

BIOENGINEERING

PRESENTS

Nanomeshing Microelectronics for Neural Interfaces



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2101 ENGINEERING V

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ABSTRACT:

Bioelectronic neurotechnologies led by the convergence of new concepts in materials science, electrical engineering, and advanced manufacturing have the potential to contribute substantially to both basic neuroscience and translational neural engineering. In this talk, I will introduce the concept of nanomeshing microelectronics that we recently conceived to develop next-generation neuroelectrode arrays. We envision that this unique approach will shift the neuroelectrode paradigm from the current rigid, opaque electrode arrays towards ultrasoft transparent ones, and produce transformative impacts in both biology and medicine.

BIOGRAPHY:

Hui Fang received his B.S. degree in 2009 from Tsinghua University and his Ph.D. degree in 2014 from the University of California, Berkeley, both in Materials Science and Engineering. He was then a postdoctoral fellow at the University of Illinois, Urbana-Champaign from 2014 to 2016. He joined Northeastern University in August 2016 where he is currently an Assistant Professor in Electrical and Computer Engineering, with affiliate appointments in Bioengineering and Mechanical & Industrial Engineering. Fang's research interests encompass the fields of materials science, electrical engineering, and biomedical engineering. His research has been recognized by NSF CAREER Award (2019) and CDMRP Epilepsy Risk Factors Award (2018).