

IGOR ŽUTIĆ

Curriculum Vitae

Department of Physics
239 Fronczak Hall

University at Buffalo, State University of New York
Buffalo, NY 14260

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EDUCATION:

- Ph.D., Physics, University of Minnesota, 9/1992-8/1998, GPA 4.00/4.00.
Thesis Title: "Nonlinear Electrodynamics of High Temperature Superconductors."
- B.Sc., Physics, University of Zagreb, Croatia, 10/1987-8/1992.
- University of Zagreb, Graduate School, Mathematics Department (attended as an undergraduate).

EMPLOYMENT AND POSITIONS:

- Appointed at SUNY Buffalo: August 2005.
Highest Rank (SUNY Distinguished Professor): December 2022.
- **State University of New York Distinguished Professor**, Department of Physics, University at Buffalo, State University of New York, December 2022-present.
- **Professor**, Department of Physics, University at Buffalo, State University of New York, August 2013-December 2022.
- **Adjunct Professor**, Department of Physics, University of Rijeka, Croatia, December 2017-Present.
- **Associate Professor**, Department of Physics, University at Buffalo, State University of New York, August 2009-July 2013.
- **Assistant Professor**, Department of Physics, University at Buffalo, State University of New York, August 2005-July 2009.
- **Visiting Professor**, University of New South Wales, Sydney, Australia, Winter 2020, Ecole Polytechnique, Universite Paris-Saclay, Palaiseau, France, Spring 2019, Institute for Theoretical Physics, University of Regensburg, Germany, Winter 2019, Winter 2012.
- **National Research Council Postdoctoral Fellow**, Center for Computational Materials Science, Naval Research Laboratory, Washington, D.C. Supervisor: Dr. Steven C. Erwin. November 2003-August 2005.
- **Postdoctoral Research Associate**, Department of Physics, University of Maryland, College Park, MD. Supervisor: Prof. Sankar Das Sarma. September 1998-October 2003.
- **Research Assistant and Graduate School Fellow**, School of Physics and Astronomy, University of Minnesota, Minneapolis, MN. Academic Advisor: Prof. Oriol T. Valls. September 1994-August 1998.
- **Teaching Assistant**, School of Physics and Astronomy, University of Minnesota, Minneapolis, MN. Supervisor: Prof. Oriol T. Valls. September 1992-August 1994.

AREAS OF SPECIALIZATION:

- Theoretical Condensed Matter Physics
- Computational Physics

RESEARCH ACTIVITIES:

- Spintronics and Spin-Dependent Phenomena
- Topological Quantum Computing and Majorana States
- van der Waals Heterostructures
- Magnetism in Semiconductors and their Nanostructures
- Unconventional Superconductivity
- Semiconductor Spin-Lasers
- Proximity Effects

HONORS AND AWARDS:

- High Ranked Scholars 2022 (3rd in the world over lifetime in Spintronics)
https://scholargps.com/highly-ranked-scholars?year=2022p_profile=1&ranking_duration=LIFETIME&base_specialty=Spintronics&e_ref=52e76790df887821c3fc
- 2022 SUNY Distinguished Professor
- 2020 Gordon Godfrey Visitor Fellowship, University of New South Wales, Sydney, Australia.
- 2019 SUNY Chancellor's Award for Excellence in Scholarship and Creative Activities.
- 2016 Fellow of the American Physical Society.
- 2006 National Science Foundation CAREER Award.
- 2005 National Research Council/American Society for Engineering Education Post-doctoral Research Publication Award.
- National Research Council Fellowship 2003-2005.
- University of Minnesota Graduate School Doctoral Dissertation Fellowship 1997-1998.
- Supplemental Research Fellowship, University of Minnesota 1997.
- Stanwood Johnston Memorial Fellowship, University of Minnesota 1995-1996.
- Foster Wheeler Fellowship, University of Minnesota 1994-1995.
- Outstanding GPA Fellowship, University of Zagreb, Institute for Physics 1989-1992.
- Outstanding Academic Performance Fellowship, City of Zagreb 1988-1991.

GRANTS:

- Co-Principal Investigator, (with PI: J. Shabani, New York University), "MURI: Epitaxial Phase-Biased Josephson Junctions," Office of Naval Research, N000142212764, Budget: \$1,100,000 (UB Part), 10/2022-9/2027.
- Principal Investigator, "Quantum Materials: Magnetism, Spin-Orbit Coupling, and Superconductivity," (5th renewal), Department of Energy, DE-SC0004890, Budget:

\$450,000 12/2022-12/2025.

- Co-Principal Investigator, (with PI: C. Gong, University of Maryland), “EAGER/ Collaborative Research: CRYO: Engineering Atomically Thin Magnetic Materials for Efficient Solid-State Cooling at Cryogenic Temperatures,” National Science Foundation, CMMI-2233375, Budget \$90,000 (UB Part), 1/2023-12/31/2023.
- Co-Principal Investigator, (with PI: C. Gong, University of Maryland), “Collaborative Research: Ferroelectric Creation and Manipulation of Novel Topological States in 2D Heterostructures,” Air Force Office of Scientific Research, FA9550-22-1-0349, Budget: \$369,875 (UB Part), 7/2022-6/2025.
- Principal Investigator, “Integrating Superconducting and Spintronics Devices for Low-Power and High-Speed Operation and Brain-Inspired Computing,” National Science Foundation, ECCS-2130845, Budget: \$328,997, 8/2021-8/2024.
- Principal Investigator, “Integrating Superconducting and Spintronics Devices for Low-Power and High-Speed Operation and Brain-Inspired Computing,” Research Experience for Undergraduates, National Science Foundation, ECCS-2130845, Budget: \$16,000, 5/2023-8/2024.
- Principal Investigator, “Integrating Superconducting and Spintronics Devices for Low-Power and High-Speed Operation and Brain-Inspired Computing,” Research Experience for Undergraduates, National Science Foundation, ECCS-2130845, Budget: \$8,000, 5/2022-8/2022.
- Principal Investigator, “Developing Novel Two-Dimensional Platforms in Superconducting Heterostructures for Fault-Tolerant Quantum Computing,” Office of Naval Research, N000142112453, Budget: \$429,868, 5/2021-4/2024.
- Principal Investigator, “Semiconductor Nanostructures: Magnetism, Spin-Orbit Coupling, and Superconductivity,” (4th renewal), Department of Energy, DE-SC0004890, Budget: \$420,000 12/2019-12/2022.
- Principal Investigator, “Bipolar Spintronic Devices with Two-Dimensional Systems,” National Science Foundation, ECCS-1810266, Budget: \$317,804, 9/2018-8/2021, (no cost extension 9/2021-8/2022).
- Principal Investigator, “Bipolar Spintronic Devices with Two-Dimensional Systems,” Research Experience for Undergraduates, National Science Foundation, ECCS-1810266, Budget: \$8,000, 5/2021-8/2021.
- Principal Investigator, “Bipolar Spintronic Devices with Two-Dimensional Systems,” Research Experience for Undergraduates, National Science Foundation, ECCS-1810266, Budget: \$8,000, 5/2020-4/2021.
- Principal Investigator (with Co-PI: J. E. Han, UB), subcontract from New York Univ. (PI: J. Shabani), “Engineering Topological States Using Electrically-Tunable Magnetic Chains,” Defense Advanced Research Projects Agency, D18AP900007, Budget: \$431,792, 2/2018-7/2021 (no cost extension 8/2021-9/2022).
- Principal Investigator (with Co-PI: A. Matos-Abiague, Wayne State Univ.), “Nanoelectronics with Proximitized Materials,” N000141712793, Office of Naval Research, Budget: \$421,475, (subcontract to Wayne State Univ. \$100,000) 9/2017-8/2020 (no cost extension 9/2020-1/2021).
- Principal Investigator (with Co-PI: A. Matos-Abiague, Wayne State Univ.), “Semiconductor Nanostructures: Magnetism, Spin-Orbit Coupling, and Superconductivity,” Department of Energy, DE-SC0004890, Budget: \$420,000 12/2016-12/2019.

