**QISE-NET Student Presentations**

**Jeremy Amdur**

Northwestern University/Argonne National Laboratory

**Chemical Control of Spin-Lattice Relaxation to Create Room Temperature Molecular Qubits**

**Abhinandan Anthony**

Columbia University/Raytheon BBN Technologies

**The SuperVan Qubit**

**Ashley Blackwell**

Howard University/Naval Research Laboratory

**Molecular Spin Quantum Materials and Entanglement Platforms for Quantum Technologies**

**Evan Cobb**

University of California – San Diego/Los Alamos National Laboratory

**Toward transport characterization of topological edge modes in WTe2**

**David Currie**

Vanderbilt University/Oak Ridge National Laboratory

**Improving Single-Photon Emitters with Hyperbolic Metamaterials**

**Christina Daniel**

Georgetown University/IBM

**Developing an efficient hybrid quantum chemistry algorithm**

**Samet Demircan**

Stony Brook University/Brookhaven National Laboratory

**Towards Cavity-Assisted Fast Rubidium-Tuned Quantum Light Sources**

**Brian Doolittle**

University of Illinois at Urbana – Champaign/Xanadu

**Variational Quantum Optimization of Network Nonlocality**

**Emery Doucet**

University of Massachusetts – Lowell/Raytheon BBN Technologies

**Scalable multi-partite entanglement stabilization and characterization**

**Alexander Droster**

University of California - Berkeley/JILA-NIST

**A quantum-enhanced dark matter search for axions**

**Ozan Erturk**

Purdue University/IBM **Mechanically Modulated Microwave Circulator**

**Matthew Feldman**

Vanderbilt University/Oak Ridge National Laboratory

**Towards efficient Bayesian quantum state estimation**

**Sonali Gera**

Stony Brook University/Brookhaven National Laboratory

**Toward a lab sized quantum repeater prototype**

**Sumita Ghosh**

Yale University/Fermi National Accelerator Laboratory **Searching for Dark Photons with Existing Haloscope Data**

