BRITTON L. T. PLOURDE

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ACADEMIC POSITIONS

- Professor, Physics Department – *Syracuse University* 2016-present
- Associate Professor, Physics Department – *Syracuse University* 2011-2016
- Assistant Professor, Physics Department – *Syracuse University* 2005-2011
- Postdoctoral Research Associate –*University of California, Berkeley* 2000-2004

EDUCATION

- Ph.D., *University of Illinois at Urbana-Champaign* October 2000
  Thesis Title: "Vortex Distributions and Dynamics in Superconductors near Surface Steps and Sample Edges Studied by Scanning SQUID Microscopy and Critical Current Measurements"
  Thesis Advisor: Dale J. Van Harlingen
  Thesis committee: Anthony Leggett, Michael Weissman, James Wiss
- Master of Science, Physics - *University of Illinois* January 1995
- Bachelor of Science, Physics with honors - *University of Michigan* May 1993
- Master of Music, Performance - *University of Illinois* May 1999
- Bachelor of Music, Performance with honors - *University of Michigan* May 1993

HONORS AND AWARDS

- Outstanding Referee Award – American Physical Society 2018
- Visiting Professor of Physics, *University of the Saarland Saarbrücken, Germany* Fall 2013
- IBM Faculty award 2011
- NSF CAREER award 2006
- Lunch on the Department teaching award, *Syracuse University* 2012, 2017
- Outstanding Physics Professor award, Society of Physics Students, *Syracuse University* 2009
- Excellence in Teaching Award, *University of Illinois* 1994
- Williams Undergraduate Physics Thesis Award, *University of Michigan* 1993
- Literature, Science, and the Arts Merit Scholarship, *University of Michigan* 1993
- National Science Foundation Travel Award 1998

INVITED PRESENTATIONS

- Quantum Information Seminar, Syracuse University, Syracuse, NY December 2019
- Keynote talk at Workshop on Quantum and Classical Cryogenic Devices, Circuits, and Systems, Nagoya University, Nagoya, Japan November 2019
- US Superconductor Electronics Workshop, Skytop, PA October 2019
- Plenary talk at Cornell NanoScale Facility Annual Meeting Cornell University, Ithaca, NY September 2019

- SQ20th: 20th Anniversary of Superconducting Qubits Symposium — May 2019
  Tsukuba, Japan
- IEEE Quantum Initiative Workshop, Gaithersburg, MD — May 2019
- Condensed Matter Seminar, University of Rochester, Rochester, NY — March 2019
- Quantum Information/AMO Seminar, University of Illinois — February 2019
  Urbana-Champaign, IL
- RIT Photonics for Quantum Workshop — January 2019
  Rochester Institute of Technology, Rochester, NY
- Condensed Matter Seminar, University of Pittsburgh — November 2018
  Pittsburgh Quantum Institute, Pittsburgh, PA
- International Workshop on Quantum Control, Coherence, and Computing — October 2018
  Stevens Institute of Technology, Hoboken, NJ
- Quantum Information Science Workshop, Michigan State University — October 2018
  East Lansing, MI
- Workshop on Localization, Interactions and Superconductivity — July 2018
  Landau Institute for Theoretical Physics, Chernogolovka, Russia
- Undergraduate Physics Colloquium, Syracuse University — April 2018
  Syracuse, NY
- Condensed Matter Physics seminar, Michigan State University — October 2017
  East Lansing, MI
- Rome Air Force Research Lab seminar, Rome, NY — July 2017
- SUNY Poly CNSE Colloquium — May 2017
  SUNY Polytechnic Institute, Albany, NY
- Frontiers in Quantum Coherent Science, Center for Quantum — January 2017
  Coherent Science, University of California, Berkeley
- Center for Nanophysics and Advanced Materials (CNAM) Colloquium — October 2016
  University of Maryland
- Syracuse Society of Physics Students colloquium, Syracuse, NY — November 2015
- Syracuse University Project Advance (SUPA) lectures — Oct./Nov. 2015
  Lubin House, NYC and Syracuse University
- US Superconductor Electronics Workshop, North Conway, NH — October 2015
- Institute for Quantum Computing Seminar, University of Waterloo — August 2015
- Quantum Metamaterials Conference, Spetses, Greece — June 2015
- Physics Colloquium, SUNY Geneseo — April 2015
- Fourth International Workshop on Entanglement, Decoherence — October 2014
  and Control, University at Buffalo
- Cornell NanoScale Facility Annual Users Meeting — September 2014
  Cornell University
- Physics Seminar, Yale University — May 2014
- R.G. Herb Condensed Matter Physics Seminar, — March 2014
  University of Wisconsin, Madison
- Control-Q Physics Lectures (2x), University of the Saarland — December 2013
  Saarbrücken, Germany
- Physics Seminar, University of Tübingen, Germany — December 2013
- WMI Seminar, Walther-Meißner Institute, Garching, Germany — November 2013
- Solid State Physics Seminar, ETH Zurich — November 2013
  Zurich, Switzerland
- Physics Institute Seminar, Karlsruhe Institute of Technology — November 2013
  Karlsruhe, Germany

- Physics Colloquium, University of the Saarland — October 2013
- International Workshop on Frontiers in Quantum Information Science — June 2013
  Fudan University, Shanghai, China
- Physics Seminar, University at Buffalo — February 2013
- Physics Seminar, Colgate University — November 2012
- SEALeR workshop on reversible digital logic — March 2012
  sponsored by NSA/ARO -- Annapolis, MD
- New York State Section meeting of the American Physical Society — October 2011
  SUNY Oneonta, NY
- Buffalo Workshop on Quantum Computing, Buffalo, NY — September 2011
- National Institute of Standards and Technology seminar, Boulder, CO — April 2011
- University of Ottawa, Physics seminar — February 2011
- IQC Colloquium, Institute for Quantum Computing — October 2010
  University of Waterloo, Ontario
- Physics Colloquium, Syracuse University — September 2010
- Physics Seminar, Dartmouth College — May 2010
- Superconducting Device Research group seminar — May 2010
  Karlsruhe Institue of Technology (Germany)
- Physics Seminar, Tuebingen University (Germany) — May 2010
- ESF Workshop on Superconductivity in Reduced Dimensions — May 2010
  Salzburg, Austria
- Condensed Matter 60 Seminar, Syracuse University — April 2010
- Research Seminar, MIT Lincoln Labs — November 2009
- Sweet Lecture, Technology Alliance of Central New York — October 2009
- Condensed Matter Seminar, University of Wisconsin — April 2008
- Condensed Matter Seminar, Michigan State University — May 2008
- Solid State Physics Seminar, ETH Zurich — September 2008
- ESF Workshop on Nanoscience Engineering and Superconductivity — September 2008
  Freudenstadt-Lauterbad, Germany
- Condensed Matter Seminar, Syracuse University — October 2008
- Physics Colloquium, Kent State University — November 2008
- Laboratory for Atomic and Solid State Physics (LASSP) Seminar — November 2008
  Cornell University
- New York Section, American Association of Physics Teachers, — September 2007
  2007 Fall Meeting, Syracuse University
- Frontiers of Science Lecture, Syracuse University — March 2007
- Condensed Matter Seminar, University of Rochester — November 2006
- Physics Colloquium, Binghamton University — October 2006
- Physics Colloquium, Amherst College — October 2006
- Condensed Matter, Atomic, and Molecular Physics Seminar, — April 2006
  Penn State University
- Saturday Morning Physics Lecture, — April 2006
  Syracuse University Physics Department
- Physics and Astronomy Seminar, Colgate University — February 2006
- Condensed Matter Seminar, Brown University — November 2005
- International Superconductive Electronics Conference, — September 2005
  The Netherlands, invited plenary talk on flux qubits
- Flux qubit group seminar, TU Delft, — September 2005