- Principal Investigator, "Using Spin-Polarized Carriers in Semiconductor Lasers for Optical Interconnects," National Science Foundation, ECCS-1508873, Budget: \$303,363, 7/2015-6/2018.
- Principal Investigator, "Using Spin-Polarized Carriers in Semiconductor Lasers for Optical Interconnects," National Science Foundation, Research Experience for Undergraduates, ECCS-1508873 Budget: \$6,000, 5/2016-4/2017.
- Principal Investigator, "Bipolar Spintronics: Materials and Devices," US Office of Naval Research, N000141310754, Budget: \$300,125, 7/2013-6/2016 (no cost extension 8/2016-3/2017).
- Co-Principal Investigator (with PI: P. Lazić, Inst. Rudjer Bošković, Zagreb, Croatia), "van der Waals Heterostructures: Fundamentals and Applications," Unity Through Knowledge Fund (UKF), Croatian Science Foundation, Budget: 1,098,824 HRK (\$165,000), 12/2015-12/2017.
- Principal Investigator, (with Co-PI: A. G. Petukhov, South Dakota School of Mines and Technology), "Unconventional Spin and Orbital Ordering in Semiconductor Nanostructures," Department of Energy, DE-SC0004890, Budget: \$420,000 (subcontract to SDSM&T \$80,000), 9/2013-8/2016 (no cost extension 9/2016-12/2016).
- Co-Principal Investigator (with PI: R. Kawakami, University of California, Riverside, Co-PIs: Lu Sham, University of California, San Diego, I. Kirvorotov, University at California, Irvine, H. Dery, University of Rochester), "Nanoelectronics Beyond 2020: Developing a Graphene Spin Computer: Materials, Devices, Modeling, and Circuit Design," National Science Foundation and Semiconductor Research Corporation, DMR-1124601, Budget: \$236,800, (subcontract to University at Buffalo), 9/2011-8/2015.
- Principal Investigator, "Semiconductor Spin-Lasers," National Science Foundation, ECCS-1102092, Budget: \$295,500, 9/2011-12/2014.
- Principal Investigator (with Co-PI: A. G. Petukhov, South Dakota School of Mines and Technology), "Tailoring Magnetism and Spin in Quantum Dots," Department of Energy, DE-SC0004890, Budget: \$420,000 (subcontract to SDSM&T \$119,736), 9/2010-8/2013.
- Principal Investigator, "Bipolar Spintronics," US Office of Naval Research, (original submission and renewal) N0000140610123, Budget: \$573,625, Direct Costs: \$365,680, 1/2006-12/2012. (Renewal for 1/2010-12/2012, Budget: \$290,436 (no cost extension, 1/2013-12/2013).
- Co-Principal Investigator (with PI: H. Dery, University of Rochester), "Controlling Magnetic and Optical Response for Spin-Based Information Transfer," Air Force Office of Scientific Research, FA9550-09-1-0493, Budget: \$275,000 (subcontract to University at Buffalo), 6/2009-5/2012.
- Principal Investigator, "Spin-Polarized Transport and Spintronic Devices," National Science Foundation CAREER Award, ECCS-054782, Budget: \$ 400,000, 5/2006-4/2011 (no cost extension 5/2011-4/2012).
- Principal Investigator, "Spin-Polarized Transport and Spintronic Devices," Research Experience for Undergraduates, National Science Foundation, ECCS-054782, Budget: \$6,000, 5/2009-4/2011.
- Principal Investigator, "The 6th International School and Conference on Spintronics and Quantum Information Technology (SPINTECH 6)," Matsue, Shimane, Japan, August 1-5, 2011, US Office of Naval Research, N0001406101239 P00009, Budget:

\$15,000, 5/2011-5/2012.

- Principal Investigator, Center for Nanophase Materials Sciences, Oak Ridge National Laboratory, "Magnetism in Quantum Dots," Supercomputer Grant CNMS2007-098, 3/2007-2/2009.
- Principal Investigator, Center for Nanophase Materials Sciences, Oak Ridge National Laboratory, Theory of Spin-Polarized Transport in Semiconductor Nanostructures, Supercomputer Grant CNMS2004-015, 3/2004-2/2006.
- Co-Principal Investigator (with PI: S. Das Sarma), "Spin Electronics," National Science Foundation, ECS-0200172, Budget: \$300,000, 5/2002-4/2005.
- Principal Investigator, US Office of Naval Research Grant N000140210816 for the Symposia Series: "Novel Aspects of Spintronic Materials and Devices," Material Research Society Meeting, Boston, MA, December 2-6, 2002, Budget: \$5,000.
- Raised funds for the organization of "Spintronics 2001: International Conference of Novel Aspects of Spin-Polarized Transport and Spin Dynamics," Washington D.C., August 9-11, 2001, including \$ 5,000 from Defense Advances Research Project Agency, \$ 5,000 from US Office of Naval Research, and as Co-Principal Investigator (with PI: J. Freericks), National Science Foundation Grant DMR-0108908, Budget: \$4,300.

PENDING SUPPORT:

- Principal Investigator, "Magnetization-Controlled Light-Emitting Diodes and Lasers," National Science Foundation, Budget: \$398,500, 9/2024-8/2027.

DECLINED SUPPORT:

- Co-Principal Investigator (with PI: Y. Wu, U. Florida), "Empowering Superconductor Quantum Nanoscale Heterostructures with Phonon Engineering for Quantum Devices," DARPA, \$600,000 (UB part with J. E. Han), 3/2024-2/2028.

PROFESSIONAL MEMBERSHIP:

- American Physical Society, IEEE Magnetics Society Technical Committee.

PROFESSIONAL SERVICE ACTIVITIES:

Referee for Journals:

- Reviews of Modern Physics, Science, Science Advances, Nature, Nature Materials, Nature Physics, Nature Chemistry, Nature Nanotechnology, Nature Photonics, Nature Electronics, Nature Communications, Physical Review Letters, Physical Review B, Physical Review X, Physical Review Materials, Physical Review Research, Nano Letters, ACS Nano, Proceedings of the National Academy of Sciences, Europhysics Letters, Nanotechnology, Applied Physics Letters, APL Materials, AIP Advances, Optics Letters, Optics Express, New Journal of Physics, npj Quantum Materials, Scientific Reports, Communications Physics, Journal of the American Chemical Society, Journal of Physical Chemistry, Journal of Physical Chemistry Letters, Journal of Applied Physics, Solid State Communications, Spin, Nanoscale Research Letters, Physica A, Physica B, Physica C, Physica E, Physica Status Solidi (B), Journal of Physics: Condensed Matter, Journal of Physics D: Applied Physics, Physical Letters A, Journal of Physics and Chemistry of Solids, Journal of Superconductivity, Solid-State Electronics, Semiconductor Science and Technology, Journal of Optics, IEEE Transactions on Electronic Devices, IEEE Transactions on Magnetics, IEEE Journal of Quantum Electronics, ACS Applied Materials Interfaces, Micromachines, Journal of Magnetism

and Magnetic Materials, Materials, Journal of Nanotechnology in Engineering and Medicine.

Referee for Book Publishers:

Taylor & Francis, CRC Press, Springer, Princeton University Press.

