

# International Workshop on Entangled Coherent State and Its Application to Quantum Information Science *-Towards Macroscopic Quantum Communications-*

**Monday (26 November)**

**Chair: P.Tombesi**

9:00-9:50

**Barry C. Sanders** (Calgary University, **Canada**)

[Forty-five years of entangled coherent states](#)

9:50-10:40

**Mauro Paternostro** (Queen's University, **UK**)

[Non-classicality tests with entangled coherent states](#)

10:40-11:00 coffee time

11:00-11:50

**Chang-Woo Lee** (Texas A&M University at Qatar, **Qatar**)

[Quantum steerability for entangled coherent states](#)

11:50-12:00 **Announcement**

Lunch

**Chair: B.Munro**

14:00-14:50

**Hyunseok Jeong** (Seoul National University, **Korea**)

[Bell-state measurement and quantum teleportation using linear optics: two-photon pairs, entangled coherent states, and hybrid entanglement](#)

14:50-15:40

**Wei-Min Zhang** (National Cheng Kung University, **Taiwan**)

[Entangled Coherent State Generation and Protection](#)

15:40-16:00 coffee time

**Chair: J.Joo**

16:00-16:30

**Ranjana Prakash** (University of Allahabad, **India**)

[Use of entangled coherent states in quantum teleportation and entanglement diversion](#)

16:30-17:20

**Hari Prakash** (University of Allahabad, **India**)

[Use of entangled coherent states in quantum teleportation](#)

17:20-17:50

**Jaewan Kim** (Korea Institute for Advanced Study, **Korea**)

[Qudit communication network](#)

## Tuesday (27 November)

**Chair: W.Zhang**

9:00-9:50

**Stefano Pirandola** (University of York, **UK**)

Breaking entanglement-breaking

9:50-10:40

**Paolo Tombesi** (University of Camerino, **Italy**)

Entanglement swapping with distant parties and local certification

10:40-11:00 coffee time

**Chair: R.Nair**

11:00-11:50

**Bill Munro** (NTT, **Japan**)

Weak-force detection with superposed coherent state

11:50-12:20

**Masaki Sohma** (Tamagawa University, **Japan**)

Holevo capacity of quantum Gaussian channels-Basis for macroscopic physical cipher-

Lunch

**Chair: M.Hall**

14:00-14:50

**Keiji Matsumoto** (NII, **Japan**)

When is an input state always better than the others ?

14:50-15:40

**Michael Nussbaum** (Cornell University, **USA**)

An asymptotic error bound for discriminating between several quantum states

15:40-16:00 coffee time

**Chair: H.Prakash**

16:00-16:50

**Nasser Metwally** (Bahrain University, **Kingdom of Bahrain**)

Dynamics on information in non-inertial frames

16:50-17:20

**Ryo Namiki** (Kyoto University, **Japan**)

Verification of photonic families of non-Gaussian entangled states

17:20-17:50

**Jun-HongAn** (Lanzhou University, **People's Republic of China**)

Frozen quantum correlation of continuous variable system in non-Markovian reservoirs

19:00-21:00 **Banquet**

## Wednesday (28 November)

### Chair: H.Jeong

9:00-9:50

**Michele Dall'Arno** (Nagoya University, **Japan**)

Ideal quantum reading of optical memories

9:50-10:40

**Jaewoo Joo** (University of Leeds, **UK**)

The enhanced phase estimation using quantum Fisher information in nonclassical continuous-variable states

10:40-11:00 coffee time

11:00-11:50

**Saikat Guha** (Raytheon BBN Technologies, **USA**)

The role of quantum optics in realizing optimal detection of laser-light waveforms

Lunch

### Chair: B.Sanders

14:00-14:50

**Michael J. W. Hall** (Center for Quantum Computation and Communication Technology, **Australia**)

Metrology with entangled coherent states: a quantum scaling paradox

14:50-15:40

**Ranjith Nair** (Singapore University, **Singapore**)

Near optimal coherent state receivers and multi copy quantum state discrimination

15:40-16:00 coffee time

### Chair: S.Guha

16:00-16:30

**Kentaro Kato** (Tamagawa University, **Japan**)

Quantum minimax receiver for quadrature amplitude modulation coherent state signal

16:30-17:00

**Stefan L. Danilishin** (University of Western Australia, **Australia**)

Optomechanical entanglement: How to prepare, verify and "steer" a macroscopic mechanical quantum state?

17:00-17:30

**Genta Masada** (Tamagawa University, **Japan**)

Optical integration of quantum information processing for continuous variable

17:30-18:00

**Tsuyoshi Usuda** (Aichi Prefectural University, **Japan**)

Entanglement assisted classical communication using quasi Bell state