# Symmetric Mass Generation, Topological Phases and Lattice Chiral Gauge Theories: May 20-24, 2024

# Events for: Monday, May 20th - Friday, May 24th

### Monday, May 20th

8:30am Breakfast - SCGP Cafe

9:30am Workshop: David Kaplan - SCGP 103

Speaker: David Kaplan

**Title:** Chiral Gauge Theory at the Boundary between Topological Phases

10:30am Coffee Break - SCGP Cafe

11:00am Workshop: Yigal Shamir - SCGP 103

Speaker: Yigal Shamir

**Title:** Conserved currents in five-dimensional proposals for lattice chiral gauge theories

11:30am Workshop: Maarten Golterman - SCGP 103

Speaker: Maarten Golterman

**Title:** Propagator zeros and lattice chiral gauge theories

12:00pm Lunch - SCGP Cafe

1:30pm Workshop: Shu-Heng Shao - SCGP 103

Speaker: Shu-Heng Shao

Title: Non-invertible and chiral symmetries

2:30pm Workshop: Srimoyee Sen - SCGP 103

Speaker: Srimoyee Sen

Title: Weyl fermions on a finite lattice

3:30pm Tea Time - SCGP Cafe

4:00pm Workshop: Diego Delmastro - SCGP 103

Speaker: Diego Delmastro

Title: Boundaries, Anomalies, Scattering

## Tuesday, May 21st

8:30am Breakfast - SCGP Cafe

9:30am Workshop: Cenke Xu - SCGP 103

**Speaker:** Cenke Xu

**Title:** Various aspects of symmetric mass generation (Chalk talk)

10:45am Coffee Break - SCGP Cafe

11:00am Workshop: Gertian Roose - SCGP 103

Speaker: Gertian Roose

Title: Tensor networks for lattice field theory

11:30am Workshop: Laurens Lootens - SCGP 103

**Speaker:** Laurens Lootens

Title: Tensor networks for generalized symmetries, duality and chiral fermions

12:00pm Workshop: Group Photo - SCGP Lobby

Title: Group Photo

12:00pm Lunch - SCGP Cafe

1:30pm Workshop: Dachuan Lu - SCGP 103

Speaker: Dachuan Lu

Title: Generalized lattice gauging

2:00pm Workshop: Yi-Zhuang You - SCGP 103

Speaker: Yi-Zhuang You

**Title:** Gauge response of Green's function zeros

2:30pm Workshop: Xiao-Gang Wen - SCGP 103

**Speaker:** Xiao-Gang Wen

**Title:** Three approaches to chiral fermion problem via mirror fermions: composite fermion,

anomaly, and non-linear sigma model

3:30pm Tea Time - SCGP Cafe

4:00pm Workshop: Discussion - SCGP 103

**Title:** Workshop Discussion Session

#### Wednesday, May 22nd

8:30am Breakfast - SCGP Cafe

9:30am Workshop: Simon Catterall - SCGP 103

Speaker: Simon Catterall

Title: Exact lattice anomalies and SMG for Kaehler-Dirac fermions

10:30am Coffee Break - SCGP Cafe

11:00am Workshop: Nouman Butt - SCGP 103/ZOOM

Speaker: Nouman Butt

**Title:** SMG in four dimensional staggered fermion models

11:30am Workshop: Anna Hasenfratz - SCGP 103

Speaker: Anna Hasenfratz

**Title:** Phase structure of 8 flavor SU(3) gauge theory

12:00pm Lunch - SCGP Cafe

1:30pm Workshop: Juven Wang - SCGP 103

**Speaker:** Juven Wang

**Title:** Generation Puzzle (3 = 48/16 = 45/15 = 24/8) and Strong CP Puzzle

2:30pm Workshop: Phillip Boyle Smith - SCGP 103

**Speaker:** Phillip Boyle Smith

Title: SMG=MG

3:30pm Tea Time - SCGP Cafe

4:00pm Workshop: Yoshio Kikukawa - SCGP 103

Speaker: Yoshio Kikukawa

**Title:** The integrability of chiral determinant in anomaly-free chiral lattice gauge theories

6:00pm Workshop: Dinner Banquet - SCGP Cafe

**Title:** Banquet Dinner

#### Thursday, May 23rd

8:30am Breakfast - SCGP Cafe

9:30am Workshop: Theo Jacobson - SCGP 103

**Speaker:** Theo Jacobson

**Title:** Modified Villain Hamiltonians and Lattice Chern-Simons Theory

10:30am Coffee Break - SCGP Cafe

11:00am Workshop: Aleksey Cherman - SCGP 103

**Speaker:** Aleksey Cherman

**Title:** Exact lattice chiral symmetry in 2d gauge theory

12:00pm Lunch - SCGP Cafe

1:30pm Workshop: Hersh Singh - SCGP 103

**Speaker:** Hersh Singh

**Title:** Fermionic anomalies on the lattice: the Ginsparg-Wilson relation and its generalizations

2:30pm Workshop: Emily Huffman - SCGP 103

**Speaker:** Emily Huffman

**Title:** Conformally Symmetric Views from a Fuzzy Sphere

3:30pm **Tea Time - SCGP Cafe** 

4:00pm Workshop: Yuta Hamada - SCGP 103

**Speaker:** Yuta Hamada

Title: Monopole-fermion scattering and flavor hierarchy

### Friday, May 24th

8:30am Breakfast - SCGP Cafe

9:30am Workshop: Seth Koren - SCGP 103

Speaker: Seth Koren

Title: Generalized Global Symmetries and Nonperturbative Quantum Flavodynamics

10:30am Coffee Break - SCGP Cafe

11:00am Workshop: Yuri Shirman - SCGP 103

**Speaker:** Yuri Shirman

**Title:** Chirality changing RG flows: dynamics and models

12:00pm Lunch - SCGP Cafe