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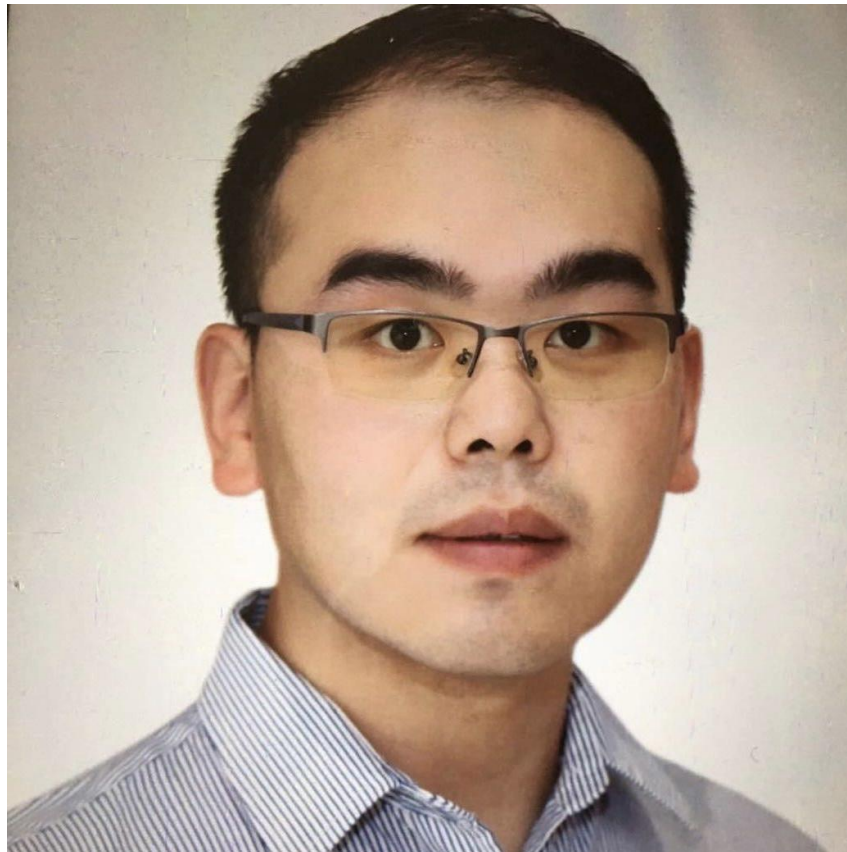
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Lehigh Bioengineering Seminar Series presents:

Dr. Feng Guo, PhD

**Associate Professor of Intelligent Systems Engineering at
Indiana University Bloomington (IUB)**

“Brain organoid computing for Sustainable AI and Precision Medicine”



Friday, October 31, 2025
10:45 AM-11:45 AM
HST 101

<https://lehigh.zoom.us/j/94258237526>

Please contact the Bioengineering Department (inbioe@lehigh.edu) with any questions or comments.

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Abstract:

Human brain organoids, 3D brain-like tissues derived from pluripotent stem cells, show remarkable potential to mimic human brain information processing for sustainable AI and medical applications. However, challenges remain in fully harnessing their capabilities. Our research group has been exploring this new research area ‘brain organoid computing’. In this talk, we will present our latest advancements in developing brain organoid hardware for real-world computing tasks such as speech recognition, equation prediction, and robotic decision-making with unique features including low energy consumption, fast learning, and renewability. Additionally, we will highlight leveraging organoid neural networks for functional phenotyping of neural disorders such as Alzheimer’s disease, substance use disorders, etc. We believe this innovative approach can provide new insights into AI computing, brain-machine interfaces, and translational medicine while fostering a deeper understanding of the synergy between AI and biological intelligence.

Personal Bio:

Dr. Feng Guo is an Associate Professor of Intelligent Systems Engineering at Indiana University Bloomington (IUB). Before joining IUB in 2017, he received his Ph.D. in Engineering Science and Mechanics at Penn State and his postdoc training at Stanford University School of Medicine. His group is developing intelligent medical devices, sensors, and systems with the support of multiple NIH and NSF awards. He is a recipient of the NIH Director's New Innovator Award, the Outstanding Junior Faculty Award at IU, Early Career Award at Penn State, the Dean Postdoctoral Fellowship at Stanford School of Medicine, etc.

Please contact the Bioengineering Department (inbioe@lehigh.edu) with any questions or comments.