

Gallogly College of Engineering

The UNIVERSITY of OKLAHOMA.

February 2024

## Yuan Collaborates on DARPA Brain Stimulation Study

Han Yuan, Stephenson School of Biomedical Engineering, is part of an interdisciplinary team awarded a \$12 million grant from the Defense Advanced Research Projects Agency. The team's approach, targeting alpha oscillations through transcranial magnetic stimulation, aims to enhance cognitive flexibility and emotional regulation, potentially transforming mental health treatment when combined with cognitive-behavioral therapy. Learn more.



# Song Secures \$1.2 M DOD Grant for Military HVAC Systems

Li Song, School of Aerospace and Mechanical Engineering, has received a \$1.18 million grant from the Department of Defense to design a system for simultaneous heating and cooling demands at military installations, with the goal of enhancing efficiency and reliability. Learn more.



#### **OU Joins National AI Safety Consortium**

David Ebert, School of Electrical and Computer Engineering, and Amy McGovern, School of Computer Science, are part of the newly formed U.S. Artificial Intelligence Safety Institute Consortium that brings together the largest group of AI developers, users and researchers worldwide to promote the creation of safe and trustworthy artificial intelligence. Learn more.



From left, David Ebert and Amy McGovern.

#### **Analytics Drive Recommendations for COVID-19 in Peru**



From left, Charles Nicholson, Jacob Unterbrink, Talayeh Razzaghi and Andrés González.

The February edition of ISE Magazine, published by the Institute of Industrial and Systems Engineers, featured an article titled <u>"Monitoring COVID-19 Infections in Peru."</u> The project was a collaborative effort between OU and the National University of San Agustín, a public university in Arequipa, Peru (UNSA, *Universidad Nacional de San Agustín*). The article was presented by Charles Nicholson, Talayeh Razzaghi and Andrés González, all of the School of Industrial and Systems Engineering. Jacob Unterbrink, a co-author of the paper, is a graduate student in the OU Data Science and Analytics Institute.

### **NETL Backs Advanced Emissions Management Lab**

In collaboration with the National Energy Technology Laboratory and industry partners, OU has engineered an advanced retrofit kit for natural gas engines, crucial for gas production and transmission. The innovative solution significantly reduces methane emissions while optimizing engine performance. Led by Pejman Kazempoor, School of Aerospace and Mechanical Engineering, the project offers provides a practical means to address environmental challenges in the natural gas sector. Learn more.



# Nanomedicine Progress Paves Way for Personalized Care Therapies

Stefan Wilhelm, Stephenson School of Biomedical Engineering, and his team have made a breakthrough in nanomedicine, outlined in their recent publication in Nano Letters. Their research focuses on developing tools capable of producing nanomedicines, including vaccine formulations. The innovation has the potential to overcome the limitations posed by large centralized facilities, shipping issues and the need for extreme cold storage. Learn more.



#### **History Pages**



In 1922, the Pittsburgh Gas Meter Co. gave two gas meters to the School of Mechanical Engineering to be used in the gas measurement course required of all engineers. Three years later, 100-plus engineering students from Oklahoma, Arkansas, Texas and Kansas attended a three-day gas meter course, the primary emphasis of which was the repair of tin case meters.

Source: Martinelli, D. (2010). 100 Years of Engineering. Sooner Magazine, 8-13.

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