

PROGRAMME

Day 1 (December 4, Monday)

08:00 – 08:50 Registration
08:50 – 09:00 Opening

Morning session 1

Chaired by Shizhong Zhang (The University of Hong Kong)

09:00 – 09:40 Exploring high density nuclear matter with cold atoms
Gordon Baym (The University of Illinois Urbana-Champaign)
09:40 – 10:20 Observation of Anisotropic Superfluid Density in an Artificial Crystal
Ian Spielman (Joint Quantum Institute, National Institute of Standards and Technology)
10:20 – 10:50 Tea Break
10:50 – 11:30 Quantum Hall physics in a quantum Foucault pendulum
Richard Fletcher (Massachusetts Institute of Technology)
11:30 – 12:10 Quantum Many-body Physics with Rydberg Atoms Array
Hui Zhai (Tsinghua University)
12:10 – 14:00 Lunch

Afternoon session 1

Chaired by Xiaopeng Li (Fudan University)

14:00 – 14:40 Ultracold fermions in quantum waveguides: when is 1D still 1D?
Frédéric Chevy (École Normale Supérieure)
14:40 – 15:20 Orbital interactions between strongly confined fermions
Joseph Thywissen (University of Toronto)
15:20 – 15:50 Tea Break
15:50 – 16:30 The three-body scattering hypervolume in various spatial dimensions
Shina Tan (Peking University)
16:30 – 17:10 Spinon, magnon and quantum flutter in 1D ultracold atoms
Xiwen Guan (Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences)

Day 2 (December 5, Tuesday)

Morning session 2

Chaired by Xing-can Yao (University of Science and Technology of China)

09:00 – 09:40 Bose enhanced quantum chemistry
Cheng Chin (The University of Chicago)
09:40 – 10:20 Atomic Bose-Einstein condensate in a twisted-bilayer optical lattice
Jing Zhang (Shanxi University)
10:20 – 10:50 Tea Break
10:50 – 11:30 Quantum gas microscopy of an XY model in shaken triangular lattices
Takeshi Fukuhara (RIKEN)
11:30 – 12:10 Quantum behaviour and universality of an impurity in a Bose gas
Meera Parish (Monash University)
12:10 – 14:00 Lunch

Afternoon session 2*Chaired by Yu-Ju Lin (Institute of Atomic and Molecular Sciences, Academia Sinica)*

- 14:00 – 14:40 Amplitude oscillations in ultracold Fermi gases
Chris Vale (Commonwealth Scientific and Industrial Research Organisation, Australia)
- 14:40 – 15:20 Observation of Two-dimensional non-Hermitian skin effect in an ultracold Fermi gas
Gyuboong Jo (The Hong Kong University of Science and Technology)
- 15:20 – 15:50 Tea Break
- 15:50 – 16:30 Quartet superfluid in mass-imbalanced Fermi mixtures
Xiaoling Cui (Chinese Academy of Sciences)
- 16:30 – 17:10 From Středa’s formula to Luttinger’s theorem: topological signatures unveiled through density probes
Lucila Peralta Gavensky (Université Libre de Bruxelles)
- 17:40 – 22:00 Conference Banquet cum celebration of Professor Jason Ho’s retirement

Day 3 (December 6, Wednesday)**Morning session 3***Chaired by Yu Wang (Wuhan University)*

- 09:00 – 09:40 Steady states and long-range entanglement in locally driven many-body systems
Nigel Cooper (University of Cambridge)
- 09:40 – 10:20 Strong coupling between cold atoms and photons in high-finesse optical cavity
Tiancai Zhang (Shanxi University)
- 10:20 – 10:50 Tea Break
- 10:50 – 11:30 Quantum simulation of nonequilibrium dynamics and measuring nonlocal order in two dimensions
Jae-Yoon Choi (Korea Advanced Institute of Science & Technology)
- 11:30 – 12:10 Quantum droplets, supersolids, and beyond in dipolar quantum gases
Jens Hertkorn (University of Stuttgart)
- 12:10 – 12:50 Novel Orbital Physics in Optical Lattices – Unconventional Bose-Einstein Condensation, Ferromagnetism, and Curie-Weiss Metal
Congjun Wu (Westlake University)
- 12:50 – 14:00 Lunch

Afternoon session 3

Break

Day 4 (December 7, Thursday)**Morning session 4***Chaired by Wenlan Chen (Tsinghua University)*

- 09:00 – 09:40 Microwave shielding and cooling of ultracold dipolar NaCs molecules
Sebastian Will (Columbia University)
- 09:40 – 10:20 Creation of ultracold triatomic molecules
Bo Zhao (University of Science and Technology of China)
- 10:20 – 10:50 Tea Break
- 10:50 – 11:30 Microwave-shielded polar molecules: from ultracold chemistry to quantum matter
Xinyu Luo (Max Planck Institute of Quantum Optics)
- 11:30 – 12:10 Microwave loss suppression in ultracold NaRb molecules
Dajun Wang (The Chinese University of Hong Kong)
- 12:10 – 14:00 Lunch

Afternoon session 4*Chaired by Yangqian Yan (The Chinese University of Hong Kong)*

- 14:00 – 14:40 Demonstration of propagators and the principle of least action in Feynman's path integrals
optical lattice
Shiliang Zhu (South China Normal University)
- 14:40 – 15:20 Multipolar condensates and synthetic tensor gauge fields
Qi Zhou (Purdue University)
- 15:20 – 16:00 Experimental Conclusion and Perspective
Immanuel Bloch (Ludwig Maximilian University of Munich)
- 16:00 – 18:30 Tea Break/ Posters Session

Day 5 (December 8, Friday)**Morning session 5***Chaired by Zhenhua Yu (Sun Yat-sen University)*

- 09:00 – 09:40 Beyond-Hermitian Quantum Physics
Masahito Ueda (The University of Tokyo)
- 09:40 – 10:20 Two works on spin-1 Bose gas at Academia Sinica
Sungkit Yip (Academia Sinica)
- 10:20 – 10:50 Tea Break
- 10:50 – 11:30 Fermi polarons in doped 2D semiconductors
Jesper Levinsen (Monash University)
- 11:30 – 12:10 Quantum transport and cold atomic gases
Thierry Giamarchi (University of Geneva)
- 12:10 – 12:30 Theoretical Conclusion and Perspective
Thierry Giamarchi (University of Geneva)
- 12:30 – 14:00 Lunch