

## **Seminar**

# **Quantized Heat Flow in Quantum Hall States in Graphene**

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Topological electronic phases are often characterised by quantized transport coefficients. A well-known example of this is the quantum Hall (QH) phases, in which both electrical and thermal conductance become quantized. While the quantization of electrical Hall conductance has been confirmed for decades, the experimental demonstration of quantized heat flow has only recently emerged. In this talk, I will discuss the initial set of experiments focused on studying quantized heat flow in quantum Hall phases realised in graphene-based van der Waals heterostructures. First, we will explore the universality of quantized heat flow in both integer and particle-like fractional quantum Hall phases. Later, we will delve into our research on the complex hole conjugate fractional quantum Hall phases, which have inspired new experimental approaches and theoretical ideas to better understand the physics of complex fractional quantum Hall phases. If time allows, I will also discuss our research on the bulk thermal transport of the  $\nu=0$  state in bilayer graphene during the final part of the talk. This work aims to explore its ground states and the collective excitations related to isospin.

***Tuesday, Feb 24<sup>th</sup> 2026***

***16:00 Hrs (Tea / Coffee 15:45 Hrs)***

***Seminar Hall, TIFRH***