

**ALC-W'25**  
**International Symposium on Atomic Level Characterizations**  
**for New Materials and Devices in Winter 2025**

Furano, January 20(Mon)–24(Fri), 2025

**Symposium Program**

(The slot for each talk includes 3-5 min discussion after the talk.)

**January 20 (Monday)**

(16:30 - 18:00) Registration

(18:10 - 19:50) Opening & Welcome Dinner (Dinner Buffet at 1<sup>st</sup> basement)

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Session 1 (20:00 - 21:20) Chair: Junji Yuhara

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S1-0 (19:59–20:00) Opening Remarks: Teruo Ono

S1-1 (20:00 - 20:30)

**Karl-Heinz Ernst** (Empa) (Invited)

“Two-Dimensional Aperiodic Topological Self-Assembly”

S1-2 (20:30 - 20:50)

**Haruka Komiya** (Institute for Chemical Research, Kyoto University)

“Spin wave nonreciprocity due to asymmetry of propagation length”

S1-3 (20:50 - 21:20)

**Thomas Jung** (Paul Scherrer Institute / University of Basel / Swiss Nanoscience Institute) (Invited)

“Magnetic frustration in an on-surface Kagome metal-organic network”

**January 21 (Tuesday)**

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Session 2 (8:00 - 9:00), Chair: Shangjr (Felix) Gwo

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S2-1 (8:00 - 8:30)

**Michael Altman** (Hong Kong University of Science and Technology) (Invited)

“Atomic Oxidation Pathways to Model Iron Oxide Monolayer and Thin Film Catalysts”

S2-2 (8:30 - 9:00)

**Miyabi Imai-Imada** (RIKEN) (Upgraded)

“Real-time and Real-space Investigations of Exciton Creation and Annihilation Processes in a Single Molecule”

(9:00–16:00) Free Discussion and Lunch

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Session 3 (16:00 - 18:20), Chair: Teruo Ono

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S3-1 (16:00 - 16:30)

**Wulf Wulfhekel** (Karlsruhe Institute of Technology) (Invited)

“A Straight Forward Method to Read the Nuclear Qudit of 4f-SingleMolecular Magnets:  
 $^{163}\text{DyPc}_2$ ”

S3-2 (16:30 – 17:00)

**Shimpei Ono** (Tohoku University) (Upgraded)

“Visualizing Ionic Motion”

S3-3 (17:00 – 17:30) (Invited)

**Shangjr (Felix) Gwo** (National Tsing-Hua University) (Invited)

“Single-Photon Detection Based on Epitaxial Transition-Metal Films”

S3-4 (17:30 – 17:50)

**Hiroshi Daimon** (Institute for Molecular Science)

“3D atomic structure in nano area studied by holography microscope”

S3-5 (17:50-18:20)

**Harald Brune** (EPFL) (Invited)

“Using Surface Science Approaches to create 3D Materials ”

(18:30 – 19:50) Dinner (KITAGUNI)

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Short Presentation & Poster Session (20:00–21:30), Chair: Karl-Heinz Ernst

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P-1 **Yu-Chan TAI (Brian)** (NIMS (Japan), NYCU (Taiwan))

“Quantum Beat Phenomena in Image-Potential States on Graphene/Ir(111)”

P-2 **Daiju Hayashi** (Kyoto University)

“Observation of nonlinear magnon propagation in synthetic antiferromagnets”

P-3 **Ye Feifan** (Kyoto University)

“Data-writing and shifting processes toward a vertical domain wall motion memory  
with perpendicular magnetic anisotropy”

P-4 **Soshun Inoue** (Osaka University)

“Theoretical study of novel efficient photoelectric conversion driven by the coherence  
of metallic elementary excitations”

P-5 **Kotaro Taga** (Kyoto University)

“Quantitative evaluation of the coupling between spin wave and surface acoustic wave  
in NiFe thin films”

P-6 **Kawa Noman** (Technical University of Kaiserslautern-Landau)

“Efficient excitation of surface-acoustic waves with impedance-matched IDTs”

## January 22 (Wednesday)

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Session 4 (8:00 - 9:20), Chair: Hiroshi Daimon

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S4-1 (8:00 - 8:30)

**Hugo Dil** (EPFL) (Invited)

“Spin degeneracy lifting in antiferromagnetic MnTe”

S4-2 (8:30 - 8:50)

**Yamada Toyokazu** (Chiba University)

“On-Surface Synthesis of 2D Organic Qubit Arrays”

S4-3 (8:50 - 9:20)

**Masaki Mizuguchi** (Nagoya University) (Upgraded)

“Thermo-spin effect in nanostructured materials”

(9:20 – 16:00) Free Discussion and Lunch

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Session 5 (16:00 - 18:00), Chair: Hugo Dil

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S5-1 (16:00 - 16:30)

**Friedrich Aumayr** (TU Wien - Vienna) (Invited)

“What can be learned from electrons emitted or captured during highly charged ion transmission through 2D Materials?”