Delft, The Netherlands

- IQC Seminar, Institute for Quantum Computing, University of Waterloo — May 2005
- Solid State and Optics Seminar, Yale University — April 2005
- Berkeley Quantum Information and Computation Center Seminar, University of California — November 2004
- International Workshop on Solid State Based Quantum Information Processing, Herrsching, Germany — September 2004
  Invited talk in superconducting qubit session
- Quantum Information Science Seminar, University of Illinois — September 2004
- Physics Department Colloquium, Syracuse University — February 2004
- Condensed Matter Physics Seminar, Syracuse University — February 2004
- Condensed Matter Physics Seminar, University of Minnesota — February 2004
- Condensed Matter Physics Seminar, University of Massachusetts — February 2004
- Applied Superconductivity Conference, Houston, TX — August 2002
  Invited talk in quantum computing session
- ESF Vortex Matter Workshop, Lunteren, The Netherlands — August 2000
  Invited talk and poster presentation
- Materials and Mechanisms of Superconductivity, Houston, TX — February 2000
  Invited poster session

CONTRIBUTED CONFERENCE PRESENTATIONS

- SPIE Quantum Information and Computation XIII, Baltimore, MD — April 2015
- Benasque Scientific Center – Worksop on Quantum Simulations, Benasque, Spain — October 2013
- NATO Advanced Study Institute – Kusadasi, Turkey: "Physics and Materials Science of Vortex States, Flux Pinning and Dynamics" — July 1998
- American Physical Society, March Meetings — 1994, 96, 97, 98, 99 01, 02, 03, 04, 05, 10, 11, 12
- Applied Superconductivity Conferences — 1996, 2008, 2018

SPONSORED RESEARCH PROJECTS

- CAREER: *Quantum Coherence in Vortex Systems and Superconducting Devices* -- $514,000 over 5 years
  National Science Foundation — 2006-2012
- MRI: *Acquisition of an Atomic Force Microscope and Surface Profilometer for Surface Analysis Facility at Syracuse University*
  co-PIs: Tewodros Asefa, Karin Ruhlandt-Senge, Gianfranco Vidali
  -- $297,896 for purchasing new equipment
  National Science Foundation — 2007-2009
- QuEST: *Quantum-Limited Measurement as a Tool for Entanglement in Superconducting Circuits*
  project led by PI Robert McDermott (U. Wisconsin)
  -- $840,000 (Syracuse portion)
  DARPA — Jan. 2009-May 2013

- Coherent Superconducting Qubits: *Improved Materials for High-Performance Phase and Flux Qubits* — July 2009-Aug. 2011
  project led by PI Robert McDermott (U. Wisconsin)
  -- $615,000 (Syracuse portion)
  IARPA
- Multi-Qubit Coherent Operations: *Surface-Code Multi-Qubit Functionality with Superconducting Qubits* — August 2010-2016
  project led by PI Mark Ketchen (IBM Yorktown Heights)
  -- $2,197,000 (Syracuse portion)
  IARPA
- *Coupling a Single Vortex in a Superconductor to a Single Microwave Photon* -- $345,000 over 4 years — Sept. 2011-2015
  National Science Foundation
- *Acquisition of an Adiabatic Demagnetization Refrigerator for Quantum Information Science with Superconducting Circuits (DURIP)* — Aug. 2014-2015
  -- $230,738
  Army Research Office
- *Scalable Readout of Superconducting Qubits with Novel Superconducting Amplifiers and Metamaterials* — March 2014-2017
  Lead PI = Britton Plourde, co-PIs at Wisconsin and Saarland
  -- $2,250,000 total; $813,000 over 3 years (Syracuse portion)
  Army Research Office
- *Accurate Qubit Control with Single Flux Quantum Pulses* — 2015-2019
  project led by PI Robert McDermott (U. Wisconsin), co-PIs at Wisconsin and Saarland
  -- $1,010,000 over 4 years (Syracuse portion)
  Army Research Office
- LogiQ: *Superconducting Logically Encoded Extensible Qubit* — 2016-2019
  project led by PI Jerry Chow (IBM Yorktown Heights)
  -- $900,000 over 3 years (Syracuse portion)
  IARPA
- *Collaborative Research: Proximal Digital Control and Stabilization of Superconducting Qubits* -- $270,000 over 3 years (Syracuse portion) — Aug. 2017-present
  Collaboration with McDermott lab at U. Wisconsin
  National Science Foundation
- *Charge Parity Qubit Protected Against Local Noise* — May 2018-present
  project led by PI Robert McDermott (U. Wisconsin), co-PIs at Wisconsin (L. Ioffe and L. Faoro)
  -- $1,000,000 over 4 years (Syracuse portion)
  Army Research Office
- *Interfacing SFQ Digital Logic with Superconducting Qubit Circuits* — Oct. 2019-present
  Collaboration with R. McDermott (U. Wisconsin) and LLNS
  -- $200,000 over 2 years (Syracuse portion)
  Lawrence Livermore National Laboratory (DOE)

PATENTS

- *System and Method for Circuit Quantum Electrodynamics Measurment* — June 2017
  US 9,692,423 B2 with McDermott, Vavilov, Wilhelm-Mauch Govia, Pritchett

RESEARCH EXPERIENCE PRIOR TO FACULTY APPOINTMENT

Postdoctoral Research: *University of California, Berkeley* 2000-2004
(Research advisor: John Clarke)

- Measurements of quantum coherence in superconducting flux qubits through Rabi oscillations, Ramsey fringes, and spin echoes.
- Implementation of frequency-dependent damping for measurement device enabling single shot readout of flux qubit state.
- Development of techniques for coupling flux qubits.
- Analysis of decoherence in various superconducting qubit designs due to low frequency fluctuations in critical current of constituent tunnel junctions.

Doctoral Research: *University of Illinois* 1994-2000
(Thesis advisor: Dale J. Van Harlingen)

- Scanning SQUID Microscope magnetic imaging studies of interactions between vortices in superconductors and surface pinning structures.
- Transport measurements of vortex dynamics in superconducting strips and analysis of vortex interactions with sample edges.
- Numerical modeling of superconductor tunnel junction-based technique for submicron magnetic imaging.

Undergraduate Research: *University of Michigan* 1991-1993
(Research advisors: Franco Nori and Michael Bretz)

- Measurement of avalanches in system of water droplets.
- Comparison of avalanche distributions with models of self-organized criticality.

PUBLICATIONS

"Anomalous charge noise in superconducting qubits", B. G. Christensen, C. D. Wilen, A. Opremcak, J. Nelson, F. Schlenker, C. H. Zimonick, L. Faoro, L. B. Ioffe, Y. J. Rosen, J. L. DuBois, B. L. T. Plourde, and R. McDermott - Physical Review B 100, 140503(R) (2019).

"Interfacing Superconducting Qubits With Cryogenic Digital Logic: Measurement" C. Howington, A. Opremcak, R. McDermott, A. Kirichenko, O.A. Mukhanov, B.L.T. Plourde IEEE Transactions on Applied Superconductivity 29, 5 (2019).

“Mode Structure in Superconducting Metamaterial Transmission Line Resonators” H. Wang, A.P. Zhuravel, S. Indrajeet, B.G. Taketani, M.D. Hutchings, Y. Hao, F. Rouxinol, F.K. Wilhelm, M. LaHaye, A.V. Ustinov, B.L.T. Plourde – Physical Review Applied 11, 054062 (2019).

"Digital coherent control of a superconducting qubit" E. Leonard Jr, M.A. Beck, J. Nelson, B.G. Christensen, T. Thorbeck, C. Howington, A. Opremcak, I.V. Pechenezhskiy, K. Dodge, N.P. Dupuis, J. Ku, F. Schlenker, J. Suttle, C. Wilen, S. Zhu, M.G. Vavilov, B.L.T. Plourde, R. McDermott – Physical Review Applied 11, 014009 (2019).

