PURDUE UNIVERSITY | Purdue Quantum Science and Engineering Institute

PURDUE QUANTUM SCIENCE AND ENGINEERING INSTITUTE

Innovating quantum technologies

Evolutionary biology-inspired quantum matter

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Wednesday, March 10, 11:00 a.m.: Zoom Link

Intelligence in the animal kingdom is manifested over vast length and time scales, spanning neuronal level in the brain to collective learning in social colonies. Utilizing the model system of strongly corelated oxides, we will present results on emulation of memory; learning and information transfer resembling features observed in animal nervous systems and their implementation in neuromorphic computing. The results are enabled by fundamental discoveries in electronic phase transitions, observation of spin-glass like physics at room temperature in quantum crystals and synthesis methods to dope semiconductors approaching one electron/unit cell densities.

S. Ramanathan is a faculty member in engineering at Purdue University. Their group conducts research in strongly correlated oxide semiconductors.

PURDUE UNIVERSITY Discovery Park