Referee for National and International Funding Agencies:

- National Science Foundation (Panel Review Member April 2024, June 2023, February 2023, February 2022, December 2020, December 2019, February 2018, March 2017, March 2016, May 2014, March 2014, February 2013, February 2012, October 2007, January 2007, May 2006, Washington, D.C.), Department of Energy, U.S. Civilian Research and Development Foundation, Los Alamos Laboratory Directed Research & Development, Deutsche Forschungsgemeinschaft (Panel Review Member February 2011, Bad Honnef, Germany), European Research Council, The Royal Society, The Dutch Research Council (NWO), National Commission for Scientific & Technological Research of Chile, Natural Sciences and Engineering Research Council of Canada, Japan Society for the Promotion of Science, Science Foundation Ireland (Panel Review Member November 2013, October 2011, Dublin, Ireland), The Foundation for Polish Science, The Romanian National Council for Scientific Research, Czech Science Foundation, The Fund for Scientific Research-FNRS, Belgium, Research Grants Council of Hong Kong, and Austrian Science Fund, Linz Institute of Technology - LIT, National Research Foundation of Korea (NRF), European Research Council, Canada Research Chairs. SUNY Research Seed Grant Program.

Synergistic Activities:

- National Renewable Energy Laboratory, Golden, Co, Member of the Technical Review Panel for the Materials, Chemical and Computational Science Directorate, November 2021-present. On-site panel reviews, April 2024, March 2023.
- International Scientific Advisory Committee of the Institute of Physics, Zagreb, Croatia, January 2019-present.
https://www.ifs.hr/en/institute/advisory_board/
- International Scientific Council of the University of Rijeka, Croatia, January 2018-present (covering diverse fields and also including faculty from University of Washington, MIT, and University of California, Santa Barbara).
<https://uniri.hr/en/about-university/international-scientific-council/>
- Program Committee of Workshop on Innovative Nanoscale Devices and Systems (WINDS2024) Koala Coast, HI, December 1-6, 2024.
- Program Committee of Spintronics XVII, SPIE Optics+Photonics, San Diego, CA, August 18-22, 2024.
- Advisory Board Member of the 9th International Conference on Superconductivity and Magnetism, ICSM2024 & 2nd International Conference on Quantum Materials and Technologies, ICQMT2024, Fethiye, Turkey, April 27 - May 4, 2024.
- Co-Organizer of the Focused Topic: Spin-Dependent Phenomena in Semiconductors, American Physical Society March Meeting, Minneapolis, MN, March 3-8, 2024.
- Program Committee of Workshop on Innovative Nanoscale Devices and Systems (WINDS2023) Kona, HI, December 3-8, 2023.
- Program Committee of Spintronics XVI, SPIE Optics+Photonics, San Diego, CA, August 20-24, 2023.

- Advisory Board Member of the 8th International Conference on Superconductivity and Magnetism, ICSM2023, Lykia, Turkey, May 4-11, 2023.
- Co-Organizer of the Focused Topic: Spin-Dependent Phenomena in Semiconductors, American Physical Society March Meeting, Las Vegas, NE, March 6-10, 2023.
- Program Committee of Workshop on Innovative Nanoscale Devices and Systems (WINDS2022) Kauai, HI, December 4-9, 2022.
- Program Committee of the 67th Conference on Magnetism and Magnetic Materials, Minneapolis, MN, October 31-November 4, 2022.
- Program Committee of Spintronics XV, SPIE Optics+Photonics, San Diego, CA, August 21-25, 2022.
- Advisory Board Member of the International Conference on Quantum Materials and Technologies, ICQMT2022, Milas-Bodrum, Turkey, October 16-22, 2022.
- Program Committee of the Magnetism and Optics Research International Symposium, MORIS 2022, Shimane, Japan, May 16-19, 2022.
- Program Committee of Workshop on Innovative Nanoscale Devices and Systems (WINDS2021) Big Island, HI, November 28-December 3, 2021.
- Advisory Board Member of the 7th International Conference on Superconductivity and Magnetism, ICSM2021, Milas-Bodrum, Turkey, October 22-28, 2021.
- Program Committee of Spintronics XIV, SPIE Optics+Photonics, San Diego, CA, August 1-5, 2021.
- Program Committee of the Magnetism and Optics Research International Symposium, MORIS 2021, Matsue, Japan, May 24-27, 2021.
- Program Committee of Spintronics XIII, SPIE Optics+Photonics, San Diego, CA, August 23-27, 2020.
- Program Committee of Spintronics XII, SPIE Optics+Photonics, San Diego, CA, August 11-15, 2019.
- Program Committee of the Magnetism and Optics Research International Symposium, MORIS 2019, Prague, Czech Republic, June 23-26, 2019.
- Program Committee of Spintronics XI, SPIE Optics+Photonics, San Diego, CA, August 19-24, 2018.
- Advisory Board Member of the 6th International Conference on Superconductivity and Magnetism, ICSM2018, Lykia, Turkey, April 29-May 4, 2018.
- Program Committee of the Magnetism and Optics Research International Symposium, MORIS 2018, New York City, NY, January 7-10, 2018.
- Program Committee of the ICAM Workshop on Spin, Charge, and Energy Transport in Novel Materials, Hvar, Croatia, October 1-7, 2017.
- Program Committee of Spintronics X, SPIE Optics+Photonics, San Diego, CA, August 6-10, 2017.
- Program Committee of Spintronics IX, SPIE Optics+Photonics, San Diego, CA, August 28-September 1, 2016.
- Advisory Board Member of the 5th International Conference on Superconductivity and

Magnetism, ICSM2016, Fethiye, Turkey, April 24-30, 2016.

- Program Committee of the Magnetism and Optics Research International Symposium, MORIS 2015, Penang, Malaysia, November 29-December 2, 2015.
- Program Committee of Spintronics VIII, SPIE Optics+Photonics, San Diego, CA, August 9-13, 2015.
- Program Committee of the 59th Conference on Magnetism and Magnetic Materials, Honolulu, HI, November 3-7, 2014. <http://www.magnetism.org/>
- Program Committee of Spintronics VII, SPIE Optics+Photonics, San Diego, CA, August 17-21, 2014.
- Vice-Chair Program Committee of the Magnetism and Optics Research International Symposium, MORIS 2013, Omiya Sonic City, Saitama, Japan, December 2-5, 2013.
- Technical Committee Member IEEE Magnetics Society.
- Program Committee of the 2014 CMOS Emerging Technologies Workshop, Grenoble, France, July 7-8, 2014.
- Program Committee of Spintronics VI, SPIE Optics+Photonics, San Diego, CA, August 25-29, 2013.
- Program Committee of the 2013 CMOS Emerging Technologies Workshop, Whistler, Canada, BC July 17-19, 2013.
- Program Committee of the Joint Magnetism and Magnetic Materials - INTERMAG Conference, Chicago, IL, January 14-18, 2013.
- Technical Chair of the New Device Concepts at the 39th International Symposium on Compound Semiconductors-ISCS 2012, Santa Barbara, CA, August 27-30, 2012.
- Program Committee of Spintronics V, SPIE Optics+Photonics, San Diego, CA, August 12-16, 2012.
- Program Committee of the 2012 CMOS Emerging Technologies, Vancouver, BC, Canada, July 18-20, 2012.
- Organizer of Spintronics Tutorial, American Physical Society March Meeting, Boston, MA, February 26, 2012, five presentations and over 100 participants.
- Program Committee of Spintronics IV, SPIE Optics+Photonics, San Diego, CA, August 21-25, 2011.
- Advisory Committee of the Sixth International School and Conference on Spintronics and Quantum Information Technology SPINTECH 6, Matsue, Shimane, Japan, August 1-5, 2011.
- Program Committee of the 55th Conference on Magnetism and Magnetic Materials, Atlanta, GA, November 7-11, 2010.
- Advisory Committee of the Fifth International School and Conference on Spintronics and Quantum Information Technology SPINTECH 5, Kraków, Poland, July 7-11, 2009.
- Organizer and Chair of the Invited Symposium: Tunneling Magnetoresistance: Yesterday, Today, and Tomorrow, American Physical Society March Meeting, New Orleans, LO, March 10-14, 2008 (over 150 attendants).