"Measurement of a Superconducting Qubit with a Microwave Photon Counter" A. Opremcak, I.V. Pechenezhskiy, C. Howington, B.G. Christensen, M.A. Beck, E. Leonard Jr., J. Suttle, C. Wilen, K.N. Nesterov, G.J. Ribeill, T. Thorbeck, F. Schlenker, M.G. Vavilov, B.L.T. Plourde, R. McDermott – Science 361, 1239 (2018).

“Enhanced superconducting transition temperature in electroplated rhenium” David P. Pappas, Donald E. David, Russell E. Lake, Mustafa Bal, Ron B. Goldfarb, Dustin A. Hite, Eunja Kim, H.-S. Ku, J.L. Long, C.R.H. McRae, L.D. Pappas, A. Roshko, J.G. Wen, B.L.T. Plourde, I. Arslan, and X. Wu – Applied Physics Letters 112, 182601 (2018).

“Quantum-classical interface based on single flux quantum digital logic” R. McDermott, M.G. Vavilov, B.L.T. Plourde, F.K. Wilhelm, P.J. Liebermann, O.A. Mukhanov, T.A. Ohki — Quantum Science and Technology 3, 024004 (2018).

“Phonon-Mediated Quasiparticle Poisoning of Superconducting Microwave Resonators” U. Patel, Ivan V. Pechenezhskiy, B. L. T. Plourde, M. G. Vavilov, R. McDermott — Physical Review B, 96, 220501(R) (2017).

“Tunable Superconducting Qubits with Flux-Independent Coherence” M.D. Hutchings, J.B. Hertzberg, Y. Liu, N.T. Bronn, G.A. Keefe, M. Brink, J.M. Chow, B.L.T. Plourde, — Physical Review Applied 8, 044003 (2017).

"Experimental Demonstration of a Resonator-Induced Phase Gate in a Multiqubit Circuit-QED System" Hanhee Paik, A. Mezzacapo, Martin Sandberg, D. T. McClure, B. Abdo, A. D. Córcoles, O. Dial, D. F. Bogorin, B. L. T. Plourde, M. Steffen, A. W. Cross, J. M. Gambetta, Jerry M. Chow — Physical Review Letters 117, 250502 (2016).

"Transient dynamics of a superconducting nonlinear oscillator" P. Bhupathi, Peter Groszkowski, M. P. DeFeo, Matthew Ware, Frank K. Wilhelm, and B. L. T. Plourde — Physical Review Applied 5, 024002 (2016).

"Scalable two- and four-qubit parity measurement with a threshold photon counter" L.C.G. Govia, Emily J. Pritchett, B. L. T. Plourde, Maxim G. Vavilov, R. McDermott, and Frank K. Wilhelm —Physical Review A 92, 022335 (2015).

"Superconducting metamaterials and qubits" B. L. T. Plourde, Haozhi Wang, Francisco Rouxinol, M. D. LaHaye —Proceedings of the SPIE 9500, Quantum Information and Computation XIII, 95000M (2015).

"High-fidelity qubit measurement with a microwave-photon counter" L.C.G. Govia, Emily J. Pritchett, Canran Xu, B. L. T. Plourde, Maxim G. Vavilov, Frank K. Wilhelm, and R. McDermott— Physical Review A 90, 062307 (2014).

"Trapping a Single Vortex and Reducing Quasiparticles in a Superconducting Resonator" I. Nsanzineza and B. L. T. Plourde — Physical Review Letters 113, 117002 (2014).

“Copper Waveguide Cavities with Reduced Surface Loss for Coupling to Superconducting Qubits", D.F. Bogorin, D.T. McClure, M. Ware, B.L.T. Plourde – IEEE Transactions on Applied Superconductivity 24(4), 1700207 (2014).

"First-order sideband transitions with flux-driven asymmetric transmon qubits", J.D. Strand, Matthew Ware, Felix Beaudoin, T.A. Ohki, B.R. Johnson, Alexandre Blais, B.L.T. Plourde – Physical Review B **87**, 220505(R) (2013).

"Process verification of two-qubit quantum gates by randomized benchmarking", A.D. Corcoles, Jay M. Gambetta, Jerry M. Chow, John A. Smolin, Matthew Ware, J.D. Strand, B.L.T. Plourde, M. Steffen – Physical Review A **87**, 030301 (2013).

"Reducing surface loss in 3D microwave copper cavities for superconducting transmon qubits" Daniela Bogorin, Matthew Ware, D.T. McClure, Stephen Sorokanich, B.L.T. Plourde – Proceedings of 2013 IEEE 14th International Superconductive Electronics Conference (ISEC), 7-11 July 2013, DOI:10.1109/ISEC.2013.6604283.

"Superconducting qubit in a waveguide cavity with a coherence time approaching 0.1 ms", Chad Rigetti, Jay M. Gambetta, Stefano Poletto, B.L.T. Plourde, Jerry M. Chow, A.D. Corcoles, John A. Smolin, Seth T. Merkel, J.R. Rozen, George A. Keefe, Mary B. Rothwell, Mark B. Ketchen, M. Steffen – Physical Review B **86**, 100506(R) (2012).

"Superconducting microstrip amplifiers with sub-Kelvin noise temperature near 4 GHz", M.P. DeFeo, B.L.T. Plourde – Applied Physics Letters **101**, 052603 (2012).

"Rectification of vortex motion in a circular ratchet channel", N.S. Lin, T.W. Heitmann, K. Yu, B.L.T. Plourde, V.R. Misko, – Physical Review B **84**, 144511 (2011).

"Microstrip superconducting quantum interference device amplifiers with submicron Josephson junctions: Enhanced gain at gigahertz frequencies", M.P. DeFeo, P. Bhupathi, K. Yu, T.W. Heitmann, C. Song, R. McDermott, B.L.T. Plourde – Applied Physics Letters **97**, 092507 (2010).

"Vortex dynamics in superconducting channels with periodic constrictions", K. Yu, M.B.S. Hesselberth, P.H. Kes, B.L.T. Plourde – Physical Review B **81**, 184503 (2010).

"Reducing microwave loss in superconducting resonators due to trapped vortices" C. Song, M.P. DeFeo, K. Yu, B.L.T. Plourde – Applied Physics Letters **95**, 232501 (2009).

"Nanostructured Superconductors with Asymmetric Pinning Potentials: Vortex Ratchets" Britton L.T. Plourde – IEEE Transactions on Applied Superconductivity **19**, 3698 (2009).

"Microwave response of vortices in superconducting thin films of Re and Al" C. Song, T.W. Heitmann, M.P. DeFeo, K. Yu, R. McDermott, M. Neeley, John M. Martinis, B.L.T. Plourde – Physical Review B **79**, 174512 (2009).

"Picovoltmeter for probing vortex dynamics in a single weak-pinning Corbino channel" T.W. Heitmann, K. Yu, C. Song, M.P. DeFeo, B.L.T. Plourde, M.B.S. Hesselberth, P.H. Kes – Rev. Sci. Inst. **79**, 103906 (2008).

“Quantum nondemolition-like fast measurement scheme for a superconducting qubit” I. Serban, B.L.T. Plourde, F.K.Wilhelm – Physical Review B **78**, 054507 (2008).

"Asymmetric weak-pinning superconducting channels: vortex ratchets", K. Yu, T.W. Heitmann, C. Song, M.P. DeFeo, B.L.T. Plourde, M.B.S. Hesselberth, P.H. Kes – Physical Review B **76**, 220507(R) (2007).

"Long-range coupling and scalable architecture for superconducting flux qubits", Austin G. Fowler, William F. Thompson, Zhizhong Yan, Ashley M. Stephens. B.L.T. Plourde, Frank K. Wilhelm – Physical Review B, **76**, 174507 (2007).

"Solid-State Qubits with Current-Controlled Coupling", T. Hime, P.A. Reichardt, B.L.T. Plourde, T.L. Robertson, C.-E. Wu, A.V. Ustinov, John Clarke -- Science **314**, 1427 (2006).

