

# Posters

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## August 21, 2014 (Thu.) [Poster session 1]

- (1) *Single-shot theory for phase contrast imaging of spinor Bose-Einstein condensates*  
Ebubekukwu Ilo-Okeke (National Institute of Informatics, Tokyo; Federal University of Technology, Owerri.) and Tim Byrnes (National Institute of Informatics, Tokyo)
- (2) *Randomized graph states and their entanglement properties*  
Jun-Yi Wu (Heinrich-Heine-Universität Düsseldorf), Matteo Rossi (Pavia University), Hermann Kampermann (Heinrich-Heine-Universität Düsseldorf), Simone Severini (University College London), Leong Chuan Kwek (National University of Singapore), Chiara Macchiavello (Pavia University), and Dagmar Bruß (Heinrich-Heine-Universität Düsseldorf)
- (3) *Device-independent randomness extraction for arbitrarily weak min-entropy source*  
Jan Bouda (Masaryk University Brno), Marcin Pawłowski (University of Gdansk), Matej Pivoluska (Masaryk University Brno), and Martin Plesch (Slovak Academy of Sciences Bratislava)
- (4) *Time-bin entangled photon-pair generation using Si micro-ring resonator*  
Ryota Wakabayashi (NICT, Waseda University), Mikio Fujiwara (NICT), Masahide Sasaki (NICT), and Takao Aoki (Waseda University)
- (5) *Refinement of Carnot's Theorem by using quantum information techniques; Asymptotics of Thermodynamics with Finite-Size systems*  
Hiroyasu Tajima (University of Tokyo and National University of Singapore) and Masahito Hayashi (National University of Singapore and Nagoya University)
- (6) *Translating measurement-based quantum computations with gflow into quantum circuits*  
Jisho Miyazaki (University of Tokyo), Michal Hajdušek (Singapore University of Technology and Design), and Mio Muraō (University of Tokyo)
- (7) *Circuit model implementation of controllization supermap on unitary with and without fractional queries*  
Akihito Soeda (University of Tokyo), Shojun Nakayama (University of Tokyo), and Mio Muraō (University of Tokyo)
- (8) *Precision-guaranteed quantum metrology with exact confidence interval*  
Takanori Sugiyama (ETH Zurich)
- (9) *Efficient Synthesis of Universal Repeat-Until-Success Circuits*  
Alex Bocharov (Microsoft Research), Martin Roetteler (Microsoft Research), and Krysta M. Svore (Microsoft Research)
- (10) *Information theoretical formulation of anyonic entanglement*  
Kohtaro Kato (The University of Tokyo), Fabian Furrer (The University of Tokyo), and Mio Muraō (The University of Tokyo)
- (11) *Certifying quantumness: Benchmarks for the optimal processing of generalized coherent states.*  
Yuxiang Yang (Tsinghua University), Giulio Chiribella (Tsinghua University), and Gerardo Adesso (The University of Nottingham)
- (12) *Entanglement swapping with bound entanglement*  
Kenta Sugiyama (Hokkaido University), Akihisa Tomita (Hokkaido University), and Atsushi Okamoto (Hokkaido University)
- (13) *The Asymptotic Secret Key Cost of Preparing an Arbitrary Tripartite Distribution with Collaboration*  
Eric Chitambar (SIU), Min-Hsiu Hsieh (UTS), and Andreas Winter (UAB)
- (14) *Quantum Byzantine Agreement via Hardy correlations and entanglement swapping*  
Ramij Rahaman (University of Allahabad), Marcin Wieśniak (University of Gdańsk), and Marek Żukowski (University of Gdańsk)
- (15) *Measurement-device-independent quantum key distribution for Scarani-Acin-Ribordy-Gisin 04 protocol*  
Akihiro Mizutani (Osaka University), Kiyoshi Tamaki (NTT), Rikizo Ikuta (Osaka University), Takashi Yamamoto (Osaka University), and Nobuyuki Imoto (Osaka University)

