
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)
