

Tohoku University - University of Washington

“Quantum Materials Workshop”

University of Washington

- **Prof. Xiaodong Xu**

“Optical control of quantum anomalous Hall effect”



- **Prof. Di Xiao**

“Projective Construction of Fractional Chern Insulator Wave functions”



- **Prof. Ting Cao**

“Moiré Superlattices and Beyond: AI-Driven First-Principles Modeling and Quantum Computing of Correlated Topological Phases”



Data: June 10th, 9:00 – 18:00

**Place: AIMR main building, 2F Seminar room
at Katahira Campus, Tohoku University**

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Tohoku University-University of Washington Quantum Materials Workshop

Dates: June 10th, 2025

Location: AIMR 2F Seminar room at Katahira Campus, Tohoku University

Speakers:

- Prof. Xiaodong Xu, Prof. Di Xiao and Prof. Ting Cao from University of Washington
- Prof. Yoshihiro Iwasa, Prof. Takafumi Sato, Prof. Makoto Kohda, Prof. Tomoki Ozawa, Prof. Takashi Koretsune, Prof. Tomohiro Ohtsuka, and Prof. Yong P. Chen

June 10th, 2025 : Quantum Materials Workshop,

9:00 - 9:10 Opening

9:10 - 9:50 Prof. Xiaodong Xu, Department of Physics University of Washington
“Optical control of quantum anomalous Hall effect”

9:50 - 10:30 Prof. Yoshihiro Iwasa, Riken/University of Tokyo
“Nonreciprocal transport in 2D/topological materials”

10:30 - 10:50 Break (20 minutes)

10:50 - 11:30 Prof. Di Xiao, MSE University of Washington
“Projective Construction of Fractional Chern Insulator Wave functions”

11:30 - 12:10 Prof. Tomoki Ozawa, AIMR Tohoku University
“Quantum geometry in two-dimensional systems”

12:10 - 13:30 Lunch Break

13:30 - 14:10 Prof. Ting Cao, MSE University of Washington
“Moiré Superlattices and Beyond: AI-Driven First-Principles Modeling and Quantum Computing of Correlated Topological Phases”

14:10 - 14:50 Prof. Takashi Koretsune, Department of Physics Tohoku University
“First principles study of topological materials and surface states using Green's function zeros”

14:50 - 15:30 Prof. Takafumi Sato, AIMR Tohoku University
“Hidden electronic states of quantum materials unveiled by micro/nano-ARPES”

15:30 - 15:50 Break (20 minutes)

15:50 - 16:30 Prof. Makoto Kohda, MSE Tohoku University
“Crystal growth and structural control of group IV monochalcogenide SnS”

16:30 - 17:10 Prof. Tomohiro Ohtsuka, RIEC Tohoku University
“Semiconductor quantum devices based on new quantum materials”

17:10 - 17:50 Prof. Yong P. Chen, Purdue University/AIMR Tohoku University
“Spintronic quantum materials – from unconventional magnets to topological superconductors”

17:50 - 18:00 - Closing Remark