

BRITTON L. T. PLOURDE

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ACADEMIC POSITIONS

- Associate Professor, Physics Department – *Syracuse University* August 2011-present
- Assistant Professor, Physics Department – *Syracuse University* Jan. 2005-Aug. 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

- 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
- 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

- 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 and Control, University at Buffalo October 2014
- Cornell NanoScale Facility Annual Users Meeting Cornell University September 2014
- 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 Saarbrücken, Germany December 2013
- Physics Seminar, University of Tübingen, Germany December 2013
- WMI Seminar, Walther-Meißner Institute, Garching, Germany November 2013
- Solid State Physics Seminar, ETH Zurich Zurich, Switzerland November 2013
- Physics Institute Seminar, Karlsruhe Institute of Technology Karlsruhe, Germany November 2013
- Physics Colloquium, University of the Saarland October 2013
- International Workshop on Frontiers in Quantum Information Science Fudan University, Shanghai, China June 2013
- Physics Seminar, University at Buffalo February 2013
- Physics Seminar, Colgate University November 2012
- SEALeR workshop on reversible digital logic sponsored by NSA/ARO -- Annapolis, MD March 2012
- New York State Section meeting of the American Physical Society SUNY Oneonta, NY October 2011
- 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 University of Waterloo, Ontario October 2010
- Physics Colloquium, Syracuse University September 2010
- Physics Seminar, Dartmouth College May 2010
- Superconducting Device Research group seminar Karlsruhe Institute of Technology (Germany) May 2010
- Physics Seminar, Tuebingen University (Germany) May 2010
- ESF Workshop on Superconductivity in Reduced Dimensions Salzburg, Austria May 2010
- 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 Freudenstadt-Lauterbad, Germany September 2008
- Condensed Matter Seminar, Syracuse University October 2008
- Physics Colloquium, Kent State University November 2008
- Laboratory for Atomic and Solid State Physics (LASSP) Seminar Cornell University November 2008
- New York Section, American Association of Physics Teachers, 2007 Fall Meeting, Syracuse University September 2007
- 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, Penn State University April 2006
- Saturday Morning Physics Lecture, Syracuse University Physics Department April 2006
- Physics and Astronomy Seminar, Colgate University February 2006
- Condensed Matter Seminar, Brown University November 2005
- International Superconductive Electronics Conference, The Netherlands, invited plenary talk on flux qubits September 2005
- Flux qubit group seminar, TU Delft, Delft, The Netherlands September 2005
- 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 April 2015
Baltimore, MD
- Benasque Scientific Center – Workshop on Quantum Simulations October 2013
Benasque, Spain
- 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 August 1996, 2008

SPONSORED RESEARCH PROJECTS

- CAREER: *Quantum Coherence in Vortex Systems and Superconducting Devices* -- \$514,000 over 5 years 2006-2012
National Science Foundation

- MRI: *Acquisition of an Atomic Force Microscope and Surface Profilometer for Surface Analysis Facility at Syracuse University* 2007-2009
 co-PIs: Tewodros Asefa, Karin Ruhlandt-Senge, Gianfranco Vidali
 -- \$297,896 for purchasing new equipment
National Science Foundation
- QuEST: *Quantum-Limited Measurement as a Tool for Entanglement in Superconducting Circuits* Jan. 2009-May 2013
 project led by PI Robert McDermott (U. Wisconsin)
 -- \$840,000 (Syracuse portion)
DARPA
- Coherent Superconducting Qubits: *Improved Materials for High-Performance Phase and Flux Qubits* July 2009-August 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-present
 project led by PI Mark Ketchen (IBM Yorktown Heights)
 -- \$2,197,000 awarded to date (Syracuse portion)
IARPA
- *Coupling a Single Vortex in a Superconductor to a Single Microwave Photon* -- \$345,000 over 4 years Sept. 2011-present
National Science Foundation
- *Scalable Readout of Superconducting Qubits with Novel Superconducting Amplifiers and Metamaterials* March 2014-present
 Lead PI = Britton Plourde, co-PIs at Wisconsin and Saarland
 -- \$813,000 over 3 years (Syracuse portion)
Army Research Office
- *Acquisition of an Adiabatic Demagnetization Refrigerator for Quantum Information Science with Superconducting Circuits (DURIP)* August 2014-present
 -- \$230,738
Army Research Office
- *Accurate Qubit Control with Single Flux Quantum Pulses* June 2015-present
 project led by PI Robert McDermott (U. Wisconsin), co-PIs at Wisconsin and Saarland
 -- \$900,000 over 3 years (Syracuse portion)
Army Research Office