- Co-Organizer of the Focused Topic: Spin-Dependent Phenomena in Semiconductors, American Physical Society March Meeting, Denver, CO, March 5-9, 2007 (lasting 5 days with over 150 presentations).
- Gordon Research Conference on Magnetic Nanostructures, discussion leader, Oxford University, U.K., September 3-8, 2006.
- Department of Energy Workshop on Superconductivity, subpanel writer for Theory of Superconducting Interface Phenomena, Washington, D.C., May 8-11, 2006. http://www.sc.doe.gov/bes/reports/files/SC_rpt.pdf
- Program Committee of the 49th Conference on Magnetism and Magnetic Materials, Jacksonville, FL, November 7-11, 2004. <http://www.magnetism.org/>
- Co-Chair of the Symposia Series: Novel Aspects of Spintronic Materials and Devices, Material Research Society Meeting, Boston, MA, December 2-5, 2002. <http://www.mrs.org/meetings/fall2002/cfp/p.html>
- Proposed, chaired and co-organized Spintronics 2001: International Conference on Novel Aspects of Spin-Polarized Transport and Spin Dynamics, Washington D.C., August 9-11, 2001 (featured in 8/21/2001 New York Times article).
- Guest Editor for the February 2002 issue (Vol. **15**, No. 1) of Journal of Superconductivity (Spintronics 2001: Novel Aspects of Spin-Polarized Transport and Spin Dynamics).

TEACHING EXPERIENCE:

Courses Taught at University at Buffalo

Year	Course	Number of Students	Contribution
2024-Spring	514 Modern Electrodynamics	5	100 %
	600 Graduate Research	3	100 %
	498 Undergraduate Research	2	100 %
2023-Fall	513 Electrodynamics	12	100 %
	600 Graduate Research	3	100 %
	498 Undergraduate Research	1	100 %
2023-Spring	514 Modern Electrodynamics	4	100 %
	600 Graduate Research	2	100 %
	498 Undergraduate Research	2	100 %
2022-Fall	513 Electrodynamics	8	100 %
	600 Graduate Research	3	100 %
	498 Undergraduate Research	1	100 %
2022-Spring	514 Modern Electrodynamics	4	100 %
	600 Graduate Research	3	100 %
	498 Undergraduate Research	1	100 %
2021-Fall	513 Electrodynamics	7	100 %
	600 Graduate Research	2	100 %
2021-Spring	514 Modern Electrodynamics	4	100 %
	600 Graduate Research	2	100 %
2020-Fall	513 Electrodynamics	5	100 %
	600 Graduate Research	2	100 %
	498 Undergraduate Research	1	100 %
2020-Spring	514 Electrodynamics 2	5	100 %
	600 Graduate Research	2	100 %
	598 Independent Study	1	100 %
2019-Fall	513 Electrodynamics 1	10	100 %

2019-Spring	600 Graduate Research	1	100 %
2018-Fall	Sabbatical		
	513 Electrodynamics 1	13	100 %
2018-Spring	600 Graduate Research	2	100 %
	514 Electrodynamics 2	18	100 %
2017-Fall	600 Graduate Research	2	100 %
	513 Electrodynamics 1	19	100 %
2017-Spring	600 Graduate Research	2	100 %
	514 Electrodynamics 2	13	100 %
2016-Fall	600 Graduate Research	2	100 %
	513 Electrodynamics 1	15	100 %
2016-Spring	600 Graduate Research	2	100 %
	514 Electrodynamics 2	14	100 %
2015-Fall	600 Graduate Research	1	100 %
	498 Undergraduate Research	1	100 %
	513 Electrodynamics 1	18	100 %
2015-Spring	600 Graduate Research	1	100 %
	498 Undergraduate Research	1	100 %
	514 Electrodynamics 2	11	100 %
2014-Fall	600 Graduate Research	2	100 %
	497 Honors in Physics	1	100 %
	513 Electrodynamics 1	12	100 %
2014-Spring	600 Graduate Research	2	100 %
	497 Honors in Physics	2	100 %
	514 Electrodynamics 2	21	100 %
2013-Fall	600 Graduate Research	2	100 %
	598 Independent Study	1	100 %
	498 Undergraduate Research	1	100 %
	513 Electrodynamics 1	19	100 %
2013-Spring	600 Graduate Research	2	100 %
	498 Undergraduate Research	2	100 %
	514 Electrodynamics 2	10	100 %
2012-Fall	600 Graduate Research	2	100 %
	301 Intermediate Mechanics 1	32	100 %
2012-Spring	600 Graduate Research	2	100 %
	Sabbatical		
2011-Fall	600 Graduate Research	2	100 %
	301 Intermediate Mechanics 1	37	100 %
2011-Spring	600 Graduate Research	2	100 %
	514 Electrodynamics 2	9	100 %
2010-Fall	600 Graduate Research	2	100 %
	513 Electrodynamics 1	10	100 %
2010-Spring	600 Graduate Research	2	100 %
	514 Electrodynamics 2	12	100 %
	539 Quantum Theory of Solids	8	25 %
2009-Fall	600 Graduate Research	1	100 %
	598 Independent Study	2	100 %
	513 Electrodynamics 1	13	100 %
2009-Spring	598 Independent Study	3	100 %
	514 Electrodynamics 2	11	100 %
	598 Independent Study	2	100 %
2008-Fall	499 Independent Study	1	100 %
	513 Electrodynamics 1	18	100 %

	598 Independent Study	1	100 %
2008-Spring	302 Intermediate Mechanics 2	14	100 %
	598 Independent Study	1	100 %
2007-Fall	513 Electrodynamics 1	22	100 %
	598 Independent Study	1	100 %
2007-Spring	102 College Physics 2	234	100 %
	602 Department Colloquium	44	100 %
2006-Fall	101 College Physics 1	212	100 %
	598 Independent Study	1	100 %
2006-Spring	Teaching Release		
2005-Fall	101 College Physics 1	209	100 %

Experience Prior to University at Buffalo

- Postdoctoral Associate, Department of Physics, University of Maryland, 2000-2001. Teaching (lectures) Undergraduate Quantum Physics (Physics 402, Quantum Physics II) and Graduate Quantum Mechanics (Physics 623, Introduction to Quantum Mechanics II).
- Teaching Assistant, Department of Physics, University of Minnesota, 1992-1997. Teaching (laboratories and recitations) and laboratory development for lower level courses (Physics 1251-1254, and Honors Physics H1451-1454), grading for upper level undergraduate courses (Thermal and Statistical Physics 5201,5202, and Solid State Physics 5211).
- Developing problems and appendices for Physics 1252 and 1253 (Calculus based Introductory course at the University of Minnesota) Laboratory Manual.
<http://www.physics.umn.edu/groups/phased/Research/PSL/1252toc.html>
<http://www.physics.umn.edu/groups/phased/Research/PSL/1253toc.html>

ACADEMIC ADVISING:

PhD Students:

- Bailey Bussiere 2023-. Research Topics: Majorana Bound States, Topological Superconductivity, Josephson Junctions.
- Denzel Ayala 2021-. Research Topics: First-Principles Studies of Ferroelectrics and Magnetic Heterostructures, Majorana Bound States. 2024 Spring/Summer Internship with Dr. Mark van Schilfgaarde, Chief Theorist, National Renewable Energy Laboratory, Golden, CO.
- David Monroe 2021-. Research Topics: Spin-Dependent Effects in Josephson Junctions, Neuromorphic Computing.
- Jiayu David Cao 2019-. Research Topics: Spin-Lasers, Proximitized Materials. University at Buffalo Presidential Fellowship.
- Chenghao Shen 2015-2021. Research Topics: Ferromagnet/Superconductor Junctions, Topological Insulators, Spin Caloritronics, Majorana Fermions. Ph.D. Thesis: Normal-State and Superconducting Transport in Spin-Orbit-Coupled Systems, 8/2021. 2020 Bahethi Scholarship. Current Position: Postdoc, University at Buffalo.
- Gaofeng Xu 2014-2019. 2018 Dissertation Fellowship, University at Buffalo. Ph.D. Thesis: Spin-Dependent Phenomena: From Lasers to Transition Metal Dichalcogenides, 7/2018. 2015 The Physics Graduate Students Memorial Fellowship, University at Buffalo. Research Topics: Spin-Lasers, Quantum Optics, Transition Metal