"Quantum theory of three-junction flux qubit with non-negligible loop inductance: Towards scalability", T.L. Robertson, B.L.T. Plourde, P.A. Reichardt, T. Hime, C.-E. Wu, John Clarke -- Physical Review B, **73**, 174526 (2006).

"Flux qubits and readout device with two independent flux lines", B.L.T. Plourde, T.L. Robertson, P.A. Reichardt, T. Hime, S. Linzen, C.-E. Wu, and John Clarke -- Physical Review B **72**, 060506(R) (2005).

"Superconducting Quantum Interference Device with frequency-dependent damping: readout of flux qubits", T.L. Robertson, B.L.T. Plourde, T. Hime, S. Linzen, P.A. Reichardt, F.K. Wilhelm, and John Clarke -- Physical Review B **72**, 024513 (2005).

"Entangling flux qubits with a bipolar dynamic inductance", B.L.T. Plourde, J. Zhang, K.B. Whaley, F.K. Wilhelm, T.L Robertson, T. Hime, S. Linzen, P.A. Reichardt, C.-E. Wu, and John Clarke – Physical Review B, **70**, 140501(R) (2004).

"Low-noise computer-controlled current source for quantum coherence experiments", S. Linzen, T.L. Robertson, T. Hime, B.L.T. Plourde, P.A. Reichardt, and John Clarke -- Review of Scientific Instruments, **75**, 2541 (2004).

"Decoherence in Josephson-junction qubits due to critical-current fluctuations", D.J. Van Harlingen, T.L. Robertson, B.L.T. Plourde, P.A. Reichardt, T.A. Crane, and John Clarke – Physical Review B, **70**, 064517 (2004).

"Decoherence in Flux Qubits Due to 1/f Noise in Josephson Junctions" D.J. Van Harlingen, B.L.T. Plourde, T.L. Robertson, P.A. Reichardt, and John Clarke -- in *Quantum Computing and Quantum Bits in Mesoscopic Systems*, Kluwer Academic, 2004.

"Quiet Readout of Superconducting Flux States"**,** John Clarke, T.L. Robertson, B.L.T. Plourde, A. García-Martinez, P.A. Reichardt, D.J. Van Harlingen, B. Chesca, R. Kleiner, Y. Makhlin, G. Schön, A. Shnirman and F.K. Wilhelm – Physica Scripta, T102, 173 (2002).

"Vortex distributions near surface steps observed by scanning SQUID microscopy", B.L.T. Plourde, D.J. Van Harlingen, N. Saha, R. Besseling, M.B.S. Hesselberth, and P.H. Kes – Physical Review B, **66**, 054529 (2002).

"Influence of edge barriers on vortex dynamics in thin weak-pinning superconducting strips", B.L.T. Plourde, D.J. Van Harlingen, D. Yu. Vodolazov, R. Besseling, M.B.S. Hesselberth, and P.H. Kes – Physical Review B, **64**, 014503 (2001).

"Vortex dynamics in thin superconducting strips observed by Scanning SQUID Microscopy", B.L.T. Plourde and D.J. Van Harlingen - Physica C, **341-348**, 1023-1026 (2000).

"Search for superconducting phases with broken time-reversal symmetry in d-wave grain boundary junctions and mesoscopic islands", W.K. Neils, B.L.T. Plourde and D.J. Van Harlingen – Physica C, **341-348**, 1705-1706 (2000).

"Scanning SQUID Microscopy of Flux Distributions and Motion near Surface Features in $NbSe_2$", B.L.T. Plourde and D.J. Van Harlingen - NATO Advanced Study Institute Proceedings, **356**, 281 (1999).

"Design of a Scanning Josephson Junction Microscope for Submicron-Resolution Magnetic Imaging", B.L.T. Plourde, D.J. Van Harlingen - Review of Scientific Instruments, **70**, 4344 (1999).

"Extending SQUID interferometry beyond the cuprates and beyond d-wave symmetry", D.J. Van Harlingen, J.E. Hilliard, B.L.T. Plourde, B.D. Yanoff, Physica C, **317-318**, 410 (1999).

"Water Droplet Avalanches", Britton Plourde, Franco Nori and Michael Bretz, Physical Review Letters, **71,** 2749 (1993).

TEACHING EXPERIENCE

•Contemporary Problems in Physics, PHY451 *Syracuse University*	2016, 2017
•Intermediate and Advanced Physics Laboratory, PHY344 & 462 *Syracuse University*	2006-2009, 2015-17
•General Physics I: Intro. Mechanics for Honors & Majors, PHY215 *Syracuse University*	2010-2012, 2014-2015
•General Physics I: Introductory Mechanics, PHY211 *Syracuse University*	2005-2007, 2018
•General Physics I Lab: Introductory Mechanics, PHY221 *Syracuse University*	2019
•Practicum Seminar in Physics Education, PHY399 *Syracuse University*	2006
•First Year Forum, CAS101 *Syracuse University*	2005
•Served as Lower-Division Faculty Advisor for 16 students *Syracuse University, College of Arts & Sciences*	2005-2007
•Served as Physics Major Advisor for 12 undergraduate students *Syracuse University, Department of Physics*	2010-present
•Sixteen advanced undergraduate lectures for Professor John Clarke: Quantum Mechanics, Statistical Mechanics, Solid State Physics. *University of California, Berkeley*	2000-2004
•Teaching Assistant for discussion and laboratory sections for introductory non-calculus based physics courses. *University of Illinois*	1993-1994
•Postdoctoral research supervisor for three graduate students and two undergraduate students conducting experiments on quantum coherence in nanoscale superconducting devices. *University of California, Berkeley*	2000-2004

THESIS AND POSTDOCTORAL ADVISING

- Advisor to Caleb Howington – Ph.D., Syracuse University — December 2019
  "Digital Readout and Control of a Superconducting Qubit"
- Advisor to Haozhi Wang – Ph.D., Syracuse University — August 2018
  "Fabrication and Characterization of Superconducting Metamaterial Resonators"
- Advisor to Ibrahim Nsanzineza – Ph.D., Syracuse University — May 2016
  "Vortices and Quasiparticles in Superconducting Microwave Resonators"
- Advisor to Matthew Ware – Ph.D., Syracuse University — May 2015
  "Flux-tunable superconducting transmons for quantum information processing"
- Advisor to Michael DeFeo – Ph.D., Syracuse University — July 2012
  "Microstrip Superconducting Quantum Interference Devices for Quantum Information Science"
- Advisor to Chunhua Song – Ph.D., Syracuse University — December 2011
  "Microwave Properties of Vortices in Superconducting Resonators"
- Advisor to Kang Yu – Ph.D., Syracuse University — May 2010
  "Vortex Dynamics in Nanostructured Weak-Pinning Channels"
- Advisor to Dr. Thomas Heitmann – Postdoctoral researcher — 2005-2008
  Currently at University of Missouri
- Advisor to Dr. Pradeep Bhupathi – Postdoctoral researcher — 2009-2011
  Currently at Caltech
- Advisor to Dr. Bo Xiao – Postdoctoral researcher — 2009-2011
  Currently at Norfolk State University
- Advisor to Dr. Joel Strand – Postdoctoral researcher — 2010-2012
  Currently at Northrop Grumman Corporation
- Advisor to Dr. Daniela Bogorin – Postdoctoral researcher — 2012-2015
  Currently at IBM Watson Lab
- Advisor to Dr. Matthew Hutchings – Postdoctoral researcher — 2013-2017
  Currently at SeeQC (UK)
- Advisor to Dr. JJ Nelson – Postdoctoral researcher — 2015-2018
  Currently at University of Rochester
- Advisor to 1 postdoctoral researcher and 6 graduate students — present

