



CSRC

**CSRC Summer School on Quantum
Non-Equilibrium Phenomena:
Methods and Applications**

Program

June 17 ~ 21, 2019

Beijing, China

List of Invited Speakers (alphabetical order)

Jun-Hong An (安钧鸿) Lanzhou University

Guan-Hua Chen (陈冠华) The University of Hong Kong

Xi-Wen Guan (管习文) Wuhan Institute of Physics and Mathematics (CAS)

Han-Tao Lu (陆汉涛) Lanzhou University

Javier Prior Universidad politécnica de Cartagena, Spain

Jian-Sheng Wang (王建生) National University of Singapore

Da-Zhi Xu (徐大智) Beijing Institute of Technology

Yi-Jing Yan (严以京) University of Science and Technology of China

Hui Zhai (翟 荟) Tsinghua University

Wei Zhang (张 威) Renmin University of China

Organizing Committee

Jian-Shu Cao (曹建树), *MIT, Cambridge & Beijing CSRC*

Stefano Chesi, *Beijing Computational Science Research Center*

Hai-Qing Lin (林海青), *Beijing Computational Science Research Center*

Rubem Mondaini, *Beijing Computational Science Research Center*

Lei-Han Tang (汤雷翰), *Beijing Computational Science Research Center*

Ling Wang (汪玲), *Zhejiang University*

Wen Yang (杨文), *Beijing Computational Science Research Center*

Contact Person (会务联系)

Ms. Wei Liu (刘薇)

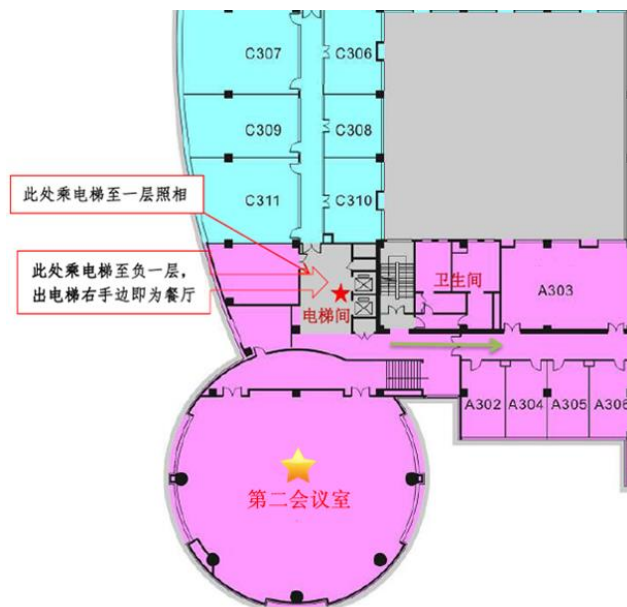
☎ 86-10-56981717 (Office); 86-13717776118 (Cellphone); weiliu@csrc.ac.cn (Email)

Summer School Information (Miscellaneous)

For your convenience, here are **Some Important Tips** (参会须知):

Workshop Venue (会议地址)

- ◇ CSRC Conference Room II (F3),
Beijing Computational Science
Research Center, Building 9, East
Zone, ZPark II, No. 10 Xibeiwang
East Road, Haidian District, Beijing
100193, China;
北京计算科学研究中心三层第二
会议室, 北京市海淀区西北旺东路
10 号院东区 9 号楼中关村软件园
二期(100193);



Onsite Registration (现场注册)

- ◇ June 17~18, 2019, 08:00~17:00, Outside the Conference Room II (F3).

Dining (餐饮安排)

- ◇ Lunch/Dinner (Buffet) @CSRC Canteen (B1 Floor)
- ◇ Banquet @CSRC VIP Room (B1 Floor)
- ◇ Please bring your **Meal Tickets** to the B1 Canteen.

