

## Daily Programme Tuesday 8<sup>th</sup> May 2018

Villigen PSI 5232, Room WBGB/019

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|----------------------|---|---|
| <b>08:00 – 08:30</b> | <b>Local Supports</b>                               | <b>Registration</b>   |
| <b>08:30 – 08:40</b> | <b>Joël Mesot &amp; Gabriel Aeppli</b>              | <b>Welcome</b>  |
| <b>08:40 – 10:20</b> | <b>Session 1</b>                                    | <b>Chair: Frithjof Nolting</b>  |
| 08:40 – 09:05        | <i>Enge Wang (CAS)</i>                              | Full Quantum Nature of Water on Surface   |
| 09:05 – 09:30        | <i>Aharon Kapitulnik (Stanford Uni.)</i>            | The Superconductor-Insulator Transition in two-dimensions: Phases and unique Symmetries                                     |
| 09:30 – 09:55        | <i>Markus Müller (PSI)</i>                          | Coherent oscillators and spectral hole-burning in rare earth magnets  |
| 09:55 – 10:20        | <i>Phil Willmott (PSI)</i>                          | SLS 2.0 The Science Case  |
| 10:20 – 10:50        |   | Coffee Break  |
| <b>10:50 – 12:30</b> | <b>Session 2</b>                                    | <b>Chair: Yayu Wang</b>   |
| 10:50 – 11:15        | <i>Guoqiang Yang (Institute of Chemistry, CAS)</i>  | Molecular Glass Photoresists with High Resolution, Low LER and High Sensitivity for EUV Lithography                         |
| 11:15 – 11:40        | <i>Fuhua Yang (Institute of Semiconductor, CAS)</i> | Dopant atoms as quantum components in silicon nanoscale devices   |
| 11:40 – 12:05        | <i>Yongzheng Wen (Tsinghua Uni.)</i>                | Artificial optical nonlinearity generated by metamaterial   |
| 12:05 – 12:30        | <i>Milan Radovic (PSI)</i>                          | Create and Control Properties of Transition Metal Oxides: Spectroscopy on hetero-structures                                 |
| 12:30 – 14:00        |   | Lunch   |
| <b>14:00 – 15:40</b> | <b>Session 3</b>                                    | <b>Chair: Christopher Mudry</b>   |
| 14:00 – 14:25        | <i>Jean-Marc Triscone (Uni. of Geneva)</i>          | Magnetic properties of nickelate films and nickelate based heterostructures   |
| 14:25 – 14:50        | <i>Jean-Philippe Brantut (EPFL)</i>                 | Quantum transport experiments with cold atoms   |
| 14:50 – 15:15        | <i>Shancai Wang (Remin Uni. of China)</i>           | The extremely large magnetoresistance and its electronic structure  |
| 15:15 – 15:40        | <i>Urs Staub (PSI)</i>                              | Quantifying atomic motions with ultrashort x-ray pulses   |
| 15:40 – 16:10        |   | Coffee Break  |
| <b>16:10 – 17:50</b> | <b>Session 4</b>                                    | <b>Chair: Huiqiu Yuan</b>   |
| 16:10 – 16:35        | <i>T. Maurice Rice (ETHZ)</i>                       | Umklapp scattering as the origin of T-linear resistivity in the normal state of high-T <sub>c</sub> cuprate superconductors |
| 16:35 – 17:00        | <i>Johan Chang (Uni. of Zurich)</i>                 | Direct Observation of Orbital Hybridisation in a Cuprate Superconductor   |
| 17:00 – 17:25        | <i>Xingjiang Zhou (IOP)</i>                         | Laser ARPES on High Temperature Superconductors and Topological Materials   |
| 17:25 – 17:50        | <i>Simon Gerber (PSI)</i>                           | Femtosecond electron-phonon lock-in in FeSe via ultrafast x-ray scattering and photoemission                                |
| 18:30                | <i>Speech:</i>                                      | Aperitif start 18:30  |
| 19:15                | <i>Gabriel Aeppli</i>                               | Workshop Dinner start 19:15   |

