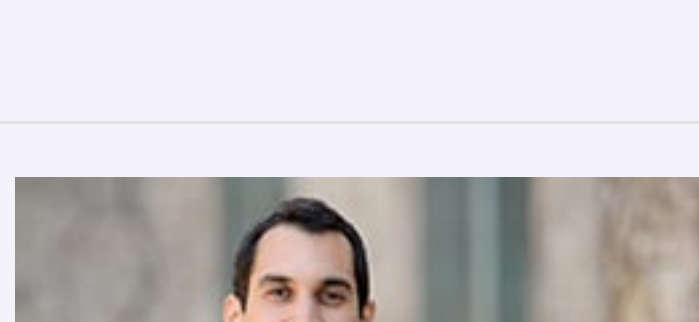
**Horacio Espinosa** was **selected to receive the P.S. Theocaris Medal** from the Society for Experimental Mechanics.



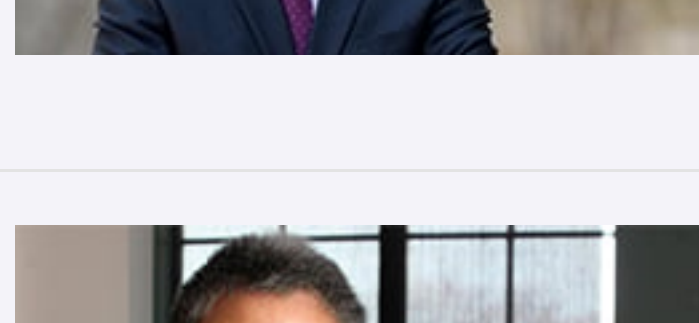
**Yonggang Huang** was recognized by the International Union of Theoretical and Applied Mechanics with the **Hill Prize**. Also, beginning in 2024, the Society of Engineering Science will **rename its Engineering Science Medal the Yonggang Huang Engineering Science Medal**, recognizing a singularly important contribution to engineering science.



**Sinan Keten** received the **2024 Gustus L. Larson Award** from the American Society of Mechanical Engineers, which recognizes outstanding achievement in mechanical engineering within 10-20 years following graduation with a bachelor's degree in mechanical engineering or a related field.



**Wing Kam Liu** was named an inaugural Highly Ranked Scholar by ScholarGPS, which placed him in the top 0.05 percent of all scholars worldwide, No. 10 in Computational Mechanics and No. 21 in Numerical Method.



**Q. Jane Wang** won the **2024 ASME Mayo D. Hersey Award**, which recognizes distinguished and continued contribution over a substantial period to the advancement of a lubrication science and engineering.

### Student News

Doctoral student **Brian Delaney** won a prestigious National Science Foundation Graduate Research Fellowship for his project, "Mechanics-based, AI-enabled Theorization Engine for Wear," under the guidance of **Q. Jane Wang**.

Doctoral student **Fiona Ann Neylon** won a prestigious NSF Graduate Research Fellowship for her project, "Learning for a Customized Control," under the guidance of **Brenna Argall**.

Doctoral student **Tobias Marin** was awarded the Society of Tribologists and Lubrication Engineers Chicago section award. He is working with **Q. Jane Wang** and **Jian Cao** investigating the effect of texture on friction and wear in boundary lubrication conditions.

Doctoral students **Leyun Feng**, **Vispi Karkaria**, **Satyajit Mojumder**, and **Sylvia Tan** won the inaugural Graduate Mentorship Award for their exceptional commitment to excellence in mentorship.

Doctoral student **Sanjana Subramaniam**, advised by **Jian Cao** and **Kornel Ehmann**, is among six Northwestern PhD students who were inducted to the Edward Alexander Boucher Graduate Honor Society, which commemorates the first African American to earn a doctorate degree from an American university.

### FACTS & FIGURES

**9**  
National Academy of Engineering members

**14**  
Major centers, institutes, and programs led by ME faculty

**#6**  
Ranking by Research.com among mechanical and aerospace engineering programs



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