

USF NEXUS INITIATIVE 2018 AWARD RECIPIENT

Stephen Sadow

Brain Implantable Electrode Array Based on SiC Nanowire Networks

Brain Machine Interface (BMI) devices offer the possibility of improved physiological and neurological functionality for patients suffering from severe trauma to the central or peripheral nervous system. Unfortunately, due to biological, material, and mechanical issues, researchers are still not able to produce clinically viable solutions that meet the requirements of long-term operation without the use of wires or batteries. In addition, the neural incompatibility of these electrode probes is well known. We have demonstrated that silicon carbide (SiC) has long-term neurocompatibility and does not require wires to operate. The next step is to translate this material research into a functional neural interface for humans.

Partnerships:

Konstantinos Zekentes, Ph.D., Senior Researcher
Foundation for Research & Technology, University of Crete (Crete, Greece)



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