

QUANTUM INFORMATION PROCESSING PUBLICATIONS

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Blake Johnson, "QSimulator.jl: A tool for quickly building simulations of quantum systems," JuliaCon 2015, June 24-27, 2015 (Contributed talk).

Blake Johnson, "Quantum Gate Language: an "assembly" language for quantum computers," IQC Quantum Programming and Circuits Workshop, June 8-10, 2015 (Invited talk).

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Kin Chung Fong, "Graphene Thermal Transport Studies via Radio-Frequency, Cross-Correlated Johnson Noise Thermometry," APS March Meeting, March 2-6, 2015 (Contributed Talk).

Marcus P. da Silva, "Self-consistent verification of quantum measurements properties," APS March Meeting, March 2-6, 2015 (Contributed Talk).

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H Paik, LS Bishop, DT McClure, S Filipp, JM Gambetta, CB Lirakis, CA Ryan, J Schlafer, MP da Silva, M Soltani, M Patel, Z Dutton, "Novel quantum electro-optic transducer for quantum information processing using superconducting 3D qubits," APS March Meeting, March 2-6, 2015 (Contributed Talk).

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Christopher A. Fuchs, Ruediger Schack, "Quantum Measurement and the Paulian Idea," in "The Pauli-Jung Conjecture and Its Impact Today," edited by H. Atmanspacher and C. A. Fuchs (Imprint Academic, Exeter, UK, 2014), pp. 93–107., Jul 30, 2014 (proceedings paper).

Christopher A. Fuchs, "Quantum Theory in a QBist Rendition," Research Seminar, Naval Research Laboratory, Washington, DC, Jul 22, 2014 (Invited Seminar).

M. Takeoka, S. Guha, and M. M. Wilde, "Squashed Entanglement and the Two-Way Assisted Capacities of a Quantum Channel," IEEE International Symposium on Information Theory (ISIT), June 29 - July 4, 2014 ().

H. W. Chung, S. Guha, and L. Zheng, "Superadditivity of Quantum Channel Coding Rate with Finite Blocklength Quantum Measurements," IEEE International Symposium on Information Theory (ISIT), June 29 - July 4, 2014 ().

H. Krovi, S. Guha, Z. Dutton, and M. P. da Silva, "Optimal Measurements for Symmetric Quantum States with Applications to Optical Quantum Communication," IEEE International Symposium on Information Theory (ISIT), June 29 - July 4, 2014 ().

2014

H. Krovi, Z. Dutton, S. Guha, C. Fuchs, W. Tittel, C. Simon, J. Slater, K. Heshami, M. Hedges, G. S. Kanter, Y.-P. Huang, C. Thiel, "Long range quantum key distribution using frequency multiplexing in broadband solid state memories," Conference on Lasers and Electro-Optics (CLEO), June 8-13, 2014 (Oral Presentation).

S. Guha, D. Towsley, C. Capar, A. Swami, P. Basu, "Layered Percolation," NetSci 2014, June 2 - 6, 2014 (Oral Presentation).

Christopher A. Fuchs, "A Phase Space for Qudits (up in the sky)," The 2nd Princeton Workshop on Classical, Semi-classical and Quantum Noise, Princeton University, Mar 22, 2014 (Invited).

Blake Johnson, Marcus da Silva, Colm Ryan, Shelby Kimmel, Brian Donovan, "High-Confidence Quantum Gate Tomography," APS March Meeting, March 3-7, 2014 (Contributed Talk).

M Ware, B Johnson, J Gambetta, C Ryan, T Ohki, J Chow, BLT Plourde, "Cross-resonance interactions between superconducting qubits with variable detuning," APS Meeting, March 3-7, 2014 (Contributed).

Christopher A. Fuchs, "Quantum Theory from Quantum Information? (What would Feynman say?)," Physics Colloquium, City College of New York, New York, Feb 24, 2014 (Invited).

Christopher A. Fuchs, "Quantum Theory from Quantum Information? (What would Feynman say?)," Colloquium, Max Planck Institute for Quantum Optics, Garching, Germany, Feb 11, 2014 (Invited).

Christopher A. Fuchs, "Schroedinger's Equation Born Again," 44th Winter Colloquium on the Physics of Quantum Electronics, Snowbird, Utah, Jan 6, 2014 (Invited).

2013

Saikat Guha, "On the Quantum Limits of Classical Communication and Secret-Key Generation over a Lossy Optical Channel," Meeting on Quantum Information Processing and Applications (QIPA), Harishchandra Research Institute (HRI), Allahabad, India, Dec 2-8, 2013 (Invited Talk).

Christopher A. Fuchs, "Quantum Theory from Quantum Information? (What would Feynman say?)," International School on Quantum & Nano Computing Systems and Applications, Dayalbagh Educational Institute, Agra, India, Nov 30, 2013 (Valedictory Talk).

