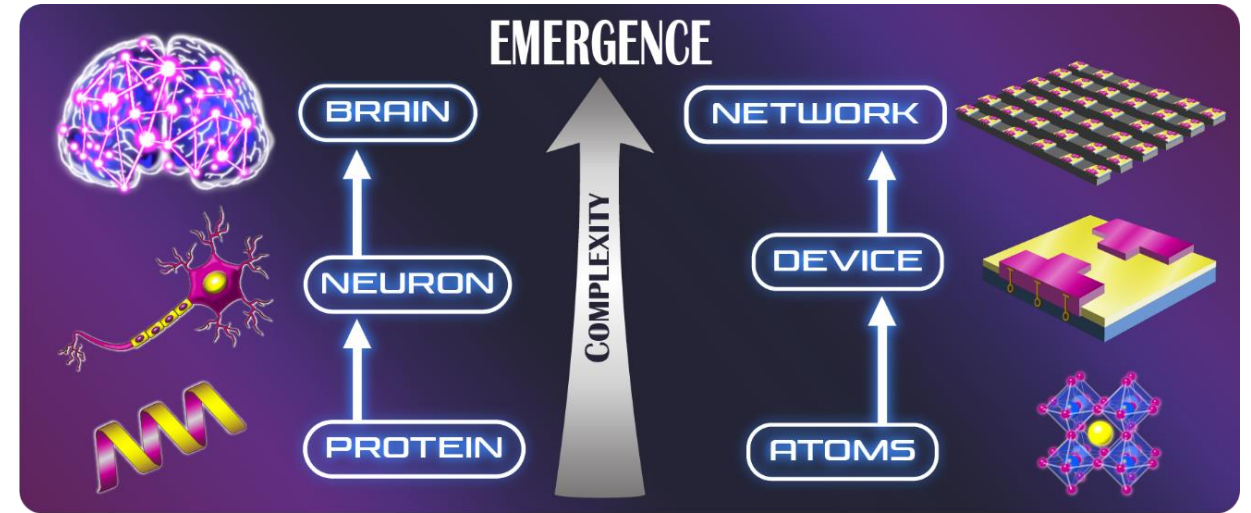


# Quantum Materials for Energy-Efficient Neuromorphic Computing (Q-MEEN-C)

Ivan K. Schuller (University of California, San Diego); Class: 2018-2026

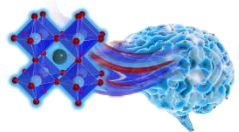
**MISSION:** To lay down the quantum-materials-based foundation for the development of an energy-efficient, fault-tolerant computer that is inspired and works like a brain (“neuromorphic”).



<https://qmeenc.ucsd.edu/>

## RESEARCH PLAN

Synthesize promising new quantum materials for neuromorphic functionalities. Understand their microscopic and mesoscopic behavior due to natural and/or artificial inhomogeneities, develop novel contactless connectivity using collective or frequency selective mesoscopic coupling, and define new benchmarks for relevant materials properties and energy efficiency.



Quantum Materials  
for Energy Efficient Neuromorphic Computing



Northwestern  
University



PURDUE  
UNIVERSITY



NIST



U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Science

UC San Diego



UNIVERSITY OF  
MARYLAND

UC DAVIS

THE UNIVERSITY OF  
CHICAGO