

3<sup>rd</sup> International Symposium of the SFB/TR 49 on  
**"Novel states in correlated condensed matter – from model systems to  
real materials"**

held in the Steigenberger Hotel Bad Neuenahr, March 18 – 20, 2019

## Programme

### Monday, March 18, 2019

12:00 (60)	<b>Lunch</b>
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1. Session	Ultracold Quantum Gases and other Model Systems (1)	F. Schmidt-Kaler
13:00 (10)	Michael Lang	<i>Welcome</i>
13:10 (25+5)	Luis Santos	<i>Dynamics of one-dimensional lattice gases with power-law interactions</i>
13:40 (15+5)	Herwig Ott (A9)	<i>An Optical Feshbach Resonance Using Rydberg Molecules</i>
14:00 (15+5)	Abasalt Bahrami (A10)	<i>Hybrid Atom-Ion Quantum System</i>
14:20 (15+5)	Michael Fleischhauer (A5)	<i>Bose polarons at finite temperature</i>
14:40 (15+5)	Artur Widera (A12)	<i>Individual atoms in tailored baths</i>

15:00 (30)	<b>Coffee Break</b>
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2. Session	Correlation Effects in Charge-Transfer Systems	G. Schönhense
15:30 (30+5)	Kazushi Kanoda	<i>Topological charge and spin excitations in a charge-transfer Complex</i>
16:05 (25+5)	Claude Pasquier	<i>N-I-S junctions in <math>\kappa</math>-(BEDT-TTF)<sub>2</sub>Cu[N(CN)<sub>2</sub>]Br</i>
16:35 (15+5)	Michael Lang (B6)	<i>Mott physics and beyond in organic charge-transfer salts</i>
16:55 (15+5)	Jens Müller (B11)	<i>Low-frequency electron dynamics of organic charge-transfer salts studied by fluctuation (noise) spectroscopy</i>

17:15 (25+5)	Mark Kartsovnik	<i>Evolution of the electronic system near the Mott transition probed by magnetic quantum oscillations</i>
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17:45 (75)	<b>Break</b>	
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19:00 (60)	<b>Dinner</b>	
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20:00 (120)	<b>Poster Session</b>	
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## Tuesday, March 19, 2019

<b>3. Session</b>	<b>Effects of Topology, Interfaces and Elasticity</b>	R. Valentí
08:45 (30+5)	Claudia Felser	<i>Magnetic Weyl Semimetals!</i>
09:20 (25+5)	Ulrich Eckern	<i>Spin-polarized transmission through correlated heterostructures</i>
09:50 (15+5)	Vladislav Borisov (B2)	<i>Tailored pseudo-elasticity in iron pnictides</i>

10:10 (30)	<b>Coffee Break</b>	
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<b>4. Session</b>	<b>Frustrated Quantum Magnets</b>	P. Kopietz
10:40 (30+5)	Christian Rüegg	<i>Controlling Hamiltonians to Create New States of Magnetic Matter in and out of Equilibrium</i>
11:15 (25+5)	Francis Pratt	<i><math>\mu</math>SR of Quantum Magnets</i>
11:45 (15+5)	Ulrich Tutsch (B1)	<i>Specific Heat Study of 1D and 2D Excitations in the Layered Frustrated Quantum Antiferromagnets <math>\text{Cs}_2\text{CuCl}_{4-x}\text{Br}_x</math></i>

12:05 (15+5)	Cornelius Krellner (B4)	<i>Kagome quantum spin systems in the atacamite family</i>
12:25 (15+5)	Sebastian Eggert (B3)	<i>Quantum phase transitions in frustrated spin systems and ultracold gases</i>
12:45 (15+5)	Stephen Winter (B13)	<i>Recent Progress in Frustrated Kitaev Magnets</i>

13:05 (70)	<b>Lunch</b>	
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<b>5. Session</b>	<b>Novel States in Superconductors</b>	S. Eggert
14:15 (25+5)	Walter Metzner	<i>Competition between magnetism and superconductivity in the Hubbard model and in the cuprates</i>
14:45 (25+5)	Manfred Sgrist	<i>Unconventional Cooper pairing in Materials with reduced Symmetry – Fitness test of Superconducting Phases</i>
15:15 (25+5)	Joachim Wosnitza	<i>Microscopic evidence for the FFLO state in layered organic superconductors</i>
15:45 (25+5)	Gertrud Zwicknagl	<i>Superconducting films and interfaces: Novel features from spin imbalance and Rashba spin-orbit coupling</i>

16:15 (30)	<b>Coffee Break</b>	
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<b>6. Session</b>	<b>Ultracold Quantum Gases and other Model Systems (2)</b>	B. Hillebrands
16:45 (25+5)	Matthias Weidemüller	<i>Universal Non-Equilibrium Dynamics in a Disordered Rydberg Spin System</i>
17:15 (15+5)	Mathieu Barbier (A3)	<i>Multicomponent bosonic quantum gases and dissipative Rydberg crystals: Analysis of two-species Bose-Hubbard models on optical lattices</i>
17:35 (25+5)	Cristiane de Morais Smith	<i>There is plenty of room at the bottom... but even more in a fractal</i>
18:05 (15+5)	Alexander Serga (A7)	<i>Anisotropic spin transport by hybrid magneto-elastic bosons in a ferrimagnetic film</i>
18:25 (15+5)	Peter Kopietz (A8)	<i>Kinetic equations for parametrically pumped magnons in yttrium-iron-garnet and the effect of magnon damping on parametric resonance</i>

18:45 (45)	<b>Break</b>
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19:30 (120)	<b>Dinner</b>
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### Wednesday, March 20, 2019

<b>7. Session</b>	<b>Graphene and Novel Charge-Transfer Systems</b>	<b>C. Krellner</b>
08:45 (30+5)	Klaus Müllen	<i>Graphene Nanoribbons are Unique Semiconductors</i>
09:20 (15+5)	Gerd Schönense (B8)	<i>Challenges of X-ray and electron spectroscopies of CT systems: X-ray absorption → photoelectron spectroscopy → momentum microscopy</i>
09:40 (15+5)	Hans-Joachim Elmers (B12)	<i>Investigation of Many-Body Effects in Quasi-Two-Dimensional Organic Charge-Transfer Salts</i>
10:00 (15+5)	Michael Huth (B9)	<i>Local monitoring of electric polarization, magnetization and strain in ferroelectric thin films with single-electron effects</i>

10:20 (25)	<b>Coffee Break</b>
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<b>8. Session</b>	<b>Molecule-Based Magnetic Materials</b>	<b>M. Lang</b>
10:45 (25+5)	Christoph Lambert	<i>Magnetic Field Effects in Spin-Correlated Radical Pairs of Charge Separated States</i>
11:15 (25+5)	Wolfgang Kuch	<i>Cooperative effects in the spin-state switching of adsorbed spin-crossover molecules</i>
11:45 (15+5)	Martin Baumgarten (B5)	<i>Organic Spin Dimer Networks for Triplon Excitations</i>
12:05 (5)	Michael Lang	<i>Concluding remarks</i>

12:10 (60)	<b>Lunch</b>
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