SERVICE ACTIVITIES

- Organized first *Undergraduate Research Day and Physics Open House* (with Profs. Blusk and Trodden) – attended by 33 undergraduates from 10 institutions — November 2006
- Served on Physics Graduate Recruiting Committee — 2006
- Wrote, administered, and graded Physics Department Graduate comprehensive exam — 2005-2006
- Organized second *Undergraduate Research Day and Physics Open House* (with Profs. Movileanu (chair) and Artuso) — November 2007
- Facilitator and participant in Central New York STEM Dialogue Organized by Syracuse University — November 2009

•Served on Experimental Condensed Matter Physics Faculty search committee	2005-2009
•Served on Physics Undergraduate Curriculum Reform Committee	2006-2010
•Organizer for Physics Colloquium series	Spring 2009
•Faculty supervisor for graduate students in Physics Clinic	Fall 2009
•Served on Physics Department Chair Search Committee (with Profs. Eric Schiff (chair), Marina Artuso, Edward Lipson)	2010
•Served on Experimental Elementary Particle Physics Faculty search committee	2014-2015
•Served on LIGO faculty search committee	2019
•Served on QIS faculty search committee	2019
•Served on Physics Graduate Admissions Committee	2014-present
•Served on Physics Ph.D. thesis defense – Caleb Howington	December 2019
•Served on Physics Ph.D. thesis defense – Fabian Magana-Sandoval	January 2019
•Served on Physics Ph.D. thesis defense – Haozhi Wang	August 2018
•Served on Physics Ph.D. thesis defense (Chem.) – Michael Bayne	May 2018
•Served on Physics Ph.D. thesis defense – Yu Hao	May 2017
•Served on Physics Ph.D. thesis defense – Kathleen Kelly	May 2017
•Served on Physics Ph.D. thesis defense – Ibrahim Nsanzineza	December 2015
•Served on Physics Ph.D. thesis defense – Matthew Ware	December 2014
•Served on Physics Ph.D. thesis defense – Jiao He	September 2014
•Served on Physics M.S. thesis defense – Nicholas Baxter	May 2014
•Served as the external reviewer for Ph.D. dissertation – Daniel Bothner, University of Tübingen, Germany	Fall 2013
•Served on Physics Ph.D. thesis defense – Don Bunk	April 2013
•Served on Physics Ph.D. thesis defense – Michael DeFeo	July 2012
•Served on Physics Ph.D. thesis defense – Zafar Ahmed	April 2012
•Served on Physics Ph.D. thesis defense – Chunhua Song	October 2011
•Served on Physics Ph.D. thesis defense – Collin Capano	August 2011
•External member on Physics Ph.D. thesis defense (Dartmouth College) – Weiwei Xue	May 2010
•Served on Physics Ph.D. thesis defense – Kang Yu	April 2010
•Served on Physics Ph.D. thesis defense – Creighton Thomas	July 2009
•Served on Physics Ph.D. thesis defense – Luca Giomi	April 2009
•Served on Physics Ph.D. thesis defense – Bety Rodriguez-Milla	May 2008
•Appointed to Executive Committee of the IEEE Council on Superconductivity	2013-2019
•Served on annual IEEE graduate student fellowship awards committee	2010-2018
•Served as the moderator for a panel discussion on *Research and Trends in the Development of Superconductivity* at the New York State Superconductor Technology Summit 2011 in Schenectady, NY	August 2011
•Served as the moderator for a panel discussion on *Electronics & Computers* at the New York State Superconductor Technology Summit 2013 in Albany, NY	May 2013

EDITORIAL BOARDS

- IEEE Transactions on Applied Superconductivity — 2013-2019
  Editor-in-Chief
- IEEE Transactions on Applied Superconductivity — 2011-2013
  Associate Editor

JOURNAL REFEREE SERVICE

- Reviewer for:

- Applied Physics Letters
- IEEE Transactions on Applied Superconductivity
- Journal of Low Temperature Physics
- Nature Communications
- Nature Scientific Reports
- New Journal of Physics
- Physica C
- Physical Review Letters
- Physical Review Applied
- Physical Review A
- Physical Review B
- Physical Review X
- Science
- Superconductor Science and Technology

RESEARCH PROPOSAL REFEREE SERVICE

- National Science Foundation, Division of Materials Research — 3 times since 2008
  Proposal review panel
- National Science Foundation, Division of Materials Research — since 2007
  email review of proposals
- National Science Foundation, Division of Physics — since 2011
  email review of proposals
- Army Research Office — since 2012
  email review of proposals
- Department of Energy, Office of Science — since 2018
  email review of proposals
- Japan Society for the Promotion of Science — since 2016
  email review of proposals
- DFG (German Science Foundation) — since 2018
  email review of proposals

PROFESSIONAL ORGANIZATIONS

- American Physical Society, member — since 2000
- American Physical Society, graduate student member — 1994-2000
- IEEE, senior member — since 2012
- IEEE Council on Superconductivity, member of Executive Committee — 2013-2019
- IEEE Council on Superconductivity, member of Advisory Committee — 2013-2019

CONFERENCE ABSTRACTS AND RELATED CITATIONS

"Proposal to Generate and Characterize Quantum Entanglement using Coupled Metamaterial Resonators", Francisco Rouxinol, Frederico B Brito, Matthew LaHaye, B.L.T. Plourde – March Meeting of the American Physical Society Bulletin, 2019, Boston, MA.

"Implementation of π-periodic Josephson Elements for Topologically Protected Charge-Parity Qubits", Yebin Liu, Kenneth Dodge, Michael Anthony Senatore, Shaojiang Zhu, FNU Naveen, Abigail J Shearrow, Francisco Schlenker, Andrey Klots, Lara Faoro, Lev B Ioffe, Robert F McDermott, B.L.T. Plourde – March Meeting of the American Physical Society Bulletin, 2019, Boston, MA.

"Superconducting Qubit Control with Single Flux Quantum Pulses in A Multichip Module: Part I – Fabrication and Pulse Driver", Chuan-Hong Liu, Edward M Leonard, Matthew A Beck, Kenneth Dodge, Andrew L Ballard, Caleb Howington, Vito M Iaia, JJ Nelson, Alex Kirichenko, Daniel T Yohannes, Igor Vernik, Jason Walter, Oleksandr Chernyashevskyy, Oleg Mukhanov, Britton L Plourde, Robert F McDermott – March Meeting of the American Physical Society Bulletin, 2019, Boston, MA.

"Superconducting Qubit Control with Single Flux Quantum Pulses in A Multichip Module: Part II Qubit and Quasiparticle Measurement", Kenneth Dodge, Andrew Ballard, Caleb Howington, Vito M Iaia, JJ Nelson, Chuan-Hong Liu, Edward M Leonard, Matthew A Beck, Alex Kirichenko, Daniel T Yohannes, Igor Vernik, Jason Walter, Oleksandr Chernyashevskyy, Oleg Mukhanov, Robert F McDermott, B.L.T. Plourde – March Meeting of the American Physical Society Bulletin, 2019, Boston, MA.

"Characterization of Single- and Two-qubit Gates between Transmons and Capacitively Shunted Flux Qubits", Jaseung Ku, Yebin Liu, Britton L Plourde, Xuexin Xu, Mohammad H. Ansari, Jared B Hertzberg, Markus Brink, Jerry M. Chow – March Meeting of the American Physical Society Bulletin, 2019, Boston, MA.

"Characterization of Single- and Two-qubit Gates between Transmons and Capacitively Shunted Flux Qubits: Part 2, Theory", Xuexin Xu, Mohammad H. Ansari, Jaseung Ku, Yebin Liu, Britton L Plourde, Jared B Hertzberg, Markus Brink, Jerry M. Chow – March Meeting of the American Physical Society Bulletin, 2019, Boston, MA.

