

Marcello Porta-”Quantum Statistical Mechanics”

Wednesday, December 3, 2025 12:40 PM (55 minutes)

In this talk I will discuss the rigorous study of problems in quantum statistical mechanics, motivated by condensed matter physics. I will focus on the integer quantum Hall effect, a paradigmatic example of topological transport phenomenon, which motivated a lot of research both in physics and in mathematics in the last 40 years. I will give an introduction to the phenomenon, to its mathematical formulation, and to some of the mathematical methods used in its rigorous analysis.