**Jonah Glick**

Northwestern University/FNAL

**Optical Aberration and Laser Pointing Jitter Mitigation for MAGIS-100**

**Rishikesh Gokhale**

Stony Brook University/Brookhaven National Laboratory

**Developments of free space quantum channel**

**Andy Goldschmidt**

University of Washington/Lawrence Livermore National Laboratory

**Bilinear dynamic mode decomposition for quantum control**

**Ami Greene**

Massachusetts Institute of Technology/Google

**Error mitigation via quantum measurement emulation (QME)**

**Rianna Greer**

Northwestern University/IBM

**Tuning optical addressability in molecular electronic spin qubits**

**Michael Hite**

University of Iowa/Fermi National Accelerator Laboratory

**Classical Methods of LFT**

**Joel Howard**

Colorado School of Mines/NIST

**Investigating Entanglement Rates of Coupled Superconducting Qubits**

**Mohannad Ibrahim**

North Carolina State/IBM

**Utilizing Benchmarking and OpenPulse for Gate and Algorithm-Level Optimizations**

**Xiaoyu Jiang**

University of Wisconsin – Madison/Argonne National Laboratory

**Analysis of a Neutral Atom Surface Code with Two Atomic Species**

**Linta Joseph**

Dartmouth College/IBM

**Decoupling dipolar interactions in dense spin ensembles**

**Kevin Kwock**

Columbia University/Los Alamos National Laboratory

**Rare-Earth-Doped nanocrystals: towards environmental and quantum sensing**

**Hugo Larocque**

Massachusetts Institute of Technology/Sandia National Laboratory

**Arbitrary optical mode transformations via programmable multimode interference**

**Gushu Li**

University of California – Santa Barbara/IBM

**Software-Hardware Co-optimization for Computational Chemistry on Superconducting Quantum Processors**

**Linsen Li**

Massachusetts Institute of Technology/Sandia National Laboratory

**Field-based Design of a Resonant Dielectric Antenna for Coherent Spin-Photon Interfaces**

**Navin Lingaraju**

Purdue University/Oak Ridge National Laboratory

**Frequency-bin Quantum Photonics**

**Chuanhong Liu**

University of Wisconsin – Madison/NIST

**Qubit control based on single flux quantum digital logic**

**Jin-Peng Liu**

University of Maryland/Microsoft

**Quantum algorithms for SDEs in mathematical finance**

**Yunchao Liu**

University of California – Berkeley/IBM

**A rigorous and robust quantum speed-up in supervised machine learning**

**Swarnadeep Majumder**

Duke University/Oak Ridge National Laboratory

**Characterizing and mitigating errors in variational algorithms**

**John Paul Marceaux**

University of California – Berkeley/Sandia National Laboratory

**Towards adaptive error correction**

**Ryan Murphy**

University of California – Berkeley/ Argonne National Laboratory

**Towards Optically Addressable Metal-Organic Qubit Arrays for Adsorbate Sensing and Hyperpolarization**

**Karthik Myilswamy**

Purdue University/Oak Ridge National Laboratory

**Integrated biphoton frequency from a Si3N4 microring**

**Danh Ngo**

University of California – Berkeley/Argonne National Laboratory

Ion Trap-and Solid-State Vacancy-Inspired Design of Optically Addressable Molecular Qubits

**Anthony Polloreno**

University of Colorado – Boulder/Sandia National Laboratory

**Identifying Critical Noise Parameters for Quantum Error Correction**

**Hong Qiao**

University of Chicago/IBM

**In-Situ Entanglement Generation Based on Rare-Earth Quantum Memory Coupled to a Non-Linear Cavity**

**Pedro Rivero Ramirez**

Illinois Institute of Technology/Argonne National Laboratory **An optimal quantum sampling regression algorithm for variational eigensolving in the low qubit number regime**

**David Rower**

Massachusetts Institute of Technology/Brookhaven National Laboratory

**Magnetic Noise in Superconducting Circuits**

**Siddharth Sehgal**

Stony Brook University/Brookhaven National Laboratory

**Development of A Long-Distance Quantum Network using Portable, Room-Temperature, Heralded Quantum Memories**

**Ryan Shaffer**

University of California – Berkeley/Sandia National Laboratory

**Statistical learning techniques for variational quantum algorithms**

**Kai Shinbrough**

University of Illinois at Urbana – Champaign/Army Research Laboratory

**All-Optical Defect Emission Engineering at Room Temperature**

**Tyler Smart**

University of California – Santa Cruz/Argonne National Laboratory

**Theory Design of New Spin Defects in Hexagonal Boron Nitride**

**Shi-Ning Sun**

California Institute of Technology/Lawrence Berkeley National Laboratory

**Digital Quantum Simulation with Multiqubit Interactions on a Dynamically Reconfigurable Quantum Processor**

**Hao Tian**

Purdue University/ Laboratory of Physical Sciences

**Integrated Optical Interface for Superconducting Circuits**

**Mathew van Niekerk**

Rochester Institute of Technology/Air Force Research Laboratory **Quantum integrated photonic chip packaging**

**Cecilia Vollbrecht**

University of Wisconsin – Madison/NIST **Microcavities for single-particle spectroscopy and cQED systems**

**Daochen Wang**

University of Maryland/Microsoft **Quantum algorithms for reinforcement learning with a generative model**

**Tristan Wilkinson**

West Virginia University/NIST

**All-on-chip nanophotonic devices coupling to multiple polarizations of single quantum emitters**

**Ethan Williams**

Dartmouth College/National High Magnetic Field Laboratory **Dynamical decoupling of substitutional nitrogen in diamond**

**Pheona Williams**

Howard University/Brookhaven National Laboratory **Growth and study of organic intercalated transition metal dichalcogenide superlattice systems**

**Xiaoliang Wu**

Illinois Institute of Technology/Argonne National Laboratory

**SeQUeNCe: Parallel Discrete Event Simulation of Quantum Networks**

**Yuan Zhan**

University of Colorado – Boulder/NIST

**Deterministic generation of loss-tolerant photonic cluster states with a single quantum emitter**