PENDING RESEARCH PROPOSALS

- MRI: *Acquisition of a Cryogen-Free Dilution Refrigerator for Low-Temperature Experiments with Superconducting Quantum Circuits* submitted Jan. 2015
 co-PI: Matt LaHaye -- \$359,359 for purchasing new dilution refrigerator
National Science Foundation

RESEARCH EXPERIENCE

- 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*
(Thesis advisor: Dale J. Van Harlingen)

1994-2000

- 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*
(Research advisors: Franco Nori and Michael Bretz)

1991-1993

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

PUBLICATIONS

"Transient dynamics of a superconducting nonlinear oscillator" P. Bhupathi, Peter Groszkowski, M. P. DeFeo, Matthew Ware, Frank K. Wilhelm, and B. L. T. Plourde — under review (2015); arXiv:1504.06883.

"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-Martínez, 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).

“Scanning SQUID Microscopy of Flux Distributions and Motion near Surface Features in NbSe₂”, 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).

“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).

“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

- Intermediate and Advanced Physics Laboratory, PHY344 & 462 2006-2009, 2015
Syracuse University
- General Physics I: Intro. Mechanics for Honors & Majors, PHY215 2010-2012, 2014
Syracuse University
- General Physics I: Introductory Mechanics, PHY211 2005-2007
Syracuse University
- Practicum Seminar in Physics Education, PHY399 2006
Syracuse University
- First Year Forum, CAS101 2005
Syracuse University
- Served as Lower-Division Faculty Advisor for 16 students 2005-2007
Syracuse University, College of Arts & Sciences
- Served as Physics Major Advisor for 10 undergraduate students 2010-present
Syracuse University, Department of Physics
- Sixteen advanced undergraduate lectures for Professor John Clarke: 2000-2004
Quantum Mechanics, Statistical Mechanics, Solid State Physics.
University of California, Berkeley
- Teaching Assistant for discussion and laboratory sections 1993-1994
for introductory non-calculus based physics courses.
University of Illinois
- Postdoctoral research supervisor for three graduate students and 2000-2004
two undergraduate students conducting experiments on quantum
coherence in nanoscale superconducting devices.
University of California, Berkeley

THESIS AND POSTDOCTORAL ADVISING

- Advisor to Matthew Ware – Ph.D., Syracuse University
“Flux-tunable superconducting transmons for quantum information processing” May 2015
- Advisor to Michael DeFeo – Ph.D., Syracuse University
“Microstrip Superconducting Quantum Interference Devices for Quantum Information Science” July 2012
- Advisor to Chunhua Song – Ph.D., Syracuse University
“Microwave Properties of Vortices in Superconducting Resonators” December 2011
- Advisor to Kang Yu – Ph.D., Syracuse University
“Vortex Dynamics in Nanostructured Weak-Pinning Channels” May 2010
- Advisor to Dr. Thomas Heitmann – Postdoctoral researcher
Currently at University of Missouri 2005-2008
- Advisor to Dr. Pradeep Bhupathi – Postdoctoral researcher
Currently at Caltech 2009-2011
- Advisor to Dr. Bo Xiao – Postdoctoral researcher
Currently at Norfolk State University 2009-2011
- Advisor to Dr. Joel Strand – Postdoctoral researcher
Currently at Northrop Grumman Corporation 2010-2012
- Advisor to 2 postdoctoral researchers 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-present
- Served on Physics Graduate Admissions Committee 2014-present
- 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 May 2010
(Dartmouth College) – Weiwei Xue
- 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 2013-present
on Superconductivity
- Served on IEEE graduate student fellowship awards committee 2010-2015
- Served as the moderator for a panel discussion on *Research and Trends in the Development of Superconductivity* at the August 2011
New York State Superconductor Technology Summit 2011
in Schenectady, NY
- Served as the moderator for a panel discussion on *Electronics & Computers* at the New York State Superconductor May 2013
Technology Summit 2013 in Albany, NY

JOURNAL REFEREE SERVICE

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

RESEARCH PROPOSAL REFEREE SERVICE

- National Science Foundation, Division of Materials Research February 2015
Proposal review panel
- National Science Foundation, Division of Materials Research January 2013
Proposal review panel
- National Science Foundation, Division of Materials Research October 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 2012, 2014
email review of proposals

EDITORIAL BOARDS

- IEEE Transactions on Applied Superconductivity
Editor-in-Chief Jan. 2013-present
- IEEE Transactions on Applied Superconductivity
Associate Editor 2011-2013

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 Jan. 2013-present

CONFERENCE ABSTRACTS AND RELATED CITATIONS

"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.
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