

DAQS2016

PROGRAMME

TUESDAY, 12 JANUARY 2016

08:30–09:30 Registration & Opening

CHAIR Yasunobu Nakamura

09:30-10:00 Tu01 **Michael Tobar** (The University of Western Australia)
“High-Q and novel cavity structures for photon-spin strong coupling and acoustic wave readout at the quantum limit”

10:00-10:30 Tu02 **John Teufel** (National Institute of Standards and Technology)
“Squeezed light and motion in microwave optomechanical circuits”

10:30-11:00 Coffee Break

CHAIR Silvano De Franceschi

11:30-11:30 Tu03 **Daniel Loss** (University of Basel & RIKEN CEMS)
“From Majorana- to para-fermions in nanowires and atomic chains”

11:00-12:00 Tu04 **Russell Deacon** (RIKEN CEMS)
“Gapless Andreev bound states in HgTe topological Josephson junctions”

12:00-12:30 Tu05 **Ferdinand Kuemmeth** (Niels Bohr Institute)
“Symmetric operation and nuclear notch filtering in GaAs double quantum dots”

12:30-14:00 Lunch

CHAIR Jevon Longdell

14:00-14:30 Tu06 **Vahid Sandoghdar** (Max-Planck-Institut für die Physik des Lichts)
“Single rare earth ions as a new platform for solid-state quantum optics”

14:30-15:00 Tu07 **Koji Usami** (The University of Tokyo)
“Quantum magnonics with light”

- 15:00-15:30 Tu08 **Thomas Lutz** (University of Calgary)
"Modification of phonon processes in nano-structured rare-earth-ion-doped materials"
- 15:30-16:00 Coffee Break
- 16:00-17:30 Poster Session
- CHAIR Liang Jiang
- 17:30-18:00 Tu09 **Akira Furusawa** (The University of Tokyo)
"Hybrid quantum information processing"
- 18:00-18:30 Tu10 **Jacob Taylor** (Joint Quantum Institute)
"Exploring quantum phases of matter with light"

WEDNESDAY, 13 JANUARY 2016

- CHAIR Franco Nori
- 09:30-10:00 We01 **William Munro** (NTT Basic Research Laboratories)
"Quantum engineering using hybridization: When $1+1 > 2$ "
- 10:00-10:30 We02 **Jevon Longdell** (University of Otago)
"Towards quantum frequency conversion between microwaves and light using rare-earth dopants"
- 10:30-11:00 Coffee Break
- CHAIR Irfan Siddiqi
- 11:00-11:30 We03 **Alexandre Blais** (Université de Sherbrooke)
"Fast qubit readout from longitudinal coupling"
- 11:30-12:00 We04 **Jaw-Shen Tsai** (Tokyo University of Science & RIKEN CEMS)
"On-demand creation and detection of single microwave photon"
- 12:00-12:30 We05 **Liang Jiang** (Yale University)
"Quantum control & quantum error correction with superconducting circuits"

- 12:30-14:00 Lunch
- CHAIR Daniel Loss
- 14:00-14:30 We06 **Silvano De Franceschi** (CEA Grenoble)
"CMOS platform for silicon spin qubits"
- 14:30-15:00 We07 **Yasutomo Ota** (The University of Tokyo)
"Cavity quantum electrodynamics using semiconductor dots embedded in photonic crystal nanocavities"
- 15:00-15:30 We08 **Michihisa Yamamoto** (The University of Tokyo)
"Manipulation of single flying electrons for quantum electron optics"
- 15:30-16:00 Photo & Coffee Break
- 16:00-17:30 Poster Session
- CHAIR Masahito Ueda
- 17:30-18:00 We09 **Kimitoshi Kono** (RIKEN CEMS)
"Spontaneous current oscillation in 2D electrons on liquid helium caused by a strong intersubband excitation"
- 18:00-18:30 We10 **Michael Fraser** (RIKEN CEMS)
"Exciton-polariton dynamics in structured complex potentials"
- 18:30-20:30 Banquet

THURSDAY, 14 JANUARY 2016

- CHAIR Jaw-Shen Tsai
- 09:30-10:00 Th01 **Daisuke Shindo** (Tohoku University & RIKEN CEMS)
"Disturbance-free, electron holographic observation of electrons' motion by electric field variations"
- 10:00-10:30 Th02 **Jiangfeng Du** (University of Science and Technology of China)
"Quantum optimal control and its applications"

- 10:30-11:00 Coffee Break
- CHAIR Arno Rauschenbeutel
- 11:00-11:30 Th03 **Masahito Ueda** (The University of Tokyo & RIKEN CEMS)
"Entanglement prethermalization in a Bose gas"
- 11:30-12:00 Th04 **Jonathan Home** (ETH Zürich)
"Squeezed and displaced Fock bases and Schrödinger's cat"
- 12:00-12:30 Th05 **Takeshi Fukuhara** (RIKEN CEMS)
"Quantum spin dynamics with ultracold atoms"
- 12:30-14:00 Lunch
- CHAIR Koji Usami
- 14:00-14:30 Th06 **Arno Rauschenbeutel** (Technische Universität Wien)
"Chiral nanophotonics and quantum optics"
- 14:30-15:00 Th07 **Takao Aoki** (Waseda University)
"An all-fiber cavity QED system with a nanofiber and a trapped atom"
- 15:00-15:30 Th08 **Franco Nori** (RIKEN CEMS & University of Michigan)
"Quantum spin Hall effect of light"
- 15:30-16:00 Coffee Break
- CHAIR Alexandre Blais
- 16:00-16:30 Th09 **David Schuster** (University of Chicago)
"Quantum random access memories with multimode circuits"
- 16:30-17:00 Th10 **Irfan Siddiqi** (University of California, Berkeley)
"Simulating topological band structure using quantum walks"
- 17:00-17:30 Closing & Departure