



Synthetic Topological Matter

INTERNATIONAL WORKSHOP
Vancouver, BC, February 18-20, 2019

VENUE

All talks will take place in room 120, Aquatic Ecosystems Research Laboratory (AERL) on The University of British Columbia Vancouver Campus. Registration, coffee breaks and lunches will take place in the lobby of the same building.

WORKSHOP SCHEDULE

Monday (Feb. 18)

8:30 Registration begins
8:50-9:00 Introduction and Welcome by SBQMI Director Andrea Damascelli

9:00-9:30 Jason Alicea (Caltech) *"Time-crystalline topological superconductors"*

9:30-10:00 Netanel Lindner (Technion) *"Phase Transitions and Topological Transport in Floquet-Bloch Systems"*

10:00-10:30 Mark Rudner (Copenhagen) *"Spontaneous non-equilibrium magnetism via 'Berryogenesis' in driven electronic systems"*

10:30-11:00 Coffee Break

11:00-11:30 Sid Parameswaran (Oxford) *"Floquet Quantum Criticality"*

11:30-12:00 Joel Moore (Berkeley, LBNL) *"Topological aspects of electromagnetic response in metals"*

12:00-13:30 Lunch

13:30-14:00 Babak Seradjeh (Indiana) *"Higher-Order Floquet Topological Phases with Corner and Bulk Bound States"*

14:00-14:30 Mohammad Hafezi (JQI) *"Quantum topological photonics"*

14:30-15:00 Ivar Martin (Argonne) *"Photon Pumps"*

15:00-15:30 Coffee Break

- 15:30-16:00 David Shuster (Chicago) *“Towards interacting topological states of light with microwave photons”*
- 16:00-16:30 Shanhui Fan (Stanford) *“Exploring topological physics in synthetic dimension using a ring resonator”*
- 16:30-17:00 Thomas Christensen (MIT) *“Non-Abelian Berry phases in topological photonics”*

17:30 Dinner (self organized)

Tuesday (Feb. 19)

- 9:00-9:30 Chiara Daraio (Caltech) *“Tunable, on-chip phononic devices operating at MHz frequencies”*
- 9:30-10:00 Romain Fleury (EPFL) *“From Non-reciprocal Acoustic Meta-Atoms to Time-Floquet Acoustic Topological Insulators”*
- 10:00-10:30 Michel Fruchart (Leiden) *“Non-Abelian sound in mechanical metamaterials”*

10:30-11:00 Coffee Break

- 11:00-11:30 Jinkyu Yang (Washington) *“Topological Manipulation of Stress Waves in 1D and 2D Mechanical Lattices”*
- 11:30-12:00 Justin Song (Singapore) *“Topological plasmonics and hidden ‘spin’ structure of plasmons”*

12:00-13:30 Lunch

13:30-15:00 Free afternoon

15:00-15:30 Coffee Break

- 15:30-16:00 Gregory Fiete (Austin) *“Topological magnon bands and effective Hamiltonians for periodically driven systems”*
- 16:00-16:30 Victor Galitski (Maryland) *“Superconducting polaritons and s+id superconductivity in quantum cavities”*
- 16:30-17:00 Jeffrey Teo (Virginia) *“Non-Hermitian topological phases with combined antiunitary spatial symmetries”*

18:30 **Workshop Dinner** for invited speakers and guests, “Seasons in the Park” Restaurant (Bus leaves at 17:30 from Forest Sciences Centre, 2424 Main Mall).

Wednesday (Feb. 20)

9:00-9:30 Ronny Thomale (Wurzburg) “*Topoelectrical circuits*”

9:30-10:00 Mikael Rechtsman (Penn) “*Topological photonics: Weyl points, exceptional rings, protected defect modes*”

10:00-10:30 Eran Sela (Tel Aviv) “*Entanglement spectroscopy of non-Abelian anyons*”

10:30-11:00 Coffee Break

11:00-11:30 Tami Pereg-Barnea (McGill) “*Chiral transport and effective non-Hermitian dynamics in a bosonic Kitaev-Majorana chain*”

11:30-12:00 Yuval Oreg (Weizmann) “*Emergent supersymmetry in a chain of Majorana Cooper pair boxes*”

12:00-13:30 Lunch

13:30 Departure