

## Neutrons and Complementary Techniques for Quantum Materials

September 6-8, 2022 (Virtually)

Time (EST)	Title	Speaker
<b>Tuesday, September 6, 2022</b>		
8:50-9:00 am	Welcome/Organizational Announcements	Hans Christian (ORNL)
9:00-9:45 am	Why quantum materials need many techniques and how can they be integrated together <i>Moderator: Songxue Chi</i>	Alan Tennant (UTK)
9:45-10:30 am	Symmetry-guided Perspective on in-situ Neutron Scattering <i>Moderator: Songxue Chi</i>	Sang-Wook Cheong (Rutgers)
10:30-10:45 am	<b>Break</b>	
10:45-11:30 am	NMR as a local probe of disorder in spin liquid materials <i>Moderator: Travis Williams</i>	Takashi Imai (McMaster)
11:30 am-12:15 pm	Time Resolved Probing of Quantum Materials <i>Moderator: Songxue Chi</i>	Nuh Gedik (MIT)
12:15-1:15 pm	<b>Lunch &amp; Breakout Session (In-situ neutron measurements)</b> <i>Moderator: Songxue Chi</i>	Valery Kiryukhin; Sang-Wook Cheong; Feng Ye; Victor Fanelli; Jue Liu;
1:15-2:00 pm	New Advances in Scanning Optical Imaging of Quantum Materials <i>Moderator: Tao Hong</i>	Liang Wu (Upenn)
2:00-2:45 pm	Understanding heterogeneities in quantum materials <i>Moderator: Qiang Zhang</i>	An-Ping Li (ORNL)
2:45-3:00 pm	<b>Break</b>	
3:00-3:45 pm	Muon Spin Relaxation/Rotation Studies of Quantum Materials <i>Moderator: Clarina Dela Cruz</i>	Adam Aczel (ORNL)
3:45-4:30 pm	Neutrons in Multimodal Investigation of Quantum Materials <i>Moderator: Qiang Zhang</i>	Stephen Wilson (UCSB)

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Time	Title	Speaker
<b>Wednesday, September 7, 2022</b>		
9:00-9:45 am	Site-specific spectroscopic measurement of spin and charge in (LuFeO <sub>3</sub> ) <sub>m</sub> /(LuFe <sub>2</sub> O <sub>4</sub> ) <sub>1</sub> multiferroic superlattices <i>Moderator: Wei Tian</i>	Jan Musfeldt (UTK)
9:45-10:30 am	Magneto-Transport and Neutron Scattering: A Match Made in Lab <i>Moderator: Wei Tian</i>	Sara Haravifard (Duke)
10:30-10:45 am	<b>Break</b>	
10:45-11:30 am	Electrolyte Gating of Magnetic Complex Oxides Probed via Operando Neutron and X-ray Scattering <i>Moderator: Keith Tadei</i>	Chris Leighton (UMN)
11:30 am-12:15 pm	Magnetism, Superconductivity, and Topological Surface State in Fe <sub>1+y</sub> Te <sub>1-x</sub> Se <sub>x</sub> <i>Moderator: Vasile O. Garlea</i>	Igor A. Zaliznyak (BNL)
12:15-1:15 pm	<b>Lunch</b>	
1:15-2:00 pm	Electronic Structure and Magnetic Interactions in Low Valence Nickelates Probed by Resonance Inelastic X-ray Scattering <i>Moderator: Stuart Calder</i>	Mark Dean (BNL)
2:00-2:45 pm	Observation of Pines' Demon in Sr <sub>2</sub> RuO <sub>4</sub> with momentum-resolved EELS <i>Moderator: Barry Winn</i>	Peter Abbamonte (UIUC)
2:45-3:00 pm	<b>Break</b>	
3:00-3:45 pm	Site mixing and complex magnetic structures in topological insulators MnBi <sub>2</sub> Te <sub>4</sub> and MnSb <sub>2</sub> Te <sub>4</sub> <i>Moderator: Qiang Zhang</i>	Yaohua Liu (ORNL)
3:45-4:30 pm	Thermal Hall Effect of Van der Waals Magnets <i>Moderator: Tao Hong</i>	Xianglin Ke (MSU)

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## Neutrons and Complementary Techniques for Quantum Materials

September 6-8, 2022 (Virtually)

Time	Title	Speaker
<b>Thursday, September 8, 2022</b>		
9:00-9:45 am	Neutrons, X-ray, and Uniaxial Stress: How to Study and Manipulate the Local Structure of Quantum Materials <i>Moderator: Antonio Dos Santos</i>	Damjan Pelc (U. of Zagreb)
9:45-10:30 am	Directly Probing Spinon Interactions with Electron Spin Resonance <i>Moderator: Tao Hong</i>	Kirill Povarov (ETH Zurich)
10:30-10:45 am	<b>Break</b>	
10:45-11:30 am	Magnetic PDF: A Magnetic Addition to the Total Scattering Toolbox <i>Moderator: Travis Williams</i>	Benjamin A. Frandsen (BYU)
11:30-12:15 pm	Complementarity of the ORNL Neutron Sources <i>Moderator: Clarina Dela Cruz</i>	Ken Herwig (ORNL)

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