S5-2 (16:30 - 16:50)

**Kazuyuki Sakamoto** (Osaka University)

“Electronic structure of a nitride superconductor TiN thin film”

S5-3 (16:50 - 17:20)

**Canhua Liu** (Shanghai Jiao Tong University) (Invited)

“Phase Fluctuations in Superconducting Ultrathin Pb films on Si(111)”

S5-4 (17:20-17:40)

**Akari Takayama** (Waseda University)

“Investigation of the structural and electronic properties of B/Al(111) using electron, positron and photon beam in concert”

S5-5 (17:40-18:00)

**Artem Odobesko** (University of Würzburg)

“Probing chiral symmetry with a topological domain wall sensor”

(18:10 – 19:50) Dinner (Karamatsu at 12<sup>th</sup> floor)

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Session 6 (20:00 - 21:30), Chair: Thomas Greber

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S6-1 (20:00 - 20:30)

**Ulrich Höfer** (Philipps-Universität Marburg) (Invited)

“Subcycle dynamics of Floquet-Bloch bands”

S6-2 (20:30 - 20:50)

**Tadahiro Komeda** (Tohoku University)

“TbPc<sub>2</sub> and YPc<sub>2</sub> Molecules Adsorbed on Superconducting Pb(111) Surface”

S6-3 (20:50 - 21:20)

**Ari Paavo Seitsonen** (École Normale Supérieure) (Upgraded)

“Growth of high quality hexagonal boron nitride (h-BN) on surfaces of transition metals”

S6-4 (21:20 – 21:40)

**Saumya Mukherjee** (SPECS GmbH) (Online)

“New Developments in Momentum Microscope and ARPES analysers”

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January 23 (Thursday)

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Session 7 (8:00 - 9:10), Chair: Masaki Mizuguchi

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S7-1 (8:00 - 8:30)

**Thomas Greber** (University of Zurich) (Invited)

“Electric field control of Ce<sup>3+</sup>-Ti<sup>3+</sup> dimers in C<sub>80</sub>”

S7-2 (8:30 - 8:50)

**Imada Hiroshi** (Gwangju Institute of Science and Technology)

“Single-molecule manipulation with a laser-combined STM”

S7-3 (8:50 - 9:10)

**Junji Yuhara** (Nagoya University)

“Continuous growth of Germanene and Stanene lateral heterostructures”

(9:10 – 16:00) Free Discussion and Lunch

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Session 8 (16:00 - 17:50), Chair: Friedrich Aumayr

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S8-1 (16:00 - 16:30)

**Igor Zutic** (University at Buffalo) (Invited)

“All-Epitaxial Magnetic Junctions: From Helicity Reversal to Triplet Superconductivity”

S8-2 (16:30 - 16:50)

**Teruo Ono** (Kyoto University)

“3D domain wall motion memory with artificial ferromagnet”

S8-3 (16:50 - 17:20)

**Chun-Liang Lin** (National Yang Ming Chiao Tung University) (Upgraded)

“Evolution of Moiré Superlattice under Magnetic Field”

S8-4 (17:20-17:50)

**Yukio Hasegawa** (University of Tokyo) (Upgraded)

“2D superconductivity vs. disorder: monolayer superconducting Pb on vicinal substrates”

(18:00 – 19:50) (Dinner Buffet at 1<sup>st</sup> basement)

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Session 9 (20:00 - 20:51), Chair: Michael Altman

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S9-1 (20:00 - 20:30)

**Olena Tkach** (Institut für Physik, Johannes Gutenberg-Universität) (Invited)

“Combined Hemisphere and Time of Flight Momentum Microscope”

S9-2 (20:30 - 20:50)

**Shuji Hasegawa** (University of Tokyo)

“Superconductivity and Magnetism at Yb-Intercalated Graphene”

S9-3 (20:50–20:51) Closing Remarks: Junji Yuhara

**January 24 (Friday)**

(10:00) Checkout & Departure