BRITTON L. T. PLOURDE

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ACADEMIC POSITIONS

- Professor, Physics Department – *Syracuse University* Aug. 2016-present
- Associate Professor, Physics Department – *Syracuse University* 2011-Aug. 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

- 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

- 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 Coherent Science, University of California, Berkeley	January 2017
• Center for Nanophysics and Advanced Materials (CNAM) Colloquium University of Maryland	October 2016
• Syracuse Society of Physics Students colloquium, Syracuse, NY	November 2015
• Syracuse University Project Advance (SUPA) lectures Lubin House, NYC and Syracuse University	Oct./Nov. 2015
• 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 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, University of Wisconsin, Madison	March 2014
• 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 Institue 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 Invited talk in superconducting qubit session	September 2004
• 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 Invited talk in quantum computing session	August 2002
• ESF Vortex Matter Workshop, Lunteren, The Netherlands Invited talk and poster presentation	August 2000
• Materials and Mechanisms of Superconductivity, Houston, TX Invited poster session	February 2000

CONTRIBUTED CONFERENCE PRESENTATIONS

- SPIE Quantum Information and Computation XIII — April 2015
  Baltimore, MD
- Benasque Scientific Center – Worksop 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-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 awarded to date (Syracuse portion)
  IARPA
- *Coupling a Single Vortex in a Superconductor to a Single Microwave Photon* -- $345,000 over 4 years — Sept. 2011-2015
  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
  -- $813,000 over 3 years (Syracuse portion)
  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
  -- $1,010,000 over 3 years (Syracuse portion)
  Army Research Office
- LogiQ: *Superconducting Logically Encoded Extensible Qubit* March 2016-present
  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

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

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

"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).

"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).

"Search for supercondcting 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

•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
•General Physics I: Introductory Mechanics, PHY211 *Syracuse University*	2005-2007, 2018
•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 Ibrahim Nsanzineza – Ph.D., Syracuse University *"Vortices and Quasiparticles in Superconducting Microwave Resonators"*	May 2016
•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 Dr. Daniela Bogorin – Postdoctoral researcher *Currently at Rome (NY) Air Force Research Lab*	2012-2015
•Advisor to Dr. Matthew Hutchings – Postdoctoral researcher *Currently at QTEC Bristol (UK)*	2013-2017
•Advisor to 2 postdoctoral researchers and 7 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 Physics Graduate Admissions Committee	2014-present
•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-present
•Served on annual IEEE graduate student fellowship awards committee	2010-present
•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

JOURNAL REFEREE SERVICE

• Outstanding Referee Award – American Physical Society	2018

• Reviewer for:

- Physical Review Letters
- Physical Review Applied
- Physical Review A
- Physical Review B
- Physical Review X
- Applied Physics Letters
- IEEE Transactions on Applied Superconductivity
- Journal of Low Temperature Physics
- 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 Proposal review panel	3 times since 2008
• National Science Foundation, Division of Materials Research email review of proposals	since 2007
• National Science Foundation, Division of Physics email review of proposals	since 2011
• Army Research Office email review of proposals	since 2012
• Japan Society for the Promotion of Science email review of proposals	since 2016

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

"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.

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