

# Program of The 3rd International Workshop on Frontiers in Quantum Optics and Quantum Information

Conference Hall, CSRC, Beijing, 26–28 November, 2015

Wednesday, November 25, 2015	
15:00 – 20:00	<b>Registration</b> Lobby of the CSRC Building
Thursday, November 26, 2015	
08:00 – 18:00	<b>Registration</b> Conference Hall, CSRC Building
08:55 – 09:10	<b>Hai-Qing Lin</b> (Director, Beijing Computational Science Research Center) Opening / Welcome
<b>09:10 – 10:45 Morning Session I</b> <b>Chair:</b> Hai-Qing Lin (Beijing Computational Science Research Center, China)	
09:10 – 10:00 (50 minutes)	<b>J. H. Eberly</b> (University of Rochester, USA) Shifting the quantum-classical border
10:00 – 10:10 (10 minutes)	<i>New Development:</i> Tightly quantifying entanglement sharing – a snapshot <b>Xiao-Feng Qian, M. A. Alonso and J. H. Eberly</b>
10:10 – 10:55 (45 minutes)	<b>Hong Chen</b> (Tongji University, China) Manipulation of interference in meta-atoms
10:55 – 11:20	<i>Photo Taking &amp; Coffee Break</i>
<b>11:20 – 12:10 Morning Session II</b> <b>Chair:</b> Jian-Qiang You ( Beijing Computational Science Research Center, China)	
11:20 – 12:10 (50 minutes)	<b>Raymond Laflamme</b> (University of Waterloo, Canada) Experimental quantum error correction
12:10 – 13:30	<i>Lunch &amp; Break</i>
<b>13:30 – 15:05 Afternoon Session I</b> <b>Chair:</b> Ting Yu (Stevens Institute of Technology, USA)	
13:30 – 14:20 (50 minutes)	<b>Jörg Wrachtrup</b> (University of Stuttgart, Germany) Using quantum memories for enhanced sensing, photon storage and correlation
14:20 – 15:05 (45 minutes)	<b>Yang Yu</b> (Nanjing University, China) Simulating the Kibble-Zurek mechanism of the Ising model with superconducting qubit systems
15:05 – 15:30	<i>Coffee Break</i>

<b>15:30 – 17:45 Afternoon Session II</b> <b>Chair:</b> Wen-Xian Zhang (Wuhan University, China)	
15:30 – 16:15 (45 minutes)	<b>Barry Sanders</b> (University of Calgary, Canada) High-fidelity single-shot multi-qubit gates via avoided level crossing
16:15 – 17:00 (45 minutes)	<b>Dimitrie Culcer</b> (University of New South Wales, Australia) A charge-insensitive single-atom spin-orbit qubit in silicon
17:00 – 17:45 (45 minutes)	<b>Xin Wang</b> (City University of Hong Kong, China) Recent developments on noise-compensating composite pulses for semiconductor spin qubits
18:00 – 20:00	<i>Dinner</i>
<b>Friday, November 27, 2015</b>	
<b>09:00 – 10:30 Morning Session I</b> <b>Chair:</b> William Coish (McGill University, Canada)	
09:00 – 09:45 (45 minutes)	<b>Weiping Zhang</b> (East China Normal University, China) Quantum-correlated interferometers with atomic ensembles
09:45 – 10:30 (45 minutes)	<b>Aephraim Steinberg</b> (University of Toronto, Canada) How to count one photon and get a (n average) result of eight
10:30 – 10:50	<i>Coffee Break</i>
<b>10: 50 – 12: 20 Morning Session II</b> <b>Chair:</b> Nan Zhao (Beijing Computational Science Research Center, China)	
10:50 – 11:35 (45 minutes)	<b>Peter Rabl</b> (Vienna University of Technology, Austria) PT-symmetry breaking in the steady state of coupled phonon lasers
11:35 – 12:20 (45 minutes)	<b>Jiangfeng Du</b> (University of Science and Technology of China, China) Quantum control of spins in solids
12:20 – 14:00	<i>Lunch &amp; Poster Session</i>
<b>14: 00 – 15: 30 Afternoon Session I</b> <b>Chair:</b> Bei Zeng ( University of Guelph, Canada)	
14:00 – 14:45 (45 minutes)	<b>Adrian Lupascu</b> (University of Waterloo, Canada) Observation of Floquet states in a strongly driven artificial atom
14:45 – 15:30 (45 minutes)	<b>Tiefu Li</b> (Tsinghua University & CSRC, China) Electromagnetically induced transparency in a tunable three-dimensional transmon
15:30 – 16:30	<i>Coffee Break &amp; Poster Session</i>
<b>16:30 – 18:00 Afternoon Session II</b> <b>Chair:</b> Xi Chen (Shanghai University, China)	
16:30 – 17:15 (45 minutes)	<b>Xiaobo Zhu</b> (Institute of Physics, CAS, China) Preparation of flux qubit and NV- hybrid system for long-lived quantum memory

17:15 – 18:00 (45 minutes)	<b>Nan Zhao</b> (Beijing Computational Science Research Center, China) Proposal for observing dynamic Jahn-Teller effect of single solid state defects
18:00–19:30	<i>Dinner</i>
<b>Saturday, November 28, 2015</b>	
<b>09:00 – 10:30 Morning Session I</b> <b>Chair:</b> Lin Tian (University of California-Merced, USA)	
09:00 – 09:45 (45 minutes)	<b>Bei-Lok Hu</b> (University of Maryland, USA) A microscopic model for quantum optomechanics applied to mirror-field entanglement
09:45 – 10:30 (45 minutes)	<b>Xin-You Lü</b> (Huazhong University of Science and Technology, China) Nonlinear cavity optomechanics and its applications
10:30 – 10:50	<i>Coffee Break</i>
<b>10: 50 – 12: 20 Morning Session II</b> <b>Chair:</b> Shunlong Luo (Academy of Mathematics and Systems Science, CAS, China)	
10:50 – 11:35 (45 minutes)	<b>Haohua Wang</b> (Zhejiang University, China) Suppression of dephasing by qubit motion in superconducting qubits
11:35 – 12:20 (45 minutes)	<b>Thomas Jennewein</b> (University of Waterloo, Canada) Conversion of single photons in cascaded parametric down-conversion: creating photon triplets, GHZ states and heralding of photons
12:20 – 14:00	<i>Lunch</i>
<b>14: 00 – 16: 15 Afternoon Session</b> <b>Chair:</b> Bei-Lok Hu (University of Maryland, USA)	
14:00 – 14:45 (45 minutes)	<b>Lin Tian</b> (University of California-Merced, USA) Cavity-assisted dynamical quantum phase transition in superconducting systems
14:45 – 15:30 (45 minutes)	<b>Shunlong Luo</b> (Academy of Mathematics and Systems Science, CAS, China) Quantum non-Markovianity
15:30 – 16:15 (45 minutes)	<b>Ting Yu</b> (Stevens Institute of Technology, USA) Error-correction for phase and amplitude noises via quantum measurement