S. Guha, M. Takeoka, H. Krovi, M.M. Wilde, C. Lupo, "Secret key generation over a lossy optical channel with a passive quantum eavesdropper," IEEE ICITS 2013, Singapore, Nov 28-30, 2013 (Contributed talk).

S. Guha, P. Hayden, H. Krovi, S. Lloyd, C. Lupo, J.H. Shapiro, M. Takeoka, M.M. Wilde, "Quantum enigma machines and the locking capacity," IEEE ICITS 2013, Singapore, Nov 28-30, 2013 (Contributed talk).

R. Uргаonkar, S. Guha, P. Basu, H. Tripp, T. Freeman, R. Hancock, A. Seetharam, S. Heimlicher, J. Kurose, J. Connah, "Self-Optimisation in Future Hybrid Networks," IEEE MILCOM 2013, San Diego, Nov 18-20, 2013 (Contributed talk, Proceedings Paper).

Christopher A. Fuchs, "Quantum Theory from Quantum Information? (What would Feynman say?)," 7th Workshop on Control of Quantum Correlations in Tailored Matter: Common Perspectives of Mesoscopic Systems and Quantum Gases, Schloss Reisenberg, Guenzburg, Germany, Oct 28, 2013 (Invited).

Monika Patel, Saikat Guha, Baris I. Erkmen and Jonathan L. Habif, "Low-light imaging using a pseudo-thermal source," Single Photon Workshop 2013, Oak Ridge, Tennessee, October 15-18 2013 (Contributed talk).

Saikat Guha, "On the Quantum Limit of the Camera," Single Photon Workshop 2013, Oak Ridge, Tennessee, 12 October 2013 (Invited Talk).

H. Krovi, S. Guha, M. Takeoka, Z. Dutton, P. Kumar, Y. Huang, G. Kanter, "High-dimensional quantum key distribution using quantum frequency conversion," Single Photon Workshop 2013, Oak Ridge, Tennessee, 11 October 2013 (Contributed talk).

Saikat Guha, "Attaining the Quantum Limit of Free-Space Optical Communication Capacity," Frontiers in Optics 2013, Orlando, Florida, 10 October 2013 (Invited Talk).

Andrei Lapets, Marcus P da Silva, Mike Thome, Aaron Adler, Jacob Beal, Martin Rötteler, "QuaFL: a typed DSL for quantum programming," 1st Annual Workshop on Functional Programming Concepts in Domain-Specific Languages, Sept. 25-27 2013 (Contributed Talk).

Richard Lazarus and Assaf Kfoury (Chairs), "Functional Programming Concepts in Domain Specific Languages," International Conference on Functional Programming, September 22, 2013 (Workshop).

Saikat Guha, "Structured Simulations of Continuous Variable Quantum Dynamics and its Applications to Optical Communications," Quantum Simulations Workshop (QS2013), Indian Institute of Science (IISc), Bangalore, India, Sep 2 - 3 2013 (Invited Talk).

S. Guha, M. Takeoka, H. Krovi, M.M. Wilde, C. Lupo, "Secret key generation over a lossy optical channel with a passive quantum eavesdropper: Capacity bounds and new explicit protocols," AQIS 2013, Chennai, India, August 25-30, 2013 (Contributed poster).

Saikat Guha, "On attaining the quantum limit of classical optical communication," Institute for Quantum Computing (IQC), Waterloo, Ontario, 14 August 2013 (Invited Talk).

Jonathan L. Habif, Saikat Guha, Regina Hain, Zachary Dutton, "Polar Coded Optical Communications with Weak Coherent States," 2013 Conference on Lasers and Electro-Optics: Laser Science to Photonic Applications, Jun 9-13, 2013 (Contributed).

J.L. Habif, S. Guha, Z. Dutton, "Polar coded PPM Communication," CLEO 2013, San Jose, June 9-14, 2013 (Contributed talk).

P. Basu, C.-K. Chau, R. Irwin, S. Guha, R. Gibbens, "Multicasting under Multi-domain and Hierarchical Constraints," IEEE WiOpt 2013, Tsukuba, Japan, May 13-17, 2013 (Contributed talk, Proceedings Paper).

Kin chung Fong, "Toward Graphene-Based Microwave Photon Counter," APS March Meeting, March 19, 2013 (Invited Talk).

Marcus Silva, Shelby Kimmel, Blake Johnson, Colm Ryan, Thomas Ohki, "Robust Tomography using Randomized Benchmarking," APS March Meeting Baltimore, MD, March 18-22 2013 (Contributed talk).

Monika Patel, Jian Chen, Jonathan L. Habif, "Utilization of an Electron Multiplying CCD camera for applications in quantum information processing," APS March Meeting, March 18-22 2013 (Contributed talk).

