

## Rhonda Wolf Jones

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**From:** Kevin Otto <bmehead@deliver.purdue.edu>  
**Sent:** Monday, December 1, 2025 1:31 PM  
**To:** Rhonda Wolf Jones  
**Subject:** Inspired by our Community

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# BME Crossroads:

*Innovative Small Steps leading to Giant Leaps*

FALL 2025

## *Inspired by Our Community*

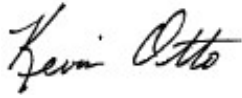
At this time each year, I make space to reflect and extend my genuine appreciation. In doing so, I'm reminded of how profoundly grateful I am for the unique Weldon School and the meaningful activities that define our community. The Weldon School continues to thrive because of the people who bring our mission to life every day — our extraordinary students, devoted parents and families, passionate alumni, talented staff and faculty, and the collaborators, development partners, and industry leaders who walk alongside us. This season reminds us how fortunate we are to work together in pursuit of discovery, innovation, and meaningful impact, and I am deeply thankful for the shared commitment that defines our community.



This newsletter highlights stories that exemplify that spirit. We celebrate our senior design students and alumni whose nationally recognized capstone innovation is already moving toward commercialization — a testament to creativity, mentorship, and partnership. We share the remarkable achievement of an \$8.8M DARPA award to advance healthcare microsystems, made possible through interdisciplinary collaboration and Purdue's One Health vision. We spotlight one of our students, a newly named Goldwater Scholar, whose journey and breakthroughs reflect resilience, aspiration, and the power of a supportive community. As you read these stories, I hope you feel the same

gratitude I do — for the people, partnerships, and shared purpose that make the Weldon School such a special place.

Thank you for your support and Boiler Up!



**Kevin J. Otto**

*Dane A. Miller Head and Professor  
Weldon School of Biomedical Engineering*



## **Capstone Leads to National Recognition in Inventors Competition**

Purdue Biomedical Engineering alumna **Morgan Coghlan** and graduate student **Ronith Dasari** have earned national recognition as finalists in the **Collegiate Inventors Competition** for their capstone project — an augmented laparoscopic grasper designed to help surgeons apply the right amount of pressure during minimally invasive procedures. Developed over two years in the Weldon School’s senior design program, the patent-pending tool integrates sensors, microcomputers and visual feedback to improve surgical precision and patient recovery.

Their advisor, Asem Aboelzahab, also shares in the recognition. Although this year’s winners have already been announced, the team’s innovative work continues to advance toward commercialization. Purdue Innovates has filed a patent application for the device and is seeking industry partners interested in further development.

[A one-minute video about the augmented laparoscopic grasper](#) is online at the National Inventors Hall of Fame’s YouTube channel.



## Purdue Awarded \$8.8M DARPA Grant to Advance Breakthrough Healthcare Microsystems

Purdue Engineering has been awarded an \$8.8 million DARPA grant to lead a bold three-year effort in the Microsystem Induced Catalysis (MICA) program. The team will develop the **BioLogical Translator (BLT)** — a groundbreaking platform that merges electronic computing with biological systems to enable faster, more affordable and more personalized treatments. By converting electrical signals into biological outputs, BLT could one day enable on-demand drug production at the push of a button.

Led by **Leo Green**, assistant professor in the Weldon School of Biomedical Engineering, the project brings together experts from engineering, agriculture, and chemistry, supported by the Birck Nanotechnology Center and aligned with Purdue’s One Health Initiative. This convergence of semiconductor technology and biology has the potential to transform healthcare delivery, strengthen supply chains, and accelerate access to critical therapeutics.

[Learn more about the DARPA-funded BLT initiative →](#)



## Breaking through Barriers

Biomedical engineering student **Deniz Eksioğlu** is one of only two Purdue students — and the sole recipient in the College of Engineering — to earn the prestigious **2025 Goldwater Scholarship**. Driven by a passion for advancing neural engineering, Eksioğlu is developing more durable, biocompatible neural devices that could transform treatment for neurological disorders. His recent breakthrough involves creating a platinum “grass-

like” structure that strengthens conductive polymer coatings, potentially extending the lifetime and safety of implanted neural interfaces. The scholarship recognizes years of dedication, research collaborations with professors Hugh Lee and Kevin Otto, and summers spent advancing his work in Purdue’s labs.

Eksioglu’s journey reflects determination, resilience and a commitment to expanding access to healthcare. Moving frequently as a child and overcoming early academic barriers shaped his drive, as did his family’s immigrant story and strong support. Now preparing for graduate school and attending the Goldwater Summit, he hopes to one day launch a company focused on accessible, high-quality neural technologies for patients worldwide. [Read the full story](#) to explore his path, his research and the mission that motivates him.

# IN CASE YOU MISSED IT



Learn about  
Faith’s story:



How a team of BME students, physicians and engineers built hope—one prototype at a time. [Watch faith’s video](#).

## Make a gift by December 31!



You can be a Boilermaker hero and make victories possible for BME! As we approach the end of this calendar year, **please consider making a gift at [giving.purdue.edu](https://giving.purdue.edu) by 11:45 p.m. ET on December 31**. Your generosity will help create incredible opportunities for our students, faculty, and staff—empowering them to build a better world together.

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