- (16) *Decoy-State Measurement-Device-Independent Quantum-Key-Distribution Protocol using Orbital Angular Momentum States in Free-Space Links*  
Le Wang (Nanjing University of Posts and Telecommunications) and Shengmei Zhao (Nanjing University of Posts and Telecommunications)
- (17) *Secure and practical quantum key distribution based on Ping-Pong protocol*  
Zhen-Qiang Yin (University of Science and Technology of China), Yun-Guang Han (University of Science and Technology of China), Wei Chen (University of Science and Technology of China), Guang-Can Guo (University of Science and Technology of China), and Zheng-Fu Han (University of Science and Technology of China)
- (18) *Stereographical Tomography of Polarization State via Weak Measurement with Optical Vortex Beam*  
Hirokazu Kobayashi (Kochi University of Technology) and Yutaka Shikano (Institute for Molecular Science)
- (19) *Detecting nonclassicality beyond Gaussian mixtures under energy constraint*  
Jiyong Park (Texas A&M University at Qatar), Se-Wan Ji (Texas A&M University at Qatar), Jaehak Lee (Texas A&M University at Qatar), and Hyunchul Nha (Texas A&M University at Qatar and Korea Institute for Advanced Study)
- (20) *Minimum Error Discrimination for an Ensemble of Linearly Independent Pure States*  
Tanmay Singal (Institute of Mathematical Sciences) and Sibasish Ghosh (Institute of Mathematical Sciences)
- (21) *Proposal for generating telecommunication-wavelength entangled photon pairs from a quantum dot by frequency down-conversion*  
Yi-Tao Wang (University of Science and Technology of China), Jian-Shun Tang (University of Science and Technology of China), Yu-Long Li (University of Science and Technology of China), Chuan-Feng Li (University of Science and Technology of China), and Gaung-Can Guo (University of Science and Technology of China)
- (22) *Quantum metrology: Heisenberg limit with bound entanglement*  
Lukasz Czekaj (University of Gdansk), Anna Przysieszna (University of Gdansk), Michal Horodecki (University of Gdansk), and Pawel Horodecki (Gdansk University of Technology)
- (23) *Use of Code Teleportation for Resource Optimal Quantum Computation*  
Byung-Soo Choi (University of Tokyo)
- (24) *Observation of fundamental bounds in quantum measurements for estimating quantum states*  
Hyang-Tag Lim (POSTECH), Young-Sik Ra (POSTECH), Kang-Hee Hong (POSTECH), Seung-Woo Lee (Dartmouth College), and Yoon-Ho Kim (POSTECH)
- (25) *A delayed-choice two-dimensional quantum walk*  
Youn-Chang Jeong (POSTECH), Carlo Di Franco (Queen's University Belfast), Hyang-Tag Lim (POSTECH), M. S. Kim (Imperial College London), and Yoon-Ho Kim (POSTECH)
- (26) *Physical meaning and experimental evaluation of error and disturbance in a two-level system*  
Masataka Iinuma (Hiroshima University), Yutaro Suzuki (Hiroshima University), Taiki Nii (Hiroshima University), Ryuji Kinoshita (Hiroshima University), and Holger F. Hofmann (Hiroshima University, JST Crest)
- (27) *Scheme for directly observing the noncommutativity of the position and momentum operators with single-photon quantum interference*  
Jong-Chan Lee (POSTECH), Yong-Su Kim (POSTECH), Young-Sik Ra (POSTECH), Hyang-Tag Lim (POSTECH), and Yoon-Ho Kim (POSTECH)
- (28) *Optical quantum information processing with inherently stable bulk interferometer*  
Michal Mičuda (Palacký University), Michal Sedlák (Palacký University), Ivo Straka (Palacký University), Martina Miková (Palacký University), Miloslav Dušek (Palacký University), Miroslav Ježek (Palacký University), and Jaromír Fiurášek (Palacký University)

- (29) *Experimental observation of detection-dependent multi-photon coherence times*  
Young-Sik Ra (Pohang University of Science and Technology), Malte C. Tichy (University of Aarhus), Hyang-Tag Lim (Pohang University of Science and Technology), Osung Kwon (Pohang University of Science and Technology), Florian Mintert (Albert-Ludwigs-Universität), Andreas Buchleitner (Albert-Ludwigs-Universität), and Yoon-Ho Kim (Pohang University of Science and Technology)
- (30) *Engineering nonclassical time correlation of narrowband biphotons from cold atoms*  
Young-Wook Cho (Pohang University of Science and Technology), Kwang-Kyoon Park (Pohang University of Science and Technology), Jong-Chan Lee (Pohang University of Science and Technology), and Yoon-Ho Kim (Pohang University of Science and Technology)
- (31) *Approximation of minimum error probability in distinguishing M-ary quantum signals using the trace distance between two neighboring*  
Shungo Asano (Aichi Prefectural University), Kenji Nakahira (Yokohama Research Laboratory, Hitachi, Ltd.), and Tsuyoshi Sasaki Usuda (Aichi Prefectural University)
- (32) *Entanglement detection from channel parameter estimation problem*  
Jun Suzuki (University of Electro-communications)
- (33) *A lower bound on the distinguishability of quantum states in terms of entropies*  
Seungho Yang (Seoul National University), Jinhyoung Lee (Hanyang University), and Hyunseok Jeong (Seoul National University)
- (34) *Overcoming entanglement sudden death using single-qubit quantum measurement reversal*  
Hyang-Tag Lim (POSTECH), Jong-Chan Lee (POSTECH), Kang-Hee Hong (POSTECH), and Yoon-Ho Kim (POSTECH)
- (47) *Bright source of polarization-entangled photon pairs based on multi-mode diode pump laser*  
Youn-Chang Jeong (Pohang University of Science and Technology (POSTECH)), Young-Sun Song (Pohang University of Science and Technology (POSTECH)), and Yoon-Ho Kim (Pohang University of Science and Technology (POSTECH))

