

# Graduate Summer School: Mathematics of Topological Phases of Matter

August 29 - Sep 3, 2021

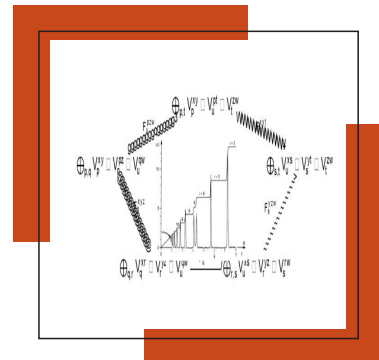
## Scientific Overview

The application of topology to physics has become an integral part of a second quantum revolution in the sciences. The discovery of topological insulators and progress towards topological superconductors realizing non-abelian statistics has moved topological phases of matter onto the center stage in the interaction of topology and physics beyond the quantum Hall effect. While topological physics has been intensively investigated by physicists for the last few decades, the mathematical theory lags far behind. One challenge is formulating the right definition of topological phases of matter, which is closely related to the notoriously difficult problem of finding a rigorous mathematical formulation of quantum field theory.

This summer school will include a poster session; a request for posters will be sent to registered participants in advance of the summer school.

## Participation

Additional information about this workshop including links to register and to apply for funding, can be found on the webpage listed below. Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission, and we welcome their applications.



## Organizers

Colleen Delaney (UCSB), Michael Freedman (Microsoft Research), Matthew Hastings (Microsoft Research) and Zhenghan Wang (Microsoft Research).

## Speakers

Fiona Burnell (University of Minnesota, Twin Cities), Xie Chen (California Institute of Technology), Colleen Delaney (UCSB), Lukasz Fidkowski (University of Washington), Michael Freedman (Microsoft Research), Jeongwan Haah (Microsoft Research), Matthew Hastings (Microsoft Research), Dmitri Nikshych (University of New Hampshire), Eric Rowell (Texas A&M University), Nathan Seiberg (Institute for Advanced Study) and Zhenghan Wang (Microsoft Research).