"Electroplated Rhenium - A new high-enough Tc material", David Pappas, Russell Lake, Mustafa Bal, Corey Rae McRae, Ronald B Goldfarb, Donald David, Junling Long, Britton L Plourde, Eunja Kim, Dustin A Hite, Lee Pappas, Ilke Arslan, Xian Wu, qiang huang, Hsiang-Sheng Ku, Alexana Roshko, Jianguo Wen – March Meeting of the American Physical Society Bulletin, 2019, Boston, MA.

"Design of a Cryogenic, Digital Measurement Circuit for Superconducting Qubits", Caleb Howington, Alexander Opremcak, Alex Kirichenko, Oleg Mukhanov, Robert F McDermott, Britton L Plourde – March Meeting of the American Physical Society Bulletin, 2019, Boston, MA.

"Measuring charge and flux noise correlations with a superconducting qubit", Bradley Christensen, Chris D Wilen, Alexander Opremcak, JJ Nelson, Francisco Schlenker, Lara Faoro, Lev B Ioffe, Britton L Plourde, Jonathan L DuBois, Robert F McDermott – March Meeting of the American Physical Society Bulletin, 2019, Boston, MA.

"Qubit Dynamics in a Multi-mode Environment with a Superconducting Metamaterial", Sagar Indrajeet, Haozhi Wang, Matthew D Hutchings, Matthew LaHaye, Bruno G. Taketani, Frank K Wilhelm, Britton L Plourde – March Meeting of the American Physical Society Bulletin, 2019, Boston, MA.

"Development of pi-periodic Josephson Elements for Charge-Parity Qubits", Yebin Liu, Kenneth R Dodge, Michael Anthony Senatore, Shaojiang Zhu, FNU Naveen, Abigail J Shearrow, Francisco Schlenker, Andrey Klots, Lara Faoro, Lev B Ioffe, Robert F McDermott, B.L.T. Plourde – CEC-ICMC 2019 Conference, Hartford, CT.

"Superconducting Qubit Control with Single Flux Quantum Pulses in A Multichip Module", Andrew Ballard, Kenneth Dodge, Caleb Howington, Vito M Iaia, JJ Nelson, Chuan-Hong Liu, Edward M Leonard, Matthew A Beck, Alex Kirichenko, Daniel T Yohannes, Igor Vernik, Jason Walter, Oleksandr Chernyashevskyy, Oleg Mukhanov, Robert F McDermott, B.L.T. Plourde – CEC-ICMC 2019 Conference, Hartford, CT.

"Interfacing Superconducting Qubits With Cryogenic Digital Logic: Measurement" (poster) C. Howington, A. Opremcak, R. McDermott, A. Kirichenko, O.A. Mukhanov, B.L.T. Plourde – Applied Superconductivity Conference, 2018, Seattle, WA.

"Interfacing superconducting qubits with cryogenic digital logic: Control" Britton Plourde, JJ Nelson, Edward Leonard Jr., Matthew Beck, Kenneth Dodge, Caleb Howington, Jaseung Ku, Oleg Mukhanov, Robert McDermott – Applied Superconductivity Conference, 2018, Seattle, WA.

“Microwave Response of Vortices in Superconducting Resonators with High Kinetic Inductance”, Kenneth Dodge, JJ Nelson, Michael Senatore, Peng Xu, Kevin Osborn, David Pappas, Britton Plourde – March Meeting of the American Physical Society Bulletin, 2018, Los Angeles, CA.

“Cryogenic Digital Readout of Superconducting Qubits”, Caleb Howington, Alex Opremcak, Ivan Pechenezhskiy, Maxim Vavilov, Robert McDermott, Britton Plourde – March Meeting of the American Physical Society Bulletin, 2018, Los Angeles, CA.

“Coherent Control of a Superconducting Transmon with Single Flux Quantum Pulses: Part II – Experimental”, JJ Nelson, Edward Leonard, Matthew Beck, Kenneth Dodge, Caleb Howington, Jaseung Ku, Robert McDermott, Britton Plourde – March Meeting of the American Physical Society Bulletin, 2018, Los Angeles, CA.

“Multi-mode Circuit Quantum Electrodynamics with Superconducting Metamaterial Resonators”, Sagar Indrajeet, Haozhi Wang, Matthew Hutchings, Matthew LaHaye, Britton Plourde, Bruno Taketani, Frank Wilhelm – March Meeting of the American Physical Society Bulletin, 2018, Los Angeles, CA.

“Capacitively Shunted Flux Qubits and Asymmetric Transmons for Multi-qubit Operations”, Jaseung Ku, Yebin Liu, Britton Plourde, Jared Hertzberg, Markus Brink, Jerry Chow – March Meeting of the American Physical Society Bulletin, 2018, Los Angeles, CA.

"Qubit State Measurement using the Josephson Photomultiplier", Alex Opremcak, Ivan Pechenezhskiy, Caleb Howington, Bradley Christensen, Konstantin Nesterov, Maxim Vavilov, Frank Wilhelm, Britton Plourde, R. McDermott – March Meeting of the American Physical Society Bulletin, 2018, Los Angeles, CA.

"Superconducting Qubit Control with Single Flux Quantum Pulses: Part I - Fabrication", Edward Leonard Jr., JJ Nelson, Matthew Beck, Kenneth Dodge, Caleb Howington, Jaseung Ku, Alex Kirichenko, Daniel Yohannes, Oleg Mukhanov, Britton Plourde, Robert McDermott – March Meeting of the American Physical Society Bulletin, 2018, Los Angeles, CA.

"Tunable Dissipator for High-fidelity Cavity and Qubit Initialization", Naveen, Alex Opremcak, Bradley Christensen, Chris Wilen, Ivan Pechenezhskiy, JJ Nelson, Clement Wong, Maxim Vavilov, Britton Plourde, Robert McDermott – March Meeting of the American Physical Society Bulletin, 2018, Los Angeles, CA.

"Effect of surface treatment on superconducting qubit coherence", Bradley Christensen, Pradeep Kumar, JJ Nelson, Yebin Liu, Andrew Ballard, Britton Plourde, Robert McDermott – March Meeting of the American Physical Society Bulletin, 2018, Los Angeles, CA.

"Exploration of Alternate Fabrication and Processing Techniques for Superconducting Qubit Junctions", Yebin Liu, JJ Nelson, Jaseung Ku, Britton Plourde – March Meeting of the American Physical Society Bulletin, 2018, Los Angeles, CA.

“Superconducting metamaterial resonators: analysis of mode structure”, Haozhi Wang, Matthew D. Hutchings, Sagar Indrajeet, Francisco Rouxinol, Matthew LaHaye, B.L.T. Plourde, Bruno Taketani, Frank K. Wilhelm, Alexander Zhuravel, Alexey Ustinov – March Meeting of the American Physical Society Bulletin, 2017, New Orleans, LA.

“Tunable Superconducting Qubits with Reduced Sensitivity to 1/f flux noise”, M. D. Hutchings, J.B. Hertzberg, Y. Liu, J.M. Chow, B.L.T. Plourde – March Meeting of the American Physical Society Bulletin, 2017, New Orleans, LA.

“Phonon-Mediated Quasiparticle Poisoning of Superconducting Microwave Resonators”, U. Patel, Ivan V. Pechenezhskiy, K.R. Dodge, B.L.T. Plourde, M.G. Vavilov, R. McDermott – March Meeting of the American Physical Society Bulletin, 2017, New Orleans, LA.

“Microwave response of vortices in superconducting Nb resonators”, K. Dodge, B.L.T. Plourde – March Meeting of the American Physical Society Bulletin, 2017, New Orleans, LA.

“Parity detection of multiple superconducting qubits”, Caleb Howington, Alex Opremcak, Ivan Pechenezhskiy, Marius Schöndorf, Frank Wilhelm, R. McDermott, B.L.T. Plourde – March Meeting of the American Physical Society Bulletin, 2017, New Orleans, LA.

