# SEMINAR

Presented by the Fralin Biomedical Research Institute at VTC

*Candidate for Biomaterials and Body-Device Interfaces Faculty Position*


## WEI OUYANG, Ph.D.

Postdoctoral Fellow
Querrey Simpson Institute for Bioelectronics
Northwestern University


## *Integrated Bioelectronic Systems for Biomedical Research and Healthcare: Materials, Electronics, and Computing*


Probing and modulating life processes in the native state represents a key capability in our quest for a better understanding of life and a higher quality of life. In this talk, Dr. Ouyang will present implantable and wearable forms of flexible bioelectronic devices developed through a systems approach combining materials, electronics, and computing that open up new opportunities for fundamental biomedical research in unperturbed, naturally behaving animal models and for continuous, ambulatory monitoring of human health. He will first present a new class of wireless, battery-free, fully implantable devices that offer multimodalities and closed-loop functionalities in neuroscience research and the use of this technology for studying auditory-evoked potentials, sleep-wake regulations, seizure treatment, cardiology, and social interactions. Then he will present the translation of this technology in human healthcare using a wearable mechano-acoustic sensing device deployed to about 500 patients as an example, with an emphasis on data analytics for continuous monitoring of COVID-19 and vocal health. Dr. Ouyang will conclude by discussing future opportunities of my research in both fundamental and translational biomedicine.


## TUESDAY, FEB. 7, at 12 p.m.

Room R3012, 2 Riverside Circle, or join via Zoom:
https://virginiatech.zoom.us/j/86362552926

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