

# 2022 Tsung-Dao Lee Institute Youth Forum for Quantum Physics

Online Meeting: Zoom ID: 636 5196 3608    Password: 123456

Onsite Venue: Meeting Room N602

## January 10 (Monday)

### Session A:

09:45-10:00	<b>Welcome Speech</b>
10:00-10:40	<b>Liguo Ma</b> (Cornell University) Strongly correlated excitonic insulator in semiconductor atomic double layers
10:40-10:50	<b>Break</b>
10:50-11:30	<b>Fangyuan Yang</b> (UCSB) Isospin Pomeranchuk effect in twisted bilayer graphene
15:00-15:40	<b>Silvia Pappalardi</b> (Ecole Normale Paris) Quantum bounds and fluctuation-dissipation theorem
15:40-15:50	<b>Break</b>
15:50-16:30	<b>Thomas Fogarty</b> (OIST Graduate University) Cooperative effects in many-body heat engines

## January 11 (Tuesday)

### Session B:

10:00-10:40	<b>Zhicheng Yang</b> (QuICCS) Entanglement phase transitions in random stabilizer tensor networks
10:40-10:50	<b>Break</b>
10:50-11:30	<b>Aavishkar Patel</b> (University of California, Berkeley) Many-body quantum mechanics without quasiparticles
15:00-15:40	<b>Linghao Yan</b> (Aalto University) On-Surface Synthesis and Characterization of Atomically Precise Low-Dimensional Organic Materials
15:40-15:50	<b>Break</b>
15:50-16:30	<b>Luke Rhodes</b> (University of St Andrews) FeSe and the missing electron pocket problem

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## January 12 (Wednesday)

### Session C:

10:00-10:40	<b>Siddhardh C Morampudi</b> (MIT) Dynamics of emergent gauge theories
10:40-10:50	<b>Break</b>
10:50-11:30	<b>Jun Takahashi</b> (The University of New Mexico) Recent Monte Carlo studies for Deconfined Quantum Criticality
15:00-15:40	<b>Masahiro Naritsuka</b> (University of St Andrews) Interplay of magnetism and spin-orbit coupling in metamagnetic $\text{Sr}_4\text{Ru}_3\text{O}_{10}$
15:40-15:50	<b>Break</b>
15:50-16:30	<b>Louk Rademaker</b> (University of Geneva (Switzerland)) Spin-valley symmetry breaking and Chern insulators in twisted graphene structures

## January 13 (Thursday)

### Session D:

10:00-10:40	<b>Yafei Ren</b> (University of Washington) Phonon magnetic moment from electronic topological magnetization
10:40-10:50	<b>Break</b>
10:50-11:30	<b>Anthony Charles Hegg</b> (Tsung-Dao Lee Institute, SJTU) Geometric frustration produces long-sought Bose metal phase of quantum matter
15:00-15:40	<b>Elena Gati</b> (MPI of Chemical Physics of Solids) Hydrostatic pressure tuning of quantum magnetism –the cases of $\text{VI}_3$ and $\text{EuCd}_2\text{As}_2$
15:40-15:50	<b>Break</b>
15:50-16:30	<b>Federico Cagliulis</b> (University of Genova (Italy)) Nernst effect: a powerful probe in condensed matter physics

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January 14 (Friday)

**Session E:**

10:00-10:40	<b>Marlou Slot</b> (NIST) Atom by atom: Designing and realizing electronic quantum matter
10:40-10:50	<b>Break</b>
10:50-11:30	<b>Pavel Volkov</b> (Rutgers University) Twisted Nodal Superconductors
15:00-15:40	<b>Hrant Topchyan</b> (Yerevan Physics Institute) Geometry of random potentials. Induction of 2D gravity in quantum Hall plateau transitions
15:40-15:50	<b>Break</b>
15:50-16:30	<b>Alessio Leroose</b> (University of Geneva (Switzerland)) Influence functional approach to quantum many-body dynamics

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