Wi-Fi (无线网络)

- ◇ Username: csrc_guest | Password: csrc20150308

Invoices (发票领取):

- ◇ Time: June 19~20, 2019 | 10:00~10:40, 15:00~15:40
- ◇ Place: Outside the CSRC Conference Room II (F3)

Downloads (文件下载):

参会证明、课件资料等提供电子版, 如需下载请至培训班英文网页-Program&Downloads:
<http://www.csrc.ac.cn/en/event/workshop/2019-05-17/91.html>

Recommended Route (推荐路线)



➤ Taxi:

- 1) From Capital International Airport (首都国际机场): The cost is about 130 RMB (50mins).
- 2) From Beijing Railway Station (北京站): The cost is about 100 RMB (80 mins).
- 3) From Beijing West Railway Station (北京西站): The cost is about 70 RMB (60mins).
- 4) From Beijing South Railway Station (北京南站): The cost is about 105 RMB (90mins).

➤ Local Bus:

Bus #205 (Software Park West Stop/软件园西区站)

Bus #333 (Houchangcun East Stop/后厂村东站)

Bus #963/#982 (Dongbeiwang West Road North Stop/东北旺西路北口站)

➤ Subway:

Take Subway Line 13 to "SHANG DI Station(上地站)", take Exit A to catch Bus #205 to "Software Park West Stop(软件园西区站)". Enter the park and proceed toward in the north direction, CSRC will be to your right in 400 meters.

Recommended Hotel (酒店住宿)

◇ Yitel 和颐酒店(软件园 5 号路) *The Nearest Hotel (15~20 mins' walk)

Address: ZPark Building 9, No. 8 West Dongbeiwang Road, Haidian District, Beijing

北京市海淀区东北旺西路 8 号中关村软件园 9 号楼 (中关村软件园南门)

Telephone: +86-10-82826677



CSRC Summer School on Quantum Non-Equilibrium Phenomena: Methods and Applications

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

June 17, 2019 (Monday), Chair: Wen Yang	
08:45 – 09:00	<i>Welcoming Address</i>
09:00 – 10:00 (60 mins)	Hui Zhai (翟荟), Tsinghua University <i>Fundamental Problems in Quantum Non-Equilibrium Dynamics: I</i>
10:00 – 10:40	<i>Q&A(Free Discussion), Tea Break</i>
10:40 – 11:40 (60 mins)	Hui Zhai (翟荟), Tsinghua University <i>Fundamental Problems in Quantum Non-Equilibrium Dynamics: II</i>
11:40 – 14:00	<i>Lunch & Rest</i>
14:00 – 15:00 (60 mins)	Xi-Wen Guan (管习文), Wuhan Institute of Physics and Mathematics (CAS) <i>Emergent Hydrodynamics in a 1D Bose-Fermi Mixture: I</i>
15:00 – 15:40	<i>Q&A(Free Discussion), Tea Break</i>
15:40 – 16:40 (60 mins)	Xi-Wen Guan (管习文), Wuhan Institute of Physics and Mathematics (CAS) <i>Emergent Hydrodynamics in a 1D Bose-Fermi Mixture: II</i>
16:40 – 17:20	<i>Q&A(Free Discussion)</i>
17:20 – 18:30	<i>Dinner</i>

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

June 18, 2019 (Tuesday), Chair: Jian-Shu Cao	
09:00 – 10:00 (60 mins)	Javier Prior, <i>Universidad Politécnica de Cartagena, Spain</i> <i>Tensor Network States, an Introduction and Applications to Quantum Coherent Processes: I</i>
10:00 – 10:40	<i>Q&A(Free Discussion), Tea Break</i>
10:40 – 11:40 (60 mins)	Javier Prior, <i>Universidad Politécnica de Cartagena, Spain</i> <i>Tensor Network States, an Introduction and Applications to Quantum Coherent Processes: II</i>
11:40 – 14:00	<i>Lunch & Rest</i>
14:00 – 15:00 (60 mins)	Yi-Jing Yan (严以京), <i>University of Science and Technology of China</i> <i>Dissipaton Equation of Motion Theory: I</i>
15:00 – 15:40	<i>Q&A(Free Discussion), Tea Break</i>
15:40 – 16:40 (60 mins)	Yi-Jing Yan (严以京), <i>University of Science and Technology of China</i> <i>Dissipaton Equation of Motion Theory: II</i>
16:40 – 17:20	<i>Q&A(Free Discussion)</i>
17:20 – 18:30	<i>Dinner</i>

