

Draft

Detailed Program of Zuoz Camp 2023

Sunday, August 6, 2023

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| 16.00 – 20.00 | Registration |
| 18.30 – 21.00 | Buffet Dinner |

Registration for those arriving later in the week at the secretary's office (Room No 102, follow the signs)

Monday, August 7, 2023

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| 07.30 – 08.45 | Breakfast |
| 2D magnetism and spin liquids Chair: Michel Kenzelmann | |
| 08.45 – 09.00 | Welcome and Opening of the Camp Michel Kenzelmann |
| 09.00 – 09.45 | Using muons to probe quantum entanglement and spin liquids Stephen Blundell |
| 09.45 – 10.30 | van der Waals magnets: neutron and synchrotron Je-Geun Park |
| 10.30 – 11.00 | coffee break |
| 11.00 – 11.45 | Numerical Studies of Quantum Spin Liquids Andreas Läuchli |
| 11.45 – 13.00 | Lunch at the Lyceum |
| Time-dependence in 2D quantum materials Chair: Simon Gerber | |
| 14.00 – 14.45 | Nonequilibrium Quantum Magnetism Bruce Normand |
| 14.45 – 15.30 | Ultrafast linear and nonlinear transport on chip Eryin Wang |
| 15.30 – 16.00 | coffee break |
| 16.00 – 16.45 | Engineering quantum geometry and light matter interactions at oxide interfaces Andrea Caviglia |
| | Short break |
| 17.30 – 20.00 | posters with standing dinner |

Tuesday, August 8, 2023

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| 07.00 – 08.00 h | Breakfast |
| Novel methods for the study of 2D materials Chair: Markus Müller | |
| 08.00 – 08.45 | Quantum microscopy on 2D magnets Jörg Wrachtrupp |
| 08.45 – 09.30 | Illuminating Atomic-Scale Devices: 2D Electron Systems in Traditional Semiconductors Steven Schofield |
| 09.30 – 10.00 | coffee break |
| 10.00 – 10.45 | Imaging quantum materials with scanning SQUID microscopy Beena Kalisky |
| 10.45 – 15.30 | long break for sports |
| 11.30 – 13.00 | Lunch at Lyceum |
| Magnetism in two dimensions Chair: Aline Ramires | |
| 15.30 – 16.15 | Spin dynamics in the triangular lattice: the case of delafossites Stanislav Nikitin |
| 16.15 – 16.45 | coffee break |
| 16.45 – 17.30 | Next Level 2D Quantum Materials Xavier Roy |
| 17.30 – 18.15 | Non-equilibrium dynamics of thin film perovskites and its interfaces Urs Staub |
| 18.30 | Regular Dinner |

Wednesday, August 9, 2023

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| 07.00 – 08.00 h | Breakfast |
| Devices using two dimensional materials Chair: Zurab Guguchia | |
| 08.00 – 08.45 | The conspicuous case of 1T-TaS₂: from polaron condensation to x-ray modulators Dragan Mihailovic |
| 08.45 – 09.30 | 2D materials and heterostructures at the atomic scale Adina Luican-Mayer |
| 09.30 – 10.00 | coffee break |
| 10.00 – 10.45 | Explorations from electric controlled ferroics/multiferroics to emergent transition metal oxide monolayers (Helen) Qing He |
| 10.45 – 15.30 | long break for sports |

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| 11.30 – 13.00 | Lunch at Lyceum |
| Twisted bilayers and freestanding heterostructures Chair: Milan Radovic | |
| 15.30 – 16.15 | Advances and Future Prospects in Interfaces engineering and Freestanding Oxide Films Nini Pryds |
| 16.15 – 16.45 | coffee break |
| 16.45 – 17.30 | Emergent topological properties of twisted graphene devices Dmitri Efetov on zoom |
| 17.30 – 18.15 | The Quantum Twisting Microscope Shahal Ilani |
| 18.30 – 21.00 | posters with standing dinner |

Thursday, August 10, 2023

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| 07.00 – 08.00 h | Breakfast |
| Superconductivity in 2D materials Chair: Shih-Wen Huang | |
| 08.00 – 08.45 | Flat bands and superconductivity in graphene-based materials Annica Black-Schaffer |
| 08.45 – 09.30 | Tuning and understanding the intertwined phases in quasi-2D superconductors: the case of La-based cuprate and V-based kagome materials Zurab Guguchia |
| 09.30 – 10.00 | coffee break |
| 10.00 – 10.45 | Natural Superlattice Approaches to 2D materials Joseph Checkelsky |
| 10.45 – 15.30 | long break for sports |
| 11.30 – 13.00 | Lunch at Lyceum |
| CDW, SDW and superconducting instabilities in 2D Chair: Michel Kenzelmann | |
| 15.30 – 16.15 | Resonant Inelastic X-ray Scattering on 2D Materials: Nematic Spin Correlations in FeSe and Observation of the Flat Magnon Band in a Ferromagnetic Kagome Metal Thorsten Schmitt |
| 16.15 – 16.45 | coffee break |
| 16.45 – 17.30 | Photoemission spectroscopy of CDW and SDW phases in low dimensional materials Claude Monnet |
| 17.30 – 18.15 | Superconductivity in layered materials Aline Ramires Neves de Oliveira |
| 18.30 | Apéro and Camp Dinner |

Friday, August 11, 2023

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| <i>07.30 – 09.00 h</i> | <i>Breakfast</i> |
| Topological transport and electronic structure in the 2D limit Chair: Alex Amato | |
| 9.00 – 9.45 | Transport and thermodynamic studies of microstructures quantum materials Andrew McKenzie |
| 9.45 – 10.30 | STM spectroscopy of monolayer chalcogenide and dichalcogenide films: superconductors and quantum spin Hall systems Vidya Madhavan |
| <i>10.30 – 11.00</i> | <i>coffee break</i> |
| 11.00 – 11.45 | van der Waals magnets: An ARPES perspective Ming Yi |
| <i>11.45 – 12.00</i> | <i>Closing of the Camp</i> |
| <i>12.00 – 13.30</i> | <i>Lunch at Lyceum</i> |
| | Individual departure |