

# 2023 IBS-CALDES Special Seminar



✓ **Speaker : Dr. Suheon Lee**

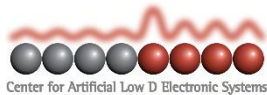
(INAP\_Center for Integrated Nanostructure Physics\_IBS/SKKU)

✓ **Venue : Seminar Room 302, Science Building #3**

✓ **Date & Time : 2:00PM, January 26(Thur), 2023**

✓ **Title : Kondo screening in a Majorana metal**

Kondo impurities provide a nontrivial probe to reveal the underlying gauge and topological character of a quantum spin liquid. In the  $S=1/2$  Kitaev model on the honeycomb lattice, Kondo impurities embedded in the spin-liquid host can be screened by binding them to gauge fluxes. Here, we present experimental signatures of metallic-like Kondo screening at intermediate temperatures in the Kitaev honeycomb material  $\alpha$ - $\text{RuCl}_3$  with dilute  $\text{Cr}^{3+}$  ( $S=3/2$ ) impurities. The linear temperature dependence of the magnetic specific heat shows the metallic transport of Majorana fermions. The static magnetic susceptibility, the muon Knight shift, and the muon spin-relaxation rate feature logarithmic divergence, a hallmark of the Kondo effect. These observations suggest the Kondo screening emergent from a Majorana metal, opening new avenues for unexplored Kondo physics in charge-insulating quantum magnets.



Organized by Director Han Woong Yeom (yeom@postech.ac.kr, 054-279-2091)