- Dichalcogenides. Current Position: Associate Professor, Hangzhou Dianzi University, Hangzhou, China.
- Velimir Labinac 2018-. Research Topics: Spin-Lasers, Proximitized Materials. Attending University of Rijeka, Croatia.
 - Kristian Stojšić 2018-2023. Research Topics: Ferromagnet/Superconductor Junctions, Spin-Lasers. Attending University of Rijeka, Croatia, President's award for the best Undergraduate Thesis.
 - James Pientka 2009-2015. Research Topics: Studies of Magnetic Ordering in Semiconductors and Their Nanostructures, Monte Carlo Simulations of Magnetism. Ph.D. Thesis: Magnetic Ordering in Quantum Dots, 5/2016. Current Position: Associate Professor, Chair of the Physics Department, St. Bonaventure University, St. Bonaventure, NY.
 - Jeongsu Lee 2009-2014. 2013 Dissertation Fellowship, University at Buffalo, 2011 Korean-American Scientists and Engineers Association Graduate Scholarship Award. Research Topics: Spintronics, Theory of Spin-Polarized Semiconductor Lasers, Magnetic Quantum Dots, Ferromagnetic Semiconductors. Ph.D. Thesis: Semiconductor Nanostructures in Spintronics: From Spin Lasers to Nodal States, 8/2014. Next Position: Postdoctoral Fellow, University of Regensburg, Germany.
 - Paulo Faria, Jr. 2014-2015 (co-advisor). Recipient of a national fellowship from Brazil fully supporting his stay at the UB as an exchange student from Instituto de Física de São Carlos, Universidade de São Paulo, São Carlos, Brazil. Recipient of the Humboldt Postdoctoral Fellowship in Germany. Research Topics: Electronic structure calculations and spin-dependent properties of semiconductor nanostructures. Spin-Lasers. Current Position: Postdoctoral Fellow, University of Regensburg, Germany.
 - William Falls 2009-2010. Research Topics: Spin-Polarized Semiconductor Lasers. Recipient of the Presidential Fellowship, University at Buffalo.
 - Christian Gothgen 2006-2010, Steady-State Analysis of Semiconductor Spin-Lasers Recipient of student scholarship awards: International School and Conference Spintech IV, June 17-22, 2007, Maui, HI; Spins in Solids, Summer School June 18-23, 2006, Charlottesville, VA. Research Topics: Spin-Polarized Semiconductor Lasers. Ph.D. Thesis: Steady-State Analysis of Semiconductor Spin-Lasers, 7/2010. Deceased
 - Erika Dias Cabral 2008-2009 (co-advisor). Recipient of a national fellowship from Brazil fully supporting her stay at the UB as an exchange student from Instituto de Física, Universidade do Estado do Rio de Janeiro, Brazil. Research Topics: Monte Carlo Studies of Impurity Band Effects and Carrier-Mediated Ferromagnetism in Dilute Magnetic Semiconductors. Next/Current Position: Assistant Professor UEZO - Centro Universidade Estadual da Zona Oeste, Rio de Janeiro, Brazil.

Internship Students:

- Thomas Vezin 2018, Spring-Summer, visiting student from Ecole Polytechnique, Paris, France. Research Topics: Spin-Orbit Coupling in Superconducting Junctions and Spintronic Devices. 2019 Research Award from Ecole Polytechnique, Paris, for the project on Triplet Pairing in Ferromagnet/Superconductor Junctions, completed at the University at Buffalo.
- Guilhem Boéris, 2011 Spring-Summer, visiting student from Ecole Polytechnique, Paris, France. Silver medal in 2007 International Physics Olympiad. Research Topics: Dynamical Operation of Spin-Lasers. 2011 Research Award from Ecole Polytechnique, Paris, for the project on Chirp in Spin-Lasers completed at the University at Buffalo.

Undergraduate Students:

- Dario Tringali, 2022-. Research Topics: Josephson Junctions. Nominated by the University at Buffalo for the 2023 Goldwater Scholarship. The Best Poster Award: 127th Annual Meeting of the New York State Section, American Physical Society, University at Buffalo, April 29, 2023. 2023 Bahethi Scholarship, University at Buffalo.
- Nalin Cooper-Sherrow, 2022-2023, Research Topics: Spin-Lasers.
- Krish Patel, 2020-. Research Topics: Spin-Lasers. Admitted to the University at Buffalo, Honors College in 2020 as a Presidential Scholar. 2022 Goldwater Scholarship. 2023 Bahethi Scholarship, University at Buffalo, 2024 College of Arts at Sciences Outstanding Senior Award.
- Geoffrey Fatin 2012-2016. 2016 National Science Foundation Graduate Fellowship, 2016 National Defense Science & Engineering Graduate Fellowship. GPA: 4.00/4.00. Research Topics: Majorana Fermions, Spin-Orbit Coupling, Semiconductor Quantum Dots. Outreach with Heather Gerber a Science Teacher at the Native American Magnet School #19 in Buffalo.
- Timothy Leeney 2015-2017. Research Topics: Spin-Orbit Coupling, Topological Insulators, Magnetic Skyrmions.
- Evan Wasner 2012-2015. Research Topics: Dynamical Operation of Spin-Polarized Semiconductor Lasers. 2014 scholarship, as a exchange student for a premier engineering program in France: Ecole Nationale Supérieure de l'Electronique et de ses Applications.
- Sean Bearden 2012-2015. 2015 National Science Foundation Graduate Fellowship, 2014 Goldwater Scholarship, Wilson Scholarship 2013-2014, 2014-2015, Great Lakes National Scholarship, Society of American Military Engineers Scholarship, 2015 Outstanding Senior Award, University at Buffalo, Physics Excellence Award at Summer Research Fellowship for a Ph.D. program at the University of California at San Diego. Research Topics: Spin-Polarized Semiconductor Lasers.
- Aaron Kirby 2011-2013, Research Topics: Spin-Polarized Semiconductor Lasers.
- William Falls 2009, Summer Support: National Science Foundation, Research Experience for Undergraduates, ECCS-054782. Research Topics: Spin Modulation in Semiconductor Lasers.

High School Students:

- Krish Patel, 2019-2020. Research Topics: Spin-Lasers. Kenmore West High School Student, SAT Score: 1530, admitted to the University at Buffalo, Honors College in 2020 as a Presidential Scholar.

Postdocs:

- David Brandao, Microwave Spectroscopy of Josephson Junctions, Topological Superconductivity.
- Konstantin Denisov 2023-. Research Topic: Topological Materials, Ferroelectrics, Two-Dimensional Materials, Spin-Dependent Phenomena.
- Baris Pekerten 2022-. Research Topics: Majorana Fermions, Josephson Junctions, Topological Materials.
- Chenghao Shen 2021-. Research Topics: Transport Properties and Spin-Orbit Coupling in Normal and Superconducting Junction, Majorana Fermions, Topological Ma-

terials.