## Daily Programme Wednesday 9<sup>th</sup> May 2018

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| <b>08:40 – 10:20</b>  |  |  |
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|                       | <b>Session 5</b>   | <b>Chair: Hong Ding</b>  |
| 08:40 – 09:05         | <i>Christian Rüegg (PSI)</i>   | Spin-orbital Singlet, Spiral Spin-liquid and Novel Vortex States in Magnets with Spinel Structure                        |
| 09:05 – 09:30         | <i>Tao Xiang (IOP)</i>   | Gapless Spin-Liquid Ground State in the S=1/2 Kagome Antiferromagnet   |
| 09:30 – 09:55         | <i>Huiqiu Yuan (Zhejiang Uni.)</i>   | Topological Kondo semimetals   |
| 09:55 – 10:20         | <i>Qimiao Si (Rice Uni.)</i>   | Magnetism and topology in strongly correlated metals   |
| 10:20 – 10:50         |  | Coffee Break   |
| <b>10:50 – 12:30</b>  |  |  |
|                       | <b>Session 6</b>   | <b>Chair: Michel Kenzelmann</b>  |
| 10:50 – 11:15         | <i>N. L. Wang (Peking Uni.)</i>  | Light-induced new collective modes and metastable state in cuprate   |
| 11:15 – 11:40         | <i>Philipp Werner (Uni. of Fribourg)</i>   | Spin- and orbital-freezing in unconventional superconductors   |
| 11:40 – 12:05         | <i>Alberto Morpurgo (Uni. of Geneva)</i>   | Unconventional gate-induced superconductivity in transition metal dichalcogenides  |
| 12:05 – 12:30         | <i>Xianhui Chen (Uni. of Science and Technology of China)</i>                          | Gating-controlled phase transitions in (Li,Fe)OHFeSe and MoS <sub>2</sub> crystals                                       |
| 12:30 – 14:00         |  | Lunch  |
| <b>14:00 – 15:40</b>  |  |  |
|                       | <b>Session 7</b>   | <b>Chair: Xingjiang Zhou</b>   |
| 14:00 – 14:25         | <i>Dirk van der Marel (Uni. of Geneva)</i>   | Measurements of the pair-distribution function in correlated matter  |
| 14:25 – 14:50         | <i>Luc Patthey (PSI)</i>   | SwissFEL: recent achievements and future plans   |
| 14:50 – 15:15         | <i>Shuyun Zhou (Tsinghua Uni.)</i>   | Two-dimensional materials and hetero-structures for new topological phases and tailored electronic                       |
| 15:15 – 15:40         | <i>Fu-Chun Zhang (Uni. of CAS)</i>   | Topological Larkin-Ovchinnikov phase and Majorana zero mode chain in bilayer superconducting topological insulator films |
| 15:40 – 16 :10        |  | Coffee Break   |
| <b>16:10 – 17:25</b>  |  |  |
|                       | <b>Session 8</b>   | <b>Chair: Ming Shi</b>   |
| 16 :10 – 16:35        | <i>Oded Zilberberg (ETHZ)</i>  | The 4D quantum Hall effect as a parent Hamiltonian for topological phenomena.  |
| 16:35 – 17:00         | <i>Yayu Wang (Tsinghua Uni.)</i>   | Quantum Phase Transitions in Magnetic Topological Insulators   |
| 17:00 – 17:25         | <i>Hong Ding (IOP)</i>   | Majorana bound state in iron-based superconductor Fe(Te, Se)   |
| <b>17:25 – 17:40</b>  |  | <b>Closing remarks</b>   |
| <i>Local Supports</i> | <i>Milan Radovic, Junzhang Ma, Jasmin Jandke, Mengyu Yao, Alla Chikina, Tian Shang</i> |  |