

# CSRC Workshop on Quantum Non-Equilibrium Phenomena: Methods and Applications

CSRC Conference Room II, F3 | June 17-21, 2019

June 17, 2019 (Monday), Chair:

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08:45 – 09:00	<i>Welcoming Address</i>
09:00 – 10:00 (60 mins)	<b>Hui Zhai (翟荟), Tsinghua University</b> <i>Fundamental Problems in Quantum Non-Equilibrium Dynamics: I</i>
10:00 – 10:40	<i>Q&amp;A(Free Discussion), Tea Break</i>
10:40 – 11:40 (60 mins)	<b>Hui Zhai (翟荟), Tsinghua University</b> <i>Fundamental Problems in Quantum Non-Equilibrium Dynamics: II</i>
11:40 – 14:00	<i>Lunch &amp; Rest</i>
14:00 – 15:00 (60 mins)	<b>Xi-Wen Guan (管习文), Wuhan Institute of Physics and Mathematics (CAS)</b> <i>Emergent Hydrodynamics in a 1D Bose-Fermi Mixture: I</i>
15:00 – 15:40	<i>Q&amp;A(Free Discussion), Tea Break</i>
15:40 – 16:40 (60 mins)	<b>Xi-Wen Guan (管习文), Wuhan Institute of Physics and Mathematics (CAS)</b> <i>Emergent Hydrodynamics in a 1D Bose-Fermi Mixture: II</i>
16:40 – 17:20	<i>Q&amp;A(Free Discussion)</i>
17:20 – 18:30	<i>Dinner</i>

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June 18, 2019 (Tuesday), Chair:

<b>09:00 – 10:00</b> (60 mins)	<b>Javier Prior, Universidad Politécnica de Cartagena, Spain</b> <i>Tensor Network States, An Introduction and Applications to Quantum Coherent Processes: I</i>
10:00 – 10:40	<i>Q&amp;A(Free Discussion), Tea Break</i>
<b>10:40 – 11:40</b> (60 mins)	<b>Javier Prior, Universidad Politécnica de Cartagena, Spain</b> <i>Tensor Network States, An Introduction and Applications to Quantum Coherent Processes: II</i>
11:40 – 14:00	<i>Lunch &amp; Rest</i>
<b>14:00 – 15:00</b> (60 mins)	<b>Yi-Jing Yan (严以京), University of Science and Technology of China</b> <i>Dissipaton Equation of Motion Theory: I</i>
15:00 – 15:40	<i>Q&amp;A(Free Discussion), Tea Break</i>
<b>15:40 – 16:40</b> (60 mins)	<b>Yi-Jing Yan (严以京), University of Science and Technology of China</b> <i>Dissipaton Equation of Motion Theory: II</i>
16:40 – 17:20	<i>Q&amp;A(Free Discussion)</i>
17:20 – 18:30	<i>Dinner</i>

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June 19, 2019 (Wednesday), Chair:

<b>09:00 – 10:00</b> (60 mins)	<b>Jun-Hong An (安钧鸿), Lanzhou University</b> <i>Synthesizing Novel Quantum/Topological States of Matter by Periodic Driving</i>
10:00 – 10:40	<i>Q&amp;A(Free Discussion), Tea Break</i>
<b>10:40 – 11:40</b> (60 mins)	<b>Jun-Hong An (安钧鸿), Lanzhou University</b> <i>Decoherence in Noisy Quantum Metrology</i>
11:40 – 14:00	<i>Lunch &amp; Rest</i>
<b>14:00 – 15:00</b> (60 mins)	<b>Guan-Hua Chen (陈冠华), The University of Hong Kong</b> <i>First-Principles Quantum Mechanical Simulation of Quantum Open Systems: I</i>
15:00 – 15:40	<i>Q&amp;A (Free Discussion), Tea Break</i>
<b>15:40 – 16:40</b> (60 mins)	<b>Guan-Hua Chen (陈冠华), The University of Hong Kong</b> <i>First-Principles Quantum Mechanical Simulation of Quantum Open Systems: II</i>
16:40 – 17:20	<i>Q&amp;A(Free Discussion)</i>
17:20 – 19:30	<i>Banquet</i>

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June 20, 2019 (Thursday), Chair:

<b>09:00 – 10:00</b> (60 mins)	<b>Jian-Sheng Wang (王建生), National University of Singapore</b> <i>Non-Equilibrium Green's Function Method for Quantum Transport - Electrons, Phonons, and Photons: I</i>
10:00 – 10:40	<i>Q&amp;A(Free Discussion), Tea Break</i>
<b>10:40 – 11:40</b> (60 mins)	<b>Jian-Sheng Wang (王建生), National University of Singapore</b> <i>Non-Equilibrium Green's Function Method for Quantum Transport - Electrons, Phonons, and Photons: II</i>
11:40 – 14:00	<i>Lunch &amp; Rest</i>
<b>14:00 – 15:00</b> (60 mins)	<b>Da-Zhi Xu (徐大智), Beijing Institute of Technology</b> <i>A Unified Description of System-Bath Coupling: Polaron Solution and Its Applications to Non-Equilibrium Transport: I</i>
15:00 – 15:40	<i>Q&amp;A(Free Discussion), Tea Break</i>
<b>15:40 – 16:40</b> (60 mins)	<b>Da-Zhi Xu (徐大智), Beijing Institute of Technology</b> <i>A Unified Description of System-Bath Coupling: Polaron Solution and Its Applications to Non-Equilibrium Transport: II</i>
16:40 – 17:20	<i>Q&amp;A(Free Discussion)</i>
17:20 – 18:30	<i>Dinner</i>

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June 21, 2019 (Friday), Chair:

<b>09:00 – 10:00</b> (60 mins)	<b>Wei Zhang (张威), Renmin University of China</b> <i>Entangled Atoms and Fields: Cavity QED</i>
10:00 – 10:40	<i>Q&amp;A(Free Discussion), Tea Break</i>
<b>10:40 – 11:40</b> (60 mins)	<b>Wei Zhang (张威), Renmin University of China</b> <i>Synthetic Gauge Field Imposed by Cavity QED</i>
11:40 – 14:00	<i>Lunch &amp; Rest</i>
<b>14:00 – 15:00</b> (60 mins)	<b>Han-Tao Lu (陆汉涛), Lanzhou University</b> <i>Solving Out-of-Equilibrium Quantum Problems via Time-Dependent Lanczos Method: I</i>
15:00 – 15:40	<i>Q&amp;A(Free Discussion), Tea Break</i>
<b>15:40 – 16:40</b> (60 mins)	<b>Han-Tao Lu (陆汉涛), Lanzhou University</b> <i>Solving Out-of-Equilibrium Quantum Problems via Time-Dependent Lanczos Method: II</i>
16:40 – 17:20	<i>Q&amp;A, Closing Remarks</i>
17:20 – 18:30	<i>Dinner</i>