

# International Workshop

## *Computational Approaches to Magnetic Systems*

*February 18 - 20, 2025*

# Program

## Tuesday, February 18

09:40 – 10:40 Registration

10:40 – 10:50 Opening address

10:50 – 11:30 Myung Joon Han, KAIST, Korea  
*Anisotropic Spin Hamiltonian Generalized for NiPS3*

11:30 – 12:10 Sooran Kim, Kyungpook National University, Korea  
*Machine Learning Prediction Models for Solid Electrolytes  
Based on Lattice Dynamics Properties*

12:10 – 13:40 Lunch

13:40 – 14:20 Siheon Ryee, University of Hamburg, Germany  
*Bilayer Nickelate Superconductor: A Cluster Dynamical  
Mean-Field Theory-Based Perspective*

14:20 – 15:00 Minkyu Park, KRISS, Korea  
*Off-Stoichiometric Surface Reconstruction and Absence of  
Altermagnetism in RuO<sub>2</sub>*

15:00 – 15:30 Coffee Break & Discussions

15:30 – 16:10 Biplab Sanyal, Uppsala University, Sweden  
*Ab Initio Study of Magnetism and Spin Transport in Two-  
Dimensional Metallic Ferromagnets (Online)*

16:10 – 16:50 Corina Etz, Luleå University of Technology, Sweden  
*Magnetic Excitations in Fe-Ga Systems (Online)*

16:50 – 18:00 Discussions

18:00 – 21:00 Dinner

## Wednesday, February 19

- 09:10 – 09:50 Choong Hyun Kim, KIAS, Korea  
*Exploring Metal-Insulator Transitions: Hund's Coupling, Structural Distortions, and Novel Electronic Phases*
- 09:50 – 10:30 Igor Di Marco, Nicolaus Copernicus University, Poland  
*Magnetic Adatoms and Charge-Density Waves in 2H-NbSe<sub>2</sub>*
- 10:30 – 11:00 Coffee Break & Discussions
- 11:00 – 11:40 Anna Delin, KTH, Sweden  
*Spin Textures, Dynamics and Magnon Transport in Low-Dimensional Materials*
- 11:40 – 12:20 Kyoung-Whan Kim, Yonsei University, Korea  
*Electrical Manipulation of Magnetization by Asymmetric van der Waals Heterostructures*
- 12:20 – 13:50 Lunch
- 14:00 – 14:40 Weiwei Sun, Southeast University, Nanjing, China  
*FeSe-like 2D Transition Metal Borides and CrB Derived Altermagnet Electrode induced Giant Tunneling Magnetoresistance*
- 14:40 – 15:20 Alexander Edstrom, KTH, Sweden  
*Multiscale Magnetoelectricity of Topological Solitons in 2D Magnets*
- 15:20 – 15:30 Group picture
- 15:30 – 17:30 Poster Session
- 17:30 – 18:00 Coffee Break & Discussions
- 18:00 – 20:00 Banquet

## Thursday, February 20

- 09:10 – 09:50 Hongkee Yoon, Kangwon National University, Korea  
*Recent Developments in `Jx` Code for the Magnetic Force Theory: Methodological Updates and Applications*
- 09:50 – 10:30 Dhani Nafday, KTH, Sweden  
*Magnetic Exchange Interactions Under Strain in Oxides Materials*
- 10:30 – 11:00 **Coffee Break & Discussions**
- 11:00 – 11:40 Sun-Woo Kim, University of Cambridge, UK  
*Competing Charge Density Waves and Their Manipulation in Kagome Metals*
- 11:40 – 12:20 Changwon Park, KIAS, Korea  
*Origin of Multiple Charge Density Wave Phase Transitions in TMDC*
- 12:20 – 13:50 **Lunch**
- 13:50 – 14:30 Naoya Iwahara, Chiba University, Japan  
*Cooperative Dynamic Jahn-Teller Effect in Spin-Orbit Mott Insulators*
- 14:30 – 15:10 Taekoo Oh, RIKEN CEMS, Japan  
*Phonon Thermal Hall Effect in Mott Insulators via Skew-Scattering by the Scalar Spin Chirality*
- 15:10 – 15:20 Scientific Coordinators  
**Closing Remark**