

BIOENGINEERING

PRESENTS

Bioelectronics+ and Examples to Neuroelectronics



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2101 ENGINEERING V

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ABSTRACT:

Grand challenges in the world demand complex solutions, which require dovetailed cross-disciplinary efforts. We believe bioelectronics can be tailored to complement many other fields and practices while keeping their electronic functionality towards achieving convergence. We refer to these inclusive versions of bioelectronics as bioelectronics+. In this talk, I will introduce the bioelectronics+ concept. I will also discuss several of our recent examples for this vision in the neuroelectronics area which is enabled by new concepts in materials science, electrical engineering, and advanced manufacturing. In addition to fundamental merit in engineering innovations, we envision the development and translation of bioelectronics+ will transform 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 an NSF CAREER Award (2019) and a CDMRP Epilepsy Risk Factors Award (2018).