- Tong Zhou, 2017-2023. Research Topics: Majorana Fermions, Magnetic Textures, Topological Materials, First-Principles Calculations. Next/Current Position: Associate Professor, Eastern Institute of Technology, Nigbo, China.
- Gaofeng Xu, 2019-2021. Research Topics: Proximity Effects, Topological Materials, Spin-Lasers. Current Position: Associate Professor, Hangzhou Dianzi University, Hangzhou, China
- Tiago de Campos, 2018-2019. Research Topics: Magnetic Quantum Dots, Semiconductor/Superconductor Junctions, Majorana Fermions.
- Alex Matos Abiague 2014-2017. Research Topics: Graphene Spintronics, Majorana Fermions, Spin-Dependent Transport, Topological Insulators, Quantum Dots. Next/Current Position: Associate Professor, Wayne State University, Detroit.
- Benedikt Scharf 2013-2016. 2014 Recipient of Deutsche Forschungsgemeinschaft (DFG) Fellowship. Research Topics: Graphene Spintronics, Topological Insulators, Majorana Fermions, Quantum Dots. Next/Current Position: Postdoc at University of Wuerzburg, Germany.
- Rafal Oszwaldowski 2007-2013. Research Topics: Carrier-Mediated Magnetism in Bulk Semiconductors and Quantum Dots, Spin-Polarized Semiconductor Lasers. Next/Current Position: Assistant Professor, Department of Physics, South Dakota of Mines & Technology, Rapid City, SD.
- Karel Vyborny 2011-2013. (co-supervisor with Jong Han). Research Topics: Magnetic Quantum Dots, Spin-Orbit Coupling, Spin-Transfer Torque, Spin-Polarized Semiconductor Lasers. Next/Current Position: Permanent Staff Member, Institute of Physics, Academy of Sciences of the Czech Republic, Prague.
- Karan Aryanpour 2007-2009. (co-supervisor with Jong Han). Research Topics: Spin-Polarized Transport in Inhomogeneous Semiconductors. Next/Current Position: Postdoc, Department of Physics, University of Arizona, Tucson, AZ.
- Ramin Abolfath 2006-2007. Research Topics: Control of Magnetism in Semiconductor Quantum Dots. Next/Current Position: Medical Physicist, Therapeutic Radiology, Yale School of Medicine, New Haven, CT.

LONG-TERM VISITORS:

- Prof. Mariana Malard, University of Brasilia, Brazil, 3/2024. Research Topics: Topological Superconductivity, Majorana States.
- Dr. Paulo Faria Junior, University of Regensburg, Germany, 3/2024. Research Topics: Proximity Effects, Silicon Photonics.
- Dr. Benedikt Scharf, University of Wuerzburg, Germany, 11/2022, 8/2018. Research Topics: van der Waals Materials, Proximity Effects.
- Dr. Ivor Lončarić, Institute Rudjer Bošković, Zagreb, Croatia, 10/2017-11/2017. Research Topics: First-Principles Calculations, Graphene Spintronics.
- Prof. Xin-Jun Wang Institute of Mathematics and Physics, Central South University of Forestry and Technology, Changsha, China, 5/2016-5/2017, Sabbatical Stay at the University at Buffalo with the Scholarship Award from the Hunan Provincial Department of Education. Research Topics: First-Principles Calculations, van der Waals Heterostructures.

- Dr. Predrag Lazić, Institute Rudjer Bošković, Zagreb, Croatia, 10/2017-11/2017; Sabbatical Stay at the University at Buffalo, 11/2014-4/2015. Research Topics: First-Principles Calculations, Graphene Spintronics, Electrostatic Gating.
- Dr. Predrag Lazić, Institute Rudjer Bošković, Zagreb, Croatia, Sabbatical Stay at the University at Buffalo, 11/2014-4/2015. Research Topics: First-Principles Calculations, Graphene Spintronics, Electrostatic Gating.
- Prof. Nils C. Gerhardt, Photonics and Terahertz Technology, Ruhr-University Bochum, Bochum, Germany, 8/2014-9/2014, 2/2015. Research Topics: Dynamical Operation of Spin-Lasers and their Experimental Implementation.
- Prof. Guilherme Matos Siphai, Instituto de Física de São Carlos, Universidade de São Paulo, São Carlos, Brazil. 5/2018-6/2018; Sabbatical Stay at the University at Buffalo 2/2012-2/2014. Research Topics: Spin Relaxation in Semiconductors and Graphene, Computational Physics, Electronic Structure Calculations.

THESIS COMMITTEE MEMBER:

External, PhD Students:

- Wadgaonkar Indrajit Pradeepchandra, Thesis Defense 11/2022: "Out-of-Equilibrium Dynamics in Real Band Structures," Nanyang Technological University, Singapore.
- Maksim Gomanko, Thesis Topic Defense, 4/2022: "PbTe Nanowires and Quantum Devices," Department of Physics, University of Pittsburgh, PA, USA.
- Duy-Quang To, Defended 10/2019: "Advanced Multiband $k \cdot p$ Methods for Semiconductor-Based Spintronics," Department of Physics, Ecole Polytechnique, Université Paris-Saclay, Palaiseau, France.
- Grigory Bednik, Defended 5/2018: "Topological and Superconducting Properties of Weyl and Dirac Metals," Department of Physics, University of Waterloo, ON, Canada.
- Tiago de Campos, Defended 9/2017: "Spin-Orbit Coupling Effects and g -Factors in Zinc-Blende InSb and Wurtzite InAs Nanowires using Realistic Multiband $k \cdot p$ Method," São Carlos Institute of Physics, University of São Paulo, Brazil.
- Adari Rama Bhadra Rao, Defended 3/2014: "Spin Injection, Transport and Detection in III-V Semiconductors," Department of Electrical Engineering, Indian Institute of Technology, Bombay, India.
- Julien Rioux, Defended 7/2011: "Full-Band Calculations of Optical Injection in Semiconductors: Investigations of One-Color, Two-Color, and Pump-Probe Scenarios." Department of Physics, University of Toronto, ON, Canada.
- Sankha Mukherjee, Defended 12/2009: "Realization of CoFeB/MgO/CoFeB Magnetic Tunnel Junction Devices Through Materials Analysis, Process Integration, and Circuit Simulation." Microsystems Engineering Department, Rochester Institute of Technology.
- Joseph Ngai, Defended 9/2007: "Scanning Tunneling Spectroscopy on Superconducting $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ Thin Films: Effects of Ca-Doping, Quasiparticle Spin-Injection, Applied Current, and Magnetic Field." Department of Physics, University of Toronto, ON, Canada.

Internal, PhD Students:

- Kunal Mozumdar, Thesis Topic Defense 4/2024: "Non-Equilibrium Transport and

Phase Transitions in Disordered Electronic Systems.”

- Samuel Powers, Defended 8/2023: “A New Quantum Ontology: A Statistical Theory Of Event Networks Built From Classical Bits.”
- David Monroe, Qualifying Exam 8/2022: “Josephson Junctions: Tunable Current-Phase Relations.”
- David Jiayu Cao, Qualifying Exam, 8/2021: “Magnetic Proximity Effects in Monolayer Transition Metal Dichalcogenides.”
- Chenghao Shen, Defended 8/2021: “Normal-State and Superconducting Transport in Spin-Orbit-Coupled Systems.”
- Bilal Tariq, Defended 8/2021: “Spin Qubit Based on Silicon Quantum Dots.”
- Jungryeol Seo, Defended 4/2020: “Symmetry Breaking in Cuprate High T_C Superconductors: Doping, Energy, and Temperature Dependence.”
- Gaofeng Xu, Defended 7/2019 “Spin-dependent Phenomena: From Lasers to Transition Metal Dichalcogenides,”
- Mumtaz Murat Arik, Defended 1/2019: “Infrared and Visible Magneto-optical Studies of Large Area Monolayer Transition Metal Dichalcogenides.”
- Xuechen Zhu, Defended 9/2017: “Numerical Studies of Spin Injection and Scanning Tunneling Spectroscopy Studies.”
- Jo-Tzu Hung, Defended 6/2015: “Dynamics of Encoded Spin Qubits in Semiconductor Quantum Dots.”
- James Pientka, Defended 5/2015: “Magnetic Ordering in Quantum Dots.”
- Mehdi Pakmehr, Defended 12/2014: “Probing Spin and Spin-Orbit Coupling Effects in Narrow-Gap Semiconductor Nano-Structures by THz Magneto-Photoresponse Spectroscopy and Magneto-transport Measurements.”
- Jeongsu Lee, Defended 8/2014: “Semiconductor Nanostructures in Spintronics: From Spin Lasers to Nodal States.”
- Chejin Bae, Defended 8/2013: “A Tunable Terahertz Detector based on Self- Assembled Plasmonic Structure on a GaAs 2-Dimensional Electron Gas.”
- Hemachander Subramanian, Defended 8/2012: “Interaction of Magnetism with Atomic Lattice Geometry and Nanoscale Geometric Frustrations.”
- Andreas Stier, Defended 7/2011: “Far Infrared Magneto-Optical Studies of Spin Effects and Off Diagonal Conductivity in the Integer Quantum Hall Regime.”
- Tariq Ali, Defended 5/2011: “Magneto-Optical Studies of InGaAs Quantum Wells and Devices used for Spintronic Applications.”
- Chia-Wei Huang, Defended 8/2010: “Spin Dynamics and Coherence in Semiconductor Nanostructures.”
- Christian Gothgen, Defended 7/2010: “Steady-State Analysis of Semiconductor Spin-Lasers.”
- Ryan Heary, Defended 5/2009: “Imaginary-Time Description of Strongly Correlated Steady-State Nonequilibrium Transport.”