“Capacitively Shunted Flux Qubits for Multi-qubit Architectures”, Jaseung Ku, Matthew Hutchings, Yebin Liu, B.L.T. Plourde, Jared Hertzberg, Martin Sandberg, Markus Brink, Easwar Magesan, Firat Solgun, Jerry Chow – March Meeting of the American Physical Society Bulletin, 2017, New Orleans, LA.

"Superconducting Qubit with Integrated Single Flux Quantum Controller Part I: Theory and Fabrication", Matthew Beck, Edward Leonard Jr., Ted Thorbeck, Shaojiang Zhu, Caleb Howington, JJ Nelson, Britton Plourde, Robert McDermott – March Meeting of the American Physical Society Bulletin, 2017, New Orleans, LA.

"Superconducting Qubit with Integrated Single Flux Quantum Controller Part II: Experimental Characterization", Edward Leonard Jr., Matthew Beck, Ted Thorbeck, Shaojiang Zhu, Caleb Howington, JJ Nelson, Britton Plourde, Robert McDermott – March Meeting of the American Physical Society Bulletin, 2017, New Orleans, LA.

"A photon capture approach to Josephson photomultiplier-based qubit measurement", Alex Opremcak, Ivan Pechenezhskiy, Caleb Howington, Chris Wilen, Matthew Beck, Edward Leonard Jr., Konstantin Nesterov, Maxim Vavilov, Britton Plourde, R. McDermott – March Meeting of the American Physical Society Bulletin, 2017, New Orleans, LA.

"Multi-mode Experiments with Superconducting Qubits and Metamaterial Resonators", Sagar Indrajeet, Matthew Hutchings, Haozhi Wang, Britton Plourde, Bruno Taketani, Frank Wilhelm – March Meeting of the American Physical Society Bulletin, 2017, New Orleans, LA.

"Frequency-tunable Quantum Dissipators", Chris Wilen, Clement Wong, Naveen Nehra, Ivan Pechenezhskiy, Alex Opremcak, JJ Nelson, Caleb Howington, Britton Plourde, Maxim Vavilov, Robert McDermott – March Meeting of the American Physical Society Bulletin, 2017, New Orleans, LA.

"Variability metrics in Josephson Junction fabrication for Quantum Computing circuits", Sami Rosenblatt, Jared Hertzberg, Markus Brink, Jerry Chow, Jay Gambetta, Zhaoqi Leng, Andrew Houck, JJ Nelson, Britton Plourde, Xian Wu, Russell Lake, Jeff Shainline, David Pappas, Umeshkumar Patel, Robert McDermott – March Meeting of the American Physical Society Bulletin, 2017, New Orleans, LA.

"Qubit parity measurements with a Josephson Photomultiplier" Caleb Howington, Matthew D. Hutchings, Guilhem Ribeill, Ivan Pechenezhskiy, Maxim G. Vavilov, Robert McDermott, Britton Plourde – Applied Superconductivity Conference, 2016, Denver, CO.

"Reduced Dephasing in Tunable Superconducting Transmon Qubits" Matthew D. Hutchings, Matthew Ware, Yebin Liu, Jared Hertzberg, Jerry M. Chow, Britton Plourde – Applied Superconductivity Conference, 2016, Denver, CO.

"Coupling a Transmon Qubit to a Superconducting Metamaterial Resonator" (poster) Haozhi Wang, Matthew D. Hutchings, Francisco Rouxinol, Britton Plourde, Bruno Taketani, Frank K. Wilhelm, Sagar Indrajeet, Matthew LaHaye – Applied Superconductivity Conference, 2016, Denver, CO.

"Coherent control of superconducting transmon qubits with an on-chip single flux quantum driver" (poster) Edward Leonard Jr., Ted Thorbeck, Shaojiang Zhu, Caleb Howington, Matthew D. Hutchings, JJ Nelson, Britton Plourde, Robert McDermott, Matthew Beck – Applied Superconductivity Conference, 2016, Denver, CO.

“Multi-qubit measurements with a Josephson Photomultiplier” Caleb Howington, M. Hutchings, Guilhem Ribeill, Ivan Pechenezhskiy, Maxim G. Vavilov, Frank K. Wilhelm, R. McDermott, B.L.T. Plourde – March Meeting of the American Physical Society Bulletin, 2016, Baltimore, MD.

“Qubit Readout with the Josephson Photomultiplier” Ivan Pechenezhskiy, Guilhem Ribeill, M. Hutchings, Caleb Howington, Maxim G. Vavilov, Frank K. Wilhelm, B.L.T. Plourde, Robert McDermott, -- March Meeting of the American Physical Society Bulletin, 2016, Baltimore, MD.

“Robustness of superconducting quantum modes against direct quasiparticle injection” U. Patel, I. Nsanzineza, M.G. Vavilov, B.L.T. Plourde, R. McDermott -- March Meeting of the American Physical Society Bulletin, 2016, Baltimore, MD.

“Superconducting resonators with trapped vortices under direct injection of quasiparticles” I. Nsanzineza, Umesh Patel, K.R. Dodge, R.F. McDermott, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2016, Baltimore, MD.

“Coupling a Transmon Qubit to a Superconducting Metamaterial Resonator” Haozhi Wang, M. Hutchings, Sager Indrajeet, Francisco Rouxinol, Matthew LaHaye, B.L.T. Plourde, Bruno G. Taketani, Frank K. Wilhelm -- March Meeting of the American Physical Society Bulletin, 2016, Baltimore, MD.

“Weakly-tunable transmon qubits in a multi-qubit architecture” Jared Hertzberg, Nicholas Bronn, Antonio Corcoles, Markus Brink, George Keefe, Maika Takita, M. Hutchings, B.L.T. Plourde, Jay Gambetta, Jerry Chow -- March Meeting of the American Physical Society Bulletin, 2016, Baltimore, MD.

“Demonstrating Multi-Qubit Operations in a Superconducting 3D circuit QED Architecture” Hanhee Paik, M.O. Sandberg, A. Mezzacapo, D.T. McClure, B. Abdo, O.E. Dial, A.W. Cross, A.D. Corcoles, S. Sheldon, E. Magesan, S.J. Srinivasan, J.M. Gambetta, J.M. Chow, D. Bogorin, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2016, Baltimore, MD.

“Characterization of the resonator induced phase gate” A. Mezzacapo, H. Paik, M.O. Sandberg, D.T. McClure, B. Abdo, O.E. Dial, A.W. Cross, A.D. Corcoles, S. Sheldon, E. Magesan, S.J. Srinivasan, J.M. Chow, J.M. Gambetta, D. Bogorin, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2016, Baltimore, MD.

“Dephasing of superconducting asymmetric transmon qubits” M. Hutchings, Matthew Ware, Yebin Liu, Jared B. Hertzberg, Jerry M. Chow, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2016, Baltimore, MD.

“Development of Integrated Single Flux Quantum – Superconducting Qubit Circuits” Edward Leonard Jr., Ted Thorbeck, Shaojiang Zhu, Caleb Howington, Matthew Hutchings, JJ Nelson, Britton Plourde, Robert McDermott -- March Meeting of the American Physical Society Bulletin, 2016, Baltimore, MD.

“Coherent control of a linear microwave cavity via single flux quantum pulses” Shaojiang Zhu, Guilhem Ribeill, Ted Thorbeck, Edward Leonard, Maxim Vavilov, Britton Plourde, Robert McDermott -- March Meeting of the American Physical Society Bulletin, 2016, Baltimore, MD.

"Spurious modes in 3D multi-qubit circuits" Martin Sandberg, Douglas McClure, Hanhee Paik, Daniela F. Bogorin, B.L.T. Plourde, Oliver Dial, Baleegh Abdo -- March Meeting of the American Physical Society Bulletin, 2015, San Antonio, TX.

"Quasiparticles and vortices in superconducting microwave resonators " I. Nsanzineza, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2015, San Antonio, TX.

