

# F-5 SEMINAR



## CONDENSED MATTER PHYSICS



*Friday, March 31, 2023  
at 10:30 AM*

*in the seminar room of physics (room 106)  
Condensed Matter Physics, Jožef Stefan Institute*

***Tina Arh, MSc.***

*Jožef Stefan Institute, Ljubljana*

### **Experimental signatures of a quantum spin liquid: the case of neodymium heptatantalate**

A quantum spin liquid is a magnetically disordered phase of matter that shows quantum behaviour at the macroscopic scale. Despite that, the existence of such a phase is notoriously hard to prove experimentally. Recently, our efforts in this area have been focused on a family of rare-earth heptatantalates that crystallize into layers of magnetic ions on a triangular lattice. On such a lattice, geometrical frustration drives the system towards a disordered state. I will present some recent results that suggest that neodymium heptatantalate  $\text{NdTa}_7\text{O}_{19}$  hosts a quantum spin liquid state with the exchange interaction characterized by strong Ising anisotropy.

***You are cordially invited to attend.***