- Gheorghe Acbas, Defended 12/2008: "Infrared Magneto-Optical Studies of Correlated Electron Systems: Faraday and Kerr Measurements in $Ga_{1-x}Mn_xAs$, $SrRuO_3$ and $Pr_{2-x}C_xCuO_4$."

Internal, MS Students:

- Xi Chen, Defended 4/2021.
- Aleh Haramykin, Defended 5/2010: Study of Discrete Nonlinear Schrödinger Equation with Cubic and Quintic Terms Using Maple.

SERVICE TO THE DEPARTMENT:

Department Committees:

Year	Committee (served entire year, unless specified)
2023-2024	Faculty External Recognition Faculty Search Theoretical Condensed Matter and Quantum Physics (Chair) Special Events (Rustgi and Ta-You Wu Lectures) (Chair) Graduate Studies Diversity, Equity, and Inclusion
2023-2024	Faculty External Recognition Special Events (Rustgi and Ta-You Wu Lectures) (Chair) Faculty Search Theoretical Condensed Matter and Quantum Physics Graduate Studies Space
2022-2023	Comprehensive Exam Faculty External Recognition Special Events (Rustgi and Ta-You Wu Lectures) (Chair) Graduate Studies Space
2021-2022	Comprehensive Exam Faculty External Recognition Special Events (Rustgi and Ta-You Wu Lectures) (Chair) Graduate Studies Space
2020-2021	Comprehensive Exam Advisory Special Events (Rustgi and Ta-You Wu Lectures) Graduate Studies Space
2019-2020	Faculty External Recognition Advisory Rustgi Memorial Lecture Series Graduate Studies Thesis Topic Defense Space
2018-2019	Faculty External Recognition Rustgi Memorial Lecture Series Graduate Studies Space Qualifying Examination Administering
2017-2018	Qualifying Examination Faculty External Recognition Rustgi Memorial Lecture Series (Chair)

	Space
	Qualifying Examination Administering
	Qualifying Examination
2016-2017	Faculty External Recognition
	Seminar (Spring)
	Rustgi Memorial Lecture Series
	Space
	Qualifying Examination Administering
	Qualifying Examination
2015-2016	Graduate Recruitment
	Space
	Qualifying Examination
	Rustgi Memorial Lecture Series
	Advisory (Appointed Member)
2014-2015	Graduate Recruitment
	Seminar (Spring-Chair)
	Space
	Qualifying Examination
	Rustgi Memorial Lecture Series (Chair)
	Advisory (Appointed Member)
2013-2014	Graduate Recruitment
	Graduate Studies
	Seminar (Spring)
	Space
	Qualifying Examination
	Rustgi Memorial Lecture Series
2012-2013	Graduate Recruitment
	Graduate Studies
	Seminar (Spring)
	Space
	Qualifying Examination
	Rustgi Memorial Lecture Series
2011-2012	Graduate Recruitment
	Graduate Studies
	Seminar (Fall)
	Space
	Qualifying Examination
	Rustgi Memorial Lecture Series
2010-2011	Graduate Recruitment
	Graduate Studies
	Seminar (Spring)
	Qualifying Examination
	Rustgi Memorial Lecture Series
2009-2010	Graduate Recruitment
	Tenured Condensed Matter Theory Faculty Search (Co-Chair)
	Colloquium (Fall)
	Qualifying Examination
	Rutsgi Memorial Lecture Series
2008-2009	Graduate Recruitment
	Tenured Condensed Matter Theory Faculty Search (Co-Chair)
	Faculty External Recognition
	Colloquium (Fall)
	Newsletter

2007-2008	Qualifying Examination Rustgi Memorial Lecture Series Graduate Recruitment Computing
2006-2007	Qualifying Examination Graduate Recruitment Advisory (Appointed Member) Colloquium (Spring-Chair) Computing
2005-2006	Qualifying Examination Outreach Colloquium (Spring) Computing Qualifying Examination

- Co-Organizer of the Departmental Retreat on 1/21/2008, dedicated to the effective use of Teaching Assistant positions.
- Designed and implemented new lecture demonstrations for Physics 101 and 102 (College Physics 1, 2).
- Developed new lecture modules on spin transport and magnetism for Physics 102, 513 (College Physics 2, Electrodynamics 1) and on light polarization and lasers for Physics 514 (Electrodynamics 2).
- Co-developed new course Physics 539 (Quantum Theory of Solids).
- Developed new course Physics 514 (Modern Electrodynamics).
- Proposed and organized a public presentation (as a part of a the Rustgi Memorial Lecture Series) by Dr. Stuart Parkin, IBM Almaden Research Center, "The Spin on Electronics," Buffalo, NY, April 6, 2007.

SERVICE TO THE UNIVERSITY:

- 2024-present, Reviewer Panel of the SUNY Office of Research, Innovation and Economic Development.
- 2011-2012 Member of the Planning Committee to develop and grow a new, internationally recognized, Academic Center and Graduate Degree Program in Materials Science and Engineering (MSE@UB). The resulting proposal has been supported in 2/2012.
- Member of the Center for Spin Effects and Quantum Information in Nanostructures (CSEQuIN).
- New Faculty Orientation Program, Panel Speaker, "Research: Opportunities and Challenges," Hauptmann-Woodward Research Institute, Center of Excellence in Bioinformatics and Life Sciences, Buffalo, NY, 8/25/2009.
- Integrated Nanostructured Systems Workshop (UB 2020 Strategic Strength), presentation "Spintronics: Challenges and Opportunities," Buffalo, NY, 1/11/2008.
- Bio-Harmony, A Life Sciences Breakfast Seminar with UB's industrial partners, presentation "Putting Spin into Electronics," Amherst, NY, 5/15/2008.

SERVICE TO THE COMMUNITY:

- "Lasers and Light." Summer Workshop outreach activity involving middle school students from the Native American Magnet School (PS19) in Buffalo. University at Buffalo, June 2016.
- "Introduction to Optics and Lasers." Summer Workshop outreach activity involving underrepresented students grades 7-12 from Buffalo area. University at Buffalo, NY, June 24-28, 2013.
- Public Lecture "Lasers" (presented by Christian Gothgen), Eggertsville-Snyder Public Library, Snyder, NY, April 18, 2009.
- Public Lecture "Putting Spin Into Electronics-Vision for the Future," opening the Symposium on Magnetic Excitations in Semiconductors, Buffalo, NY, March 6-8, 2008. Attendance of about 400 people, including high-school students.
<http://mcombe.physics.buffalo.edu/magex-festsymp/program.htm>
mcombe.physics.buffalo.edu/magex-festsymp/PublicLecture-Zutic-Abstract.pdf
- Public Lecture "Putting Spin Into Electronics," University of Toronto, ON, Canada, November 3, 2006.