"Dephasing of Superconducting Asymmetric Transmon Qubits" Matthew Hutchings, Matthew Ware, Caleb Howington, B.L.T. Plourde – March Meeting of the American Physical Society Bulletin, 2015, San Antonio, TX.

"Qubit Readout with Josephson Photomultipliers" Guilhem Ribeill, Ivan Pechenezhski, Ted Thorbeck, Caleb Howington, Matthew Hutchings, Luke Govia, Frank Wilhelm, B.L.T. Plourde, Robert McDermott -- March Meeting of the American Physical Society Bulletin, 2015, San Antonio, TX.

"Readout of superconducting qubits with a Josephson photomultiplier" Caleb Howington, Matthew Hutchings, Guilhem Ribeill, Robert McDermott, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2015, San Antonio, TX.

"Robustness of superconducting high-Q resonators against direct quasiparticle injection" U. Patel, I. Nsanzineza, B.L.T. Plourde, R. McDermott -- March Meeting of the American Physical Society Bulletin, 2015, San Antonio, TX.

"Microwave mode structure of superconducting metamaterial resonators" Haozhi Wang, Francisco Rouxinol, Britton Plourde, Matthew LaHaye -- March Meeting of the American Physical Society Bulletin, 2015, San Antonio, TX.

"Trapping a single vortex in a superconducting microwave resonator " I. Nsanzineza, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2014, Denver, CO.

"Efficient Qubit Readout Using Josephson Photomultipliers" E.J. Pritchett, L.C.G. Govia, C. Xu, M.G. Vavilov, B.L.T. Plourde, R. McDermott, F.K. Wilhelm -- March Meeting of the American Physical Society Bulletin, 2014, Denver, CO.

"Cross-resonance interactions between superconducting qubits with variable detuning" Matthew Ware, Blake Johnson, Jay Gambetta, Colm Ryan, Thomas Ohki, Jerry Chow, B.L.T. Plourde – March Meeting of the American Physical Society Bulletin, 2014, Denver, CO.

"Superconducting metamaterial transmission line" Francisco Rouxinol, Haozhi Wang, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2014, Denver, CO.

"Thermalization of transmon qubits in 3D multi-cavity structures" Daniela F. Bogorin, Doug McClure, Matthew Ware, Stephen Sorokanich, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2014, Denver, CO.

“Materials and design considerations for transmon qubits in 3D copper cavities with superconducting coatings” Daniela F. Bogorin, Doug McClure, Matthew Ware, B.L.T. Plourde – Applied Superconductivity Conference, 2014, Charlotte, NC.

“Superconducting metamaterial transmission line for coupling to qubits” (poster) Haozhi Wang, Francisco Rouxinol, B.L.T. Plourde – Applied Superconductivity Conference, 2014, Charlotte, NC.

"Effects of vortices trapped in superconducting microwave" I. Nsanzineza, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2013, Baltimore, MD.

"Materials Effects in 3D-Cavity Transmon Qubits" Daniela F. Bogorin, Matthew Ware, Stephen Sorokanich, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2013, Baltimore, MD.

"Tuning qubit interactions with asymmetric transmons" Matthew Ware, Daniela F. Bogorin, J.D. Strand, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2013, Baltimore, MD.

"Development of superconducting transmission-line metamaterials" Haozhi Wang, Francisco Rouxinol, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2013, Baltimore, MD.

"First-order sideband transitions with flux-driven asymmetric transmons" J.D. Strand, M.E. Ware, Felix Beaudoin, Alexandre Blais, T. Ohki, B. Johnson, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2013, Baltimore, MD.

"Superconducting transmon qubits with surface-treated three-dimensional cavities", Daniela F. Bogorin, Matthew Ware, Stephen Sorokanich, B.L.T. Plourde -- International Superconducting Electronics Conference in Cambridge, MA, July 8-11, 2013.

"Asymmetric transmons for controllable multi-qubit interactions", Matthew Ware, B.L.T. Plourde – International Superconducting Electronics Conference in Cambridge, MA, July 8-11, 2013.

"Investigation of superconducting resonator designs for measuring the microwave response of vortices" I. Nsanzineza, H. Chen, C. Song, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2012, Boston, MA.

"Material and Geometric Effects in 3D Transmon Qubits" M. Ware, M.P. DeFeo, J.D. Strand, B. Xiao, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2012, Boston, MA.

"Microstrip SQUID amplifiers for quantum information science" M.P. DeFeo, B.L.T. Plourde – March Meeting of the American Physical Society Bulletin, 2012, Boston, MA.

"Inductive coupling of superconducting qubits to coplanar waveguide resonators" J.D. Strand, M.P. DeFeo, P. Bhupathi, C. Song, M. Ware, B.Xiao, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2011, Dallas, TX.

"SQUID-tunable microwave lumped-element oscillators and distributed resonators" P. Bhupathi, M.P. DeFeo, M. Ware, J.D. Strand, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2011, Dallas, TX.

"Microstrip SQUID amplifiers at gigahertz frequencies" M.P. DeFeo, P. Bhupathi, M. Ware, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2011, Dallas, TX.

"Josephson junctions formed from superconducting nanowires" B.Xiao, H.Y. Chen, I. Nsanzineza, C. Song, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2011, Dallas, TX.

"Low-loss superconducting microwave resonators with NbN films" C. Song, B.Xiao, M. Ware, B.L.T. Plourde -- March Meeting of the American Physical Society Bulletin, 2011, Dallas, TX.

"Oscillatory vortex dynamics in weak-pinning channels with periodic constrictions" K. Yu, B.L.T. Plourde, M.B.S. Hesselberth, P.H. Kes -- March Meeting of the American Physical Society Bulletin, 2010, Portland, OR.

"Microstrip SQUID amplifiers with submicron junctions for enhanced gain" M.P. DeFeo, Bhupathi, P., K. Yu, T.W. Heitmann, M. Ware, C. Song, B.L.T. Plourde, R. McDermott – March Meeting of the American Physical Society Bulletin, 2010, Portland, OR.

"Superconducting resonators in magnetic fields" C. Song, M.P. DeFeo, K. Yu, Xiao, B., Bhupathi, P., B.L.T. Plourde – March Meeting of the American Physical Society Bulletin, 2010, Portland, OR.

"Microwave oscillators based on dc SQUIDs" P. Bhupathi, M.P. DeFeo, C. Song, B.L.T. Plourde – March Meeting of the American Physical Society Bulletin, 2010, Portland, OR.

"Vortex interactions in superconducting weak-pinning channel ratchets" K. Yu, T.W. Heitmann, C. Song, M.P. DeFeo, B.L.T. Plourde, M.B.S. Hesselberth, P.H. Kes -- March Meeting of the American Physical Society Bulletin, 2009, Pittsburgh, PA.

"Flux-flow noise in a superconducting Corbino vortex ratchet channel" T.W. Heitmann, K. Yu, C. Song, M.P. DeFeo, B.L.T. Plourde, M.B.S. Hesselberth, P.H. Kes -- March Meeting of the American Physical Society Bulletin, 2009, Pittsburgh, PA.

"Microwave response of vortices in Al and Re superconducting thin films" C. Song, T.W. Heitmann, M.P. DeFeo, K. Yu, B.L.T. Plourde, R. McDermott, M. Neeley, J.M. Martinis – March Meeting of the American Physical Society Bulletin, 2009, Pittsburgh, PA.

"Lumped-element microwave resonant circuit with a dc SQUID" M.P. DeFeo, C. Song, T.W. Heitmann, K. Yu, B.L.T. Plourde, R. McDermott -- March Meeting of the American Physical Society Bulletin, 2009, Pittsburgh, PA.

“Vortex dynamics in asymmetric weak-pinning superconducting channels” K. Yu, T.W. Heitmann, C. Song, M.P. DeFeo, B.L.T. Plourde, M.B.S. Hesselberth, P.H. Kes – International Low Temperature Conference (LT25), Amsterdam, The Netherlands, Aug. 2008.

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