## August 22, 2014 (Fri.) [Poster session 2]

- (35) *Security Analysis of a Quantum Secure Communication Network with Multicast Communication*  
Shiou-An Wang (Delin Institute of Technology) and Chin-Yung Lu (Delin Institute of Technology)
- (36) *The Critical Path Method for Quantum Boolean Circuits Construction*  
Chin-Yung Lu (Delin Institute of Technology) and Shiou-An Wang (Delin Institute of Technology)
- (37) *Verification if a given process is quantum*  
Junghee Ryu (University of Gdańsk), Seokwon Yoo (Hanyang University), Zhi Yin (University of Gdańsk), James Lim (University Ulm), Jeongwoo Jae (Hanyang University), Jinhyoung Lee (Hanyang University), and Marek Żukowski (University of Gdańsk)
- (38) *Error performance of modied Kennedy receiver in the presence of phase noise*  
Shinji Koyama (Aichi Prefectural University), Kenji Nakahira (Yokohama Research Laboratory, Hitachi, Ltd.), and Tsuyoshi Usuda (Aichi Prefectural University)
- (39) *A compiler for Universal Blind Quantum Computation*  
Shoichiro Fukuyama (The University of Tokyo), Rodney Van Meter (Keio University), and Masami Hagiya (The University of Tokyo)
- (40) *Deterministic charge state control of single NV center in diamond with p-i-n diamond diode*  
Yuki Doi (Osaka University), Toshiharu Makino (AIST, Energy Technology Research Institute), Hiromitsu Kato (AIST, Energy Technology Research Institute), Daisuke Takeuchi (AIST, Energy Technology Research Institute), Mutsuo Ogura (AIST, Energy Technology Research Institute), Hideyo Okushi (AIST, Energy Technology Research Institute), Hiroki Morishita (Osaka University), Toshiyuki Tashima (Osaka University), Shinji Miwa (Osaka University), Satoshi Yamasaki (Osaka University), Philipp Neumann (University of Stuttgart), Jörg Wraptrup (University of Stuttgart), Yoshishige Suzuki (Osaka University), and Norikazu Mizuochi (Osaka University)
- (41) *Improved photon detection efficiency of sub-Geiger-mode InGaAs APD single-photon detector using a low-noise charge-sensitive amplifier*  
Kenji Tsujino (Tokyo Women's Medical University), Toshio Yamaguchi (Tokyo Women's Medical University), Midori Matsumoto (Tokyo Women's Medical University), and Junji Kinoshita (Tokyo Women's Medical University)
- (42) *Work fluctuations in quantum quenches in the XY model*  
Francis A. Bayocboc Jr. (National Institute of Physics, University of the Philippines, Diliman), and Francis N. C. Paraan (National Institute of Physics, University of the Philippines, Diliman)
- (43) *A Generalized Quantum Inspired Evolutionary Algorithm for Signature - based Intrusion Detection Systems*  
Monisha Loganathan (Pondicherry Engineering College)
- (44) *Enhancement of entanglement by a local filtration of thermal noise*  
Miroslav Gavenda (Palacky University Olomouc), Radim Filip (Palacky University Olomouc), Ivo Straka (Palacky University Olomouc), and Miroslav Jezek (Palacky University Olomouc)
- (45) *EPR steering of Gaussian states by Gaussian measurements: Monopoly relation and Peres Conjecture*  
Se-Wan Ji (Texas A& M University at Qatar University), M. S. Kim (Imperial College London), and Hyunchul Nha (Texas A& M University at Qatar University)
- (46) *Numerical analysis of multipartite entanglement in terms of the geometric measure*  
Yuki Mori (University of Tokyo), Akihito Soeda (University of Tokyo), and Mio Murao (University of Tokyo)
- (48) *Effect of electromagnetic disturbance on the practical QKD system in smart grid*  
Fangyi Li (University of Science and Technology of China), Dong Wang (University of Science and Technology of China), Shuang Wang (University of Science and Technology of China), Mo Li (University of Science and Technology of China), Xiaotian Song (University of Science and Technology of China), Zhenqiang Yin (University of Science and Technology of China), Hongwei Li (University of Science and Technology of China), Wei Chen (University of Science and Technology of China), and Zhengfu Han (University of Science and Technology of China)

