PQSEI-ARGONNE Workshop

MSEE 190
501 Northwestern Ave., West Lafayette, IN 47907

February 26, 2026
All Times EST

AGENDA	
09:00 a.m. – 9:15 a.m.	**Michael Manfra,** Director PQSEI Welcome and Introduction to Workshop
09:15 a.m. – 09:30 a.m.	**Kartiek Agarwal,** Physicist *Imaging edge modes in a time-reversal symmetry breaking superconductor using noise magnetometry*
09:30 a.m. – 09:45 a.m.	**Laimei Nie,** Assistant Professor of Physics and Astronomy *Creating and detecting entanglement in quantum materials using entangled X-ray*
09:45 a.m. – 10:00 a.m.	**Tomas Polakovic, A**ssistant Physicist at Argonne Physics Division *From Superconducting Thin Films to Hybrid Devices and Quantum Sensing*
10:00 a.m. – 10:15 a.m.	**Tongcang Li,** Professor of Physics and Astronomy, Professor of Electrical and Computer Engineering, Director of the Center for Quantum Technologies *Quantum sensing with spin defects in 2D materials*
10:15 a.m. – 10:30 a.m.	**BREAK**
10:30 a.m. – 10:45 a.m.	**Yizhong Huang,** Staff Scientist, Center for Nanoscale Materials *Integration of Single Electron Qubits and Superconducting Qubits for Quantum Computing*
10:45 a.m. – 11:00 a.m.	**Hadiseh Alaeian,** Assistant Professor of Electrical and Computer Engineering, Assistant Professor of Physics and Astronomy *Many-body quantum optics: an emerging paradigm for QIS*
11:00 a.m. – 11:15 a.m.	**Jessica Jones,** Argonne Scholar, Walter Massey Fellow *ALD on diamond for surface processing for quantum applications*
11:15 a.m. – 11:30 a.m.	**Sasha Boltasseva,** Ron and Dotty Garvin Tonjes Distinguished Professor of Electrical and Computer Engineering *Advancing quantum on-chip photonics with machine learning*
11:30 a.m. – 11:45 a.m.	**Nathan Guisinger,** Staff Scientist, Center for Nanoscale Materials *Atomic-scale exploration of quantum materials and artificial testbeds*
11:45 a.m. – 01:00 p.m.	**Lunch w/Open Discussion (Lunch for presenters only)**

01:00 p.m. – 01:15 p.m.	**Erica Carlson,** 150th Anniversary Professor of Physics and Astronomy *Universal Features of Emergent Electronic Fractals in Quantum Materials*
01:15 p.m. – 01:30 p.m.	**Mike Norman,** Argonne Distinguished Fellow; Director, Argonne Quantum Institute *Spin noise spectroscopy as a probe of quantum materials*
01:30 p.m. – 01:45 p.m.	**Arnab Banerjee,** Assistant Professor of Physics and Astronomy *In search of quasiparticles and their applications in quantum magnets*
01:45 p.m. – 02:00 p.m.	**Ivar Martin,** Sr. Physicist, Materials Science Division *Understanding topological superconductivity and Majorana fermions beyond mean field theory*
02:00 p.m. – 02:15 p.m.	**Yihang Zeng,** Assistant professor, Physics & Astronomy *Integer and Fractional Chern insulators in moiré MoTe2*
02:15 p.m. 02:30 p.m.	**BREAK**
02:30 p.m. – 02:45 p.m.	**Jeff Guest,** Group Leader, Quantum and Energy Materials/Scientist, Nanoscience *The Atomic Quantum Information Surface Science (AQuISS) Lab*
02:45 p.m. – 03:00 p.m.	**Tiancong Zhu,** Assistant Professor of Physics and Astronomy *Engineering and Characterizing Quantum Defects with Atomic Precision*
03:15 p.m. – 03:30 p.m.	**Jessica McChesney,** Physicist-X-ray Science Division *Probing the electronic order of quantum materials*
03:30 p.m. – 03:45 p.m.	**Pramey Upadhyaya,** Associate Professor of Electrical and Computer Engineering *Spintronics-inspired Platforms for QIS and Unconventional Computing*
03:45 p.m. – 04:45 p.m.	**Discussion**
04:45 p.m. – 05:00 p.m.	**Wrap Up & Action Items**
5:30 p.m.	**Dinner**