Quantum Information & Quantum Computation at Texas Tech

Agenda

❖ **WELCOME SESSION**

10:00 am – 10:05 am Welcome Remarks
Getting Started [Sung-Won Lee; PHAS]

10:05 am – 10:20 am Opening Keynote: Building quantum computing community at Texas Tech - An inevitable journey
[Rattikorn Hewett; CS]

❖ **SESSION I – QUANTUM ALGORITHMS**

10:20 am – 10:35 am Quantum algorithms for mathematical optimization
[Ismael Regis de Farias Jr.; IMSE]

10:35 am – 10:50 am Efficient evaluation of exponential and Gaussian functions on a quantum computer
[Bill Poirier; CHEM]

10:50 am – 11:05 am Quantum computing of quantum chemistry
[Jorge Morales; CHEM]

❖ 11:05 am – 11:20 am VIRTUAL COFFEE BREAK

❖ **SESSION II – QUANTUM MATERIALS AND REALIZATION**

11:20 am – 11:35 am Measurements of the onset of macroscopic matter wave coherence in liquid helium, and other topics in quantum sensing and quantum-limited measurements
[Robert Duncan; PHAS]

11:35 am – 11:50 am Many-body systems and quantum information
[Wade DeGottardi; PHAS]
11:50 am – 12:05 pm Anomalous quantum oscillations in a spin-3/2 topological semimetal
(Hyunsoo Kim; PHAS)

12:05 pm – 12:15 pm On-chip quantum information processing based on a rare-earth spin qubit in active nanostructures
(Myoung-Hwan Kim; PHAS)

12:15 pm – 12:25 pm Quantum light emitters (single photon sources)
(Ioannis Chatzakis; PHAS)

12:25 pm – 1:10 pm Round-table discussion on moving forward
All participants are encouraged to attend the discussion

1:10 pm – 1:15 pm Closing Remarks
Summary (Ioannis Chatzakis & Myoung-Hwan Kim)