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June 19, 2019 (Wednesday), Chair: Wen Yang	
09:00 – 10:00 (60 mins)	Jun-Hong An (安钧鸿), Lanzhou University <i>Synthesizing Novel Quantum/Topological States of Matter by Periodic Driving</i>
10:00 – 10:40	<i>Q&A(Free Discussion), Tea Break</i>
10:40 – 11:40 (60 mins)	Jun-Hong An (安钧鸿), Lanzhou University <i>Decoherence in Noisy Quantum Metrology</i>
11:40 – 14:00	<i>Lunch & Rest</i>
14:00 – 15:00 (60 mins)	Guan-Hua Chen (陈冠华), The University of Hong Kong <i>First-Principles Quantum Mechanical Simulation of Quantum Open Systems: I</i>
15:00 – 15:40	<i>Q&A (Free Discussion), Tea Break</i>
15:40 – 16:40 (60 mins)	Guan-Hua Chen (陈冠华), The University of Hong Kong <i>First-Principles Quantum Mechanical Simulation of Quantum Open Systems: II</i>
16:40 – 17:20	<i>Q&A(Free Discussion)</i>
17:20 – 19:30	<i>Banquet</i>

CSRC Summer School on Quantum Non-Equilibrium Phenomena: Methods and Applications

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

June 20, 2019 (Thursday), Chair: Jian-Shu Cao	
09:00 – 10:00 (60 mins)	Jian-Sheng Wang (王建生), National University of Singapore <i>Non-Equilibrium Green's Function Method for Quantum Transport - Electrons, Phonons, and Photons: I</i>
10:00 – 10:40	<i>Q&A(Free Discussion), Tea Break</i>
10:40 – 11:40 (60 mins)	Jian-Sheng Wang (王建生), National University of Singapore <i>Non-Equilibrium Green's Function Method for Quantum Transport - Electrons, Phonons, and Photons: II</i>
11:40 – 14:00	<i>Lunch & Rest</i>
14:00 – 15:00 (60 mins)	Da-Zhi Xu (徐大智), Beijing Institute of Technology <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&A(Free Discussion), Tea Break</i>
15:40 – 16:40 (60 mins)	Da-Zhi Xu (徐大智), Beijing Institute of Technology <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&A(Free Discussion)</i>
17:20 – 18:30	<i>Dinner</i>

CSRC Summer School on Quantum Non-Equilibrium Phenomena: Methods and Applications

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

June 21, 2019 (Friday), Chair: Rubem Mondaini	
09:00 – 10:00 (60 mins)	Wei Zhang (张威), Renmin University of China <i>Entangled Atoms and Fields: Cavity QED</i>
10:00 – 10:40	<i>Q&A(Free Discussion), Tea Break</i>
10:40 – 11:40 (60 mins)	Wei Zhang (张威), Renmin University of China <i>Synthetic Gauge Field Imposed by Cavity QED</i>
11:40 – 14:00	<i>Lunch & Rest</i>
14:00 – 15:00 (60 mins)	Han-Tao Lu (陆汉涛), Lanzhou University <i>Solving Out-of-Equilibrium Quantum Problems via Time-Dependent Lanczos Method: I</i>
15:00 – 15:40	<i>Q&A(Free Discussion), Tea Break</i>
15:40 – 16:40 (60 mins)	Han-Tao Lu (陆汉涛), Lanzhou University <i>Solving Out-of-Equilibrium Quantum Problems via Time-Dependent Lanczos Method: II</i>
16:40 – 17:20	<i>Q&A, Closing Remarks</i>
17:20 – 18:30	<i>Dinner</i>