- (49) *Asymptotics of LOCC Conversion and LOCC Cloning by a New Kind of Probability Distributions*  
Wataru Kumagai (Kanagawa University) and Masahito Hayashi (Nagoya University and NUS)
- (50) *Physical time-energy cost of a quantum process determines its information fidelity*  
Chi-Hang Fred Fung (University of Hong Kong) and H. F. Chau (University of Hong Kong)
- (51) *Optical investigation of complex joint probabilities via sequential measurements*  
Yutaro Suzuki (Hiroshima University), Masataka Iinuma (Hiroshima University), Ryuji Kinoshita (Hiroshima University), Mayu Miyamoto (Hiroshima University), and Holger F. Hofmann (Hiroshima University)
- (52) *Effects of generalized measurement in uncertainty principles*  
Kyunghyun Baek (Sogang University) and Wonmin Son (Sogang University)
- (53) *Continuous-variable dense coding via a general Gaussian state: Monogamy relation*  
Jaehak Lee (Texas A & M University at Qatar), Se-Wan Ji (Texas A & M University at Qatar), Jiyong Park (Texas A & M University at Qatar), and Hyunchul Nha (Texas A & M University at Qatar)
- (54) *Sustainable coherence for two level atom tunneling through squeezed vacuum from the context of weak measurement*  
Samyadeb Bhattacharya (Physics and Applied Mathematics Unit, Indian Statistical Institute)
- (55) *Fermionic one way quantum computing*  
Xin Cao (AMSS, Chinese Academy of Sciences) and Yun Shang (AMSS, Chinese Academy of Sciences)
- (56) *Quantum information processing with quasi-lattices of superconducting qubits*  
Hou Ian (University of Macau)
- (57) *Non-separated states from squeezed dark-state polarities in electromagnetically-induced-transparency media*  
You-Lin Chuang (National Tsing-Hua University), Chien-Chung Jeng (National Chung-Hsing University), Ite A. Yu (National Tsing-Hua University), and Ray-Kuang Lee (National Tsing-Hua University)
- (58) *Squeezed Gaussian Private Quantum Channel*  
Kabgyun Jeong (Korea Institute for Advanced Study), Jaewan Kim (Korea Institute for Advanced Study), and Su-Yong Lee (Centre for Quantum Technologies)
- (59) *Quantization of Classical Nonlinear Dynamics with Feedback Control*  
Kiyotaka Nomizu (Hokkaido University), Akihisa Tomita (Hokkaido University), and Atsushi Okamoto (Hokkaido University)
- (60) *Open quantum walks with absorbing boundary*  
Xin Cao (AMSS, Chinese Academy of Sciences) and Yun Shang (AMSS, Chinese Academy of Sciences)
- (61) *Decoherence Effects on the Non-locality of Symmetric States*  
Adel Sohbi (Telecom ParisTech), Isabelle Zaquine (Telecom ParisTech), Eleni Diamanti (Telecom ParisTech), and Damian Markham (Telecom ParisTech)
- (62) *Bell inequalities for GHZ states of arbitrary dimensionality*  
Marcin Wieśniak (University of Gdańsk), Arijit Dutta (University of Gdańsk), and Junghee Ryu (University of Gdańsk)
- (63) *Optimal probabilistic measurement of phase*  
Petr Marek (Palacky University Olomouc)
- (64) *Device Independent Randomness Amplification with a Single Device*  
Martin Plesch (Slovak Academy of Sciences Bratislava) and Matej Pivoluska (Masaryk University Brno)
- (65) *Integer effects in the spin-orbit entanglement entropy in a 2D electron system with Rashba interactions*  
Rona F. Barbarona (Institute of Mathematical Sciences and Physics, University of the Philippines Los Baños) and Francis N. C. Paraan (National Institute of Physics, University of the Philippines Diliman)
- (66) *Transduction and Active Learning in the Quantum Learning of Unitary Transformations*  
Peter Wittek (University of Borås)

(67) *Axiomatic approach for generic Bell function*

Gwangil Bae (Sogang University) and Wonmin Son (Sogang University)

(68) *Optical encryption based on QR-coded compressive ghost imaging*

Shengmei Zhao (Nanjing University of Posts and Telecommunications), Wenqiang Liang (Nanjing University of Posts and Telecommunications), Longyan Gong (Nanjing University of Posts and Telecommunications), Weiwen Cheng (Nanjing University of Posts and Telecommunications), and Fei Li (Nanjing University of Posts and Telecommunications)