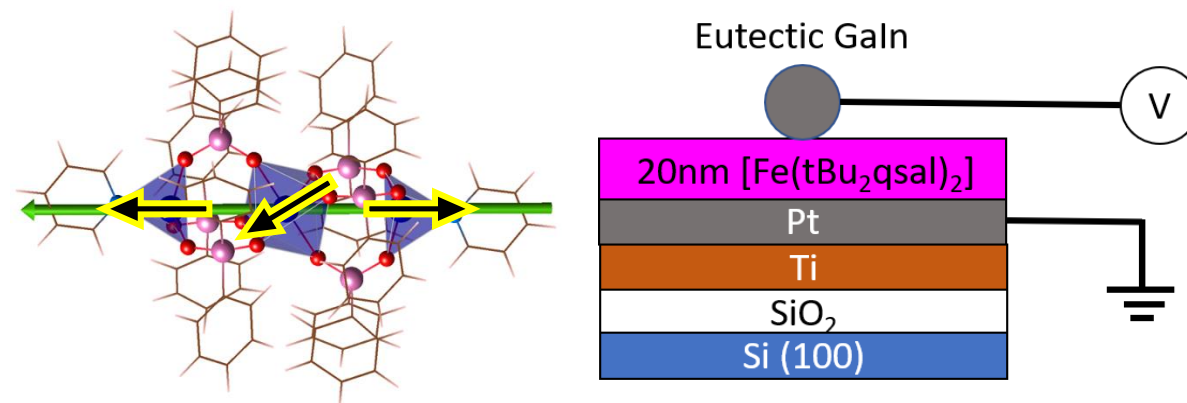


EFRC for Molecular Magnetic Quantum Materials (M²QM)

Hai-Ping Cheng (University of Florida); Class: 2018-2026

MISSION: To provide the materials physics and chemistry understanding of molecular magnetic quantum materials essential for quantum and conventional computing beyond Moore's Law, with an overarching goal of turning molecular magnets into quantum materials useful for both quantum computing and quantum current conventional devices.

From molecules to magnetics junctions



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RESEARCH PLAN

From synthesis to characterization (experimentally and computationally), the central quest of the M²QM project is to achieve such magnetic switching at molecular scale and to achieve switching and reading electronically. This would have a more profound outcome than reduction of heating. It would enable quantum computing – working with molecular states that are both one and zero and in-between. This is the shift from “bits” to “qubits”. The molecular state that is critical to its magnetism is called the “spin state”.



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