PUBLICATIONS: (most of them available online at <http://arxiv.org/find/cond-mat>)

- h-index 51, Web of Science Thomson Reuters, publication **31**. cited over **9,900** times (over 12,800 times by Google Scholar).

(1) Refereed Journals:

- 157.** C. González-Ruano, C. Shen, P. Tuero, C. Tiusan, Y. Lu, J. E. Han, I. Žutić, and F. G. Aliev, Giant Shot Noise in Superconductor/Ferromagnet Junctions with Spin-Orbit Coupling, preprint (to be submitted to Nature, encouraged editorially), 8 pages.
- 156.** K. S. Denisov and I. Žutić, Moveable Dirac Points in 2D Ferroelectrics: Berry Dipoles and Kink States, submitted to Phys. Rev. Lett., 7 pages.
- 155.** B. Pekerten, D. Brandão, B. Bussiere, D. Monroe, T. Zhou, J. E. Han, J. Shabani, A. Matos-Abiague, and I. Žutić, Beyond the Standard Model of Topological Josephson Junctions: From Crystalline Anisotropy to Finite-Size and Diode Effects, Appl. Phys. Lett., (under review), 6 pages.
- 154.** B. Pekerten, D. Brandão, B. H. Elfeky, T. Zhou, J. E. Han, J. Shabani, and I. Žutić, Microwave Signatures of Topological Superconductivity in Planar Josephson Junctions Phys. Rev. Lett., (under review), 7 pages.
- 153.** P. A. Dainone, N. Figueiredo Prestes, P. Renucci, A. Bouch, M. Morassi, X. Devaux, M. Lindemann, J.-M. George, H. Jaffrés, A. Lemaitre, B. Xu, M. Stoffel, T. Chen, L. Lombez, D. Lagarde, G. Cong, T. Ma, P. Pigeat, M. Vergnat, H. Rinnert, X. Marie, X. Han, S. Mangin, J.-C. Rojas Sanchez, J.-P. Wang, M. C. Beard, N. C. Gerhardt, I. Žutić, and Y. Lu, Controlling the Helicity of Light by Electrical Magnetization Switching, Nature **627**, 783-788 (2024). Highlighted in News & Views, S. Hiura, Electrons Flip a Switch on Optical Communications, Nature **627**, 737-738 (2024). Featured in the National Science Foundation Discovery Files. The series airs on commercial radio stations across the country, including the CBS Radio Network, more than 40 independent radio stations, and distributed to 177 countries worldwide via the American Forces Network. News Highlights: Phys Org, My Science, UB, Technology Org, Science Blog "Transporting Spin Information at the Speed of Light," <https://phys.org/news/2024-03-earth-mars.html> https://www.myscience.org/en/news/wire/transporting_spin_information_at_the_speed_of_light-2024-rub <https://www.buffalo.edu/news/releases/2024/03/>

- transporting-spin-information-at-the-speed-of-light.html <https://techandsciencepost.com/news/physics/from-earth-to-mars-transporting-spin-information-at-the-speed-of-light/> <https://scienceblog.com/543333/from-earth-to-mars-transporting-spin-information-at-the-speed-of-light/>
152. J. D. Cao, G. Xu, B. Scharf, K. Denisov, and I. Žutić, Emergent Bright Excitons with Rashba Spin-Orbit Coupling in Atomic Monolayers, *Phys. Rev. B* **109**, 085407 (2024), arXiv:2401.11079, 11 pages.
 151. Ti Xie, S. Liang, S. Deitemyer, Q. Wang, T. Zhou, I. Žutić, X. Zhang, D. Yuan, X. Zhang, and Cheng Gong, Compositional Engineering of Magnetic Anisotropy in $\text{Cr}_2\text{Si}_x\text{Ge}_{2-x}\text{Te}_6$, *Mater. Today Electron.* **7**, 100081 (2024), 5 pages.
 150. D. Monroe, C. Shen, D. Tringali, M. Alidoust, T. Zhou, and I. Žutić, Phase Jumps in Josephson Junctions with Time-Dependent Spin-Orbit Coupling, *Appl. Phys. Lett.*, (under review) 8 pages.
 149. Y. Y. Xue, T. Zhou, W. Xu, B. Zhao, I. Žutić, and Z. Yang, Tuning Corner States in Proximitized Second-Order Topological Insulators with Bulk-Boundary Obstruction, *Phys. Rev. B* **108**, L161110 (2023).
 148. S. Cheng, M. Nrisimhamurty, T. Zhou, N. Bagués, W. Zhou, A. J. Bishop, I. Lyalin, C. Jozwiak, A. Bostwick, E. Rotenberg, D. W. McComb, I. Žutić, and R. K. Kawakami, Epitaxial Kagome Thin Films as a Platform for Topological Flat Bands, *Nano Lett.* **23**, 7107 (2023), arXiv:2307.15828, 7 pages.
 147. K. S. Denisov, I. V. Rozhansky, S. O. Valenzuela, and I. Žutić, Terahertz Spin-Light Coupling in Proximitized Dirac Materials, *Phys. Rev. B* **109**, L201406 (2024), 8 pages.
 146. D. Ayala, T. Zhou, Ti Xie, S. Siddique, Q. Tan, Xi Ling, J. J. Cha, C. Gong, and I. Žutić, Strain Engineering of Ferroelectricity in a Monolayer CuInP_2S_6 , submitted to *Mater. Today Electron.*, 17 pages.
 145. D. Kochan, A. Costa, I. Zhumagulov, and I. Žutić, Phenomenological Theory of the Supercurrent Diode Effect: The Lifshitz Invariant, *Phys. Rev. Lett.* (under review), arXiv:2303.11975, 7 pages.
 144. W. Zhu, Y. Zhu, T. Zhou, X. Zhang, H. Lin, Q. Cui, F. Yan, Z. Wang, Y. Deng, H. Yang, L. Zhao, I. Žutić, K. D. Belashchenko, and K. Wang, Large and Tunable Magnetoresistance in van der Waals Ferromagnet/Semiconductor junctions, *Nat. Commun.* **14**, 5371 (2023), arXiv:2303.11596, 7 pages.
 143. G. Xu, K. Patel, and I. Žutić, Polarization Response of Spin-Lasers Under Amplitude Modulation, *Appl. Phys. Lett.* **122**, 243501 (2023), arXiv:2305:15819, 6 pages.
 142. S. Liang, Ti Xie, N. A. Blumenschein, T. Zhou, T. Ersevım, Z. Song, J. Liang, M. A. Susner, B. S. Conner, S.-J. Gong, J.-P. Wang, M. Ouyang, I. Žutić, A. L. Friedman, X. Zhang, and C. Gong, Small-Voltage Multiferroic Control of Two-Dimensional Magnetic Insulators, *Nat. Electron.* **6**, 199-205 (2023).
 141. T. Zhou and I. Žutić, Asymmetry in the Magnetic Neighbourhood, *Nat. Mater.* **22**, 284-285 (2023).
 140. C. Shen, R. Cai, A. Matos-Abiague, W. Han, J. E. Han, and I. Žutić, Rashba Spin-Orbit Coupling Enhanced Magnetoresistance in Junctions with One Ferromagnet, *Phys. Rev.*

- B **107**, 125306 (2023), arXiv:2303.00185, 13 pages. Invited article for a special issue Emmanuel Rashba: Breaking New Ground in Solid-State Exploration.
139. R. Cai, I. Žutić, and W. Han, Superconductor/Ferromagnet Heterostