

# Chez Pierre

Presents ...

Monday, November 18, 2024

12:00 pm -1:00 pm

Duboc Room – 4-331



## Chez Pierre Seminar

**Yuval Ronen, Weizmann Institute of Science**

### **“Anyons in van der Waals materials”**

Anyons are quasi-particles that exhibit exchange statistics distinct from those of fermions and bosons. These exotic particles can be realized within the framework of the fractional quantum Hall effect, representing a highly coveted goal in condensed matter physics. In this talk, I will review our group's recent advancements in studying anyons within bilayer graphene-based van der Waals heterostructures. The first part will focus on our investigation of the exchange statistics of Abelian anyons [1]. In the second part, I will present a detailed topological order study of various non-Abelian states [2].

[1] J. Kim, *et al.*, Nature Nanotechnology (2024)

[2] R. Kumar, A. Haug, *et al.*, arXiv: 2405.19405