



## Physical Sciences Seminar

# Magnonic superconductivity

**Khachatur Nazaryan**

MIT

Host: Maksym Serbyn

We uncover a new superconducting state with partial spin polarization induced by a magnetic field. This state, which we call "magnonic superconductor", lacks a conventional pairing order parameter, but is characterized instead by a composite order parameter that represents the binding of electron pairs and magnons. We rigorously demonstrate the existence of magnonic superconductivity with high transition temperature in one- and two-dimensional Hubbard models with repulsive interaction. We further show that magnonic Cooper pairs can attract to form higher-charge bound states, which can give rise to charge-6e superconductivity.

**Friday, July 26, 2024 11:00am - 12:00pm**

Office Building West/Ground Floor/Heinzel Seminar Room



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station. Please find a schedule of the ISTA Shuttle on our webpage: <https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.