Colm Ryan, Blake Johnson, Marcus P. da Silva, Shelby Kimmel, Thomas Ohki, "Implementation of a Robust Tomography Toolbox," APS March Meeting Baltimore, MD, March 18-22 2013 (Contributed talk).

2013

Saikat Guha, "Optical receiver designs to attain the quantum-limited capacity of optical communications," IBM Physical Sciences Seminar, Yorktown Heights, NY, 15 March 2013 (Invited Talk).

Saikat Guha, "Quantum limits of optical communication," iQuise Seminar at MIT, 12 February 2013 (Invited Talk).

Saikat Guha, "Capacity and structured receiver designs for quantum-limited optical communications," Physics Colloquium at ETH, 10 February 2013 (Invited Talk).

Saikat Guha, "Attaining the quantum limit of optical communications," The 43rd Winter Colloquium on Physics of Quantum Electronics, Snowbird UT, January 7, 2013 (Invited Talk, Workshop).

2012

Saikat Guha, "The role of quantum optics in realizing optimal detection of laser light waveforms Communication at the Holevo limit," Entangled Coherent States and its applications to Macroscopic Quantum Communications, Tamagawa University, Tokyo, November 28, 2012 (Invited Talk, Workshop).

Saikat Guha, "How many bits can a photon carry?," Seminar organized by Sriram Ramaswamy, Tata Institute for Fundamental Research, Hyderabad, India, August 13, 2012 (Invited Talk, Seminar).

Marcus P da Silva, Saikat Guha, Zachary Dutton, "Optimal discrimination of M coherent states with a small quantum computer," 11th International Conference on Quantum Communication, Measurement and Computation (QCMC), 3 Aug 2012 (Contributed Talk).

Saikat Guha, Mark M. Wilde, "Polar coding to achieve the Holevo capacity of a pure-loss optical channel," International Symposium on Information Theory (ISIT), Cambridge, MA, July 2, 2012 (Contributed Talk, Proceedings Paper).

Saikat Guha, Ranjith Nair, Brent J. Yen, Jeffrey H. Shapiro, Stefano Pirandola, "Quantum M-ary Phase Shift Keying," International Symposium on Information Theory (ISIT), Cambridge, MA, July 2, 2012 (Contributed Talk, Proceedings Paper).

Mark M. Wilde, Saikat Guha, Si-Hui Tan, Seth Lloyd, "Explicit Receivers for Optical Communication and Quantum Reading," International Symposium on Information Theory (ISIT), Cambridge, MA, July 2, 2012 (Contributed Talk, Proceedings Paper).

Saikat Guha, "Attaining the Holevo limit for optical communication: Optimal codes and joint detection receivers," Seminar organized by Prem Kumar, Northwestern University, June 21, 2012 (Invited Talk, Seminar).

Saikat Guha, Jeffrey H. Shapiro, Zachary Dutton, Ranjith Nair, Brent J. Yen, Mark M. Wilde, Si-Hui Tan, "Capacity of Quantum Reading," McGill University CQIL/CS seminar, March 29, 2012 (Invited Talk, Seminar).

Marcus P. da Silva, J. M. Gambetta, "Joint tomography of state preparations and measurements," APS March Meeting, Feb 27-March 2, 2012 (Contributed Talk).

Saikat Guha, Mark M. Wilde, "Polar codes for achieving the classical capacity of a quantum channel," APS March Meeting, Feb 27, 2012 (Contributed Talk).

Zachary Dutton, Saikat Guha, Jian Chen, Jonathan Habif, Richard Lazarus, "Improved coded optical communication error rates using joint detection receivers," APS March Meeting, February 27, 2012 (Contributed Talk).

2012

Olivier Landon-Cardinal, Marcus P. da Silva, Steven T. Flammia, Yi-Kai Liu and David Poulin, "Practical characterization of quantum devices without tomography," APS March Meeting, Feb 27-Mar 2, 2012 (Contributed Talk).

Saikat Guha, "Attaining the ultimate limit of classical information transmission over an optical channel," Seminar organized by Warren Grice, Oak Ridge National Laboratory, February 02, 2012 (Invited Talk, Seminar).

2011

Olivier Landon-Cardinal, Marcus P. da Silva, Steven T. Flammia, Yi-Kai Liu and David Poulin, "Practical characterization of quantum devices without tomography," Quantum Information Processing (QIP) 2012 workshop, Dec 12-16, 2011 (Contributed Talk).

2005

Richard Lazarus and Barry Silverman (Chairs), "Symposium on New Ideas for Human Behavior Model Interchange & Inter-Operation," Conference on Behavior Representation in Modeling and Simulation, 10 May 2005 (Symposium).

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