

Workshop on Altermagnets and School on Magnetic Symmetry 交磁体和磁对称研讨会 Shanghai 2025 上海大学

Scientific Program

Sunday, June 22nd – Arrival (Registration, E106, Baoshan Campus, Shanghai University)

Monday, June 23rd – Workshop (J202, Baoshan Campus, Shanghai University)

- 08:00–09:00 – Opening + Group Photo

Session 1 (Chair: Qihang Liu)

- 09:00–10:00 – **Libor Šmejkal** – Altermagnetism: From Spin Symmetries to Experimental Observations and Applications
- 10:00–10:30 – **Congjun Wu** – Unconventional Magnetism
- 10:30–11:00 – Coffee Break

Session 2 (Chair: Libor Šmejkal)

- 11:00–11:30 – **Cheng Song** – Manipulation of the altermagnetic order via crystal symmetry
- 11:30–12:00 – **Chang Liu** – Recent Progress on the ARPES study of Spin-split Antiferromagnets
- 12:00–12:30 – **Dawei Shen** – Electronic Structure Studies on Altermagnetic Candidates: CrSb and RuO₂
- 12:30–14:30 – Lunch (3rd Floor, Yixin Canteen, Baoshan Campus, Shanghai University)

Session 3 (Chair: Alessandro Stroppa)

- 14:30–15:00 – **Manuel Perez-Mato** – Spin-orbit-free tensor properties of magnetic materials. An application of spin point groups as approximate symmetries
- 15:00–15:30 – **Sang-Wook Cheong** – Altermagnetism for Experimentalists
- 15:30–16:00 – **Sang-Wook Cheong** – Kinetomagnetism and altermagnetism
- 16:00–16:30 – Coffee Break

Session 4 (Chair: Manuel Perez-Mato)

- 16:30–17:00 – **Hikaru Watanabe** – Symmetry-wise disentanglement of spin and orbital degrees of freedom in physical phenomena
- 17:00–17:30 – **Yang Gao** – Anisotropy in the anomalous Hall effect from spin-group symmetry breaking
- 17:30–18:00 – **Junwei Liu** – Novel properties due to crystal symmetry in altermagnets
- 18:00–18:30 – **Xiaobing Chen** – Unconventional magnons in collinear magnets dictated by spin space groups
- 18:30–20:00 – Dinner (3rd Floor, Yixin Canteen, Baoshan Campus, Shanghai University)
- 20:00–21:30 – Informal Discussions (Room 510, Building 7, Materials Genome Institute, Baoshan Eastern Campus, Shanghai University)

Tuesday, June 24th – Workshop (J202, Baoshan Campus, Shanghai University)

Session 1 (Chair: Cheng Song)

- 08:30–09:00 – **Kaiyou Wang** – Symmetry breaking on field-free current-induced magnetization switching
- 09:00–09:30 – **Mathias Kläui** – Altermagnets: Combining the best of all worlds
- 09:30–10:00 – **Juan Jose Palacios Burgos** – Building unconventional magnetic phases on graphene by H atom manipulation: From altermagnets to Lieb ferrimagnets
- 10:00–10:30 – Coffee Break

Session 2 (Chair: Congjun Wu)

- 10:30–11:00 – **Xiangang Wan** – Revealing Spin and Spatial Symmetry Decoupling: New Insights into Magnetic Systems with Dzyaloshinskii-Moriya Interaction
- 11:00–11:30 – **Zhida Song** – Spin Space Groups: Full Classification and Applications
- 11:30–12:00 – **Zheng-Xin Liu** – Symmetry Invariants and Quasiparticles having Spin Group Symmetries
- 12:00–14:00 – Lunch (3rd Floor, Yixin Canteen, Baoshan Campus, Shanghai University)

Session 3 (Chair: Sang-Wook Cheong)

- 14:00–14:30 – **Paolo Barone** – The multiferroic route to cross-coupled manipulation of altermagnets
- 14:30–15:00 – **Tong Zhou** – Multiferroic Altermagnets and Their Electric Spin Control
- 15:00–15:30 – **Ding-Fu Shao** – Antiferromagnetic tunnel junctions: Fundamental Principles of Reading and Writing
- 15:30–16:00 – Coffee Break

Session 4 (Chair: Michele Reticcioli)

- 16:00–16:30 – **Yu-Jun Zhao** – Classification and Design of Two-Dimensional Altermagnets
- 16:30–17:00 – **Paolo Radaelli** (online) – Altermagnetism in Technicolor
- 17:00–17:20 – **Yibin Hu** - Hongzhiwei Technology (Shanghai)
- 17:20–18:40 – **TALK SESSION TO BE ASSIGNED (10’): Posters promoted to talks.**
- 18:40–21:30 – Poster Session with Buffet (3rd Floor, Yixin Canteen, Baoshan Campus, Shanghai University)

Wednesday, June 25th – Workshop & School (J202, Baoshan Campus, Shanghai University)

Session 1 (Chair: Wei Ren)

- 08:30–09:00 – **Hyun-Woo Lee** – Harnessing magnetic octupole Hall effect to induce torque in altermagnets
- 09:00–09:30 – **Rafael Gonzalez Hernandez** – Topological Phases in Altermagnets: A Spin Chern Perspective
- 09:30–10:00 – **Cheng-Cheng Liu** – Twisted Magnetic Van der Waals Bilayers: An Ideal Platform for Altermagnetism
- 10:00–10:30 – Coffee Break

Session 2 (Chair: Cheng Tang)

- 10:30–11:00 – **Shan Shan Wang** – Two-dimensional intrinsic altermagnetic monolayer and bilayers
- 11:00–11:30 – **Peng Jie Guo** – Research on the Novel Physical Properties of Altermagnetism
- 11:30–12:00 – **Mengli Hu** – Spin Hall and Edelstein Effects in Novel Chiral Noncollinear Altermagnets
- 12:00–14:00 – Lunch (3rd Floor, Yixin Canteen, Baoshan Campus, Shanghai University)

Session 3 (Chair: Alessandro Stroppa)

- 14:00–15:30 – *School:* **Manuel Perez-Mato** – Magnetic Groups
- 15:30–16:00 – Coffee Break
- 16:00–18:00 – *School:* **Manuel Perez-Mato** – Magnetic Groups
- 18:00–20:00 – Dinner (3rd Floor, Yixin Canteen, Baoshan Campus, Shanghai University)
- 20:00–21:30 – Informal Discussions

Thursday, June 26th – School (J202, Baoshan Campus, Shanghai University)

Session 1 (Chair: Michele Reticcioli)

- 08:30–10:00 – *School:* **Qihang Liu, Xiaobing Chen** – Symmetry Analysis & Spin Group
- 10:00–10:30 – Coffee Break
- 10:30–12:00 – *School:* **Qihang Liu, Xiaobing Chen** – Symmetry Analysis & Spin Group
- 12:00–14:00 – Lunch (3rd Floor, Yixin Canteen, Baoshan Campus, Shanghai University)
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Session 2 (Chair: Alessandro Stroppa)

- 14:00–15:30 – *School:* **Qihang Liu, Xiaobing Chen** – Altermagnetism & Unconventional Magnetism
- 15:30–16:00 – Coffee Break
- 16:00–17:30 – *School:* **Qihang Liu, Xiaobing Chen** – Altermagnetism & Unconventional Magnetism
- 17:30–18:30 – Closing & Student Prize Ceremony
- 18:00–20:00 – Dinner (3rd Floor, Yixin Canteen, Baoshan Campus, Shanghai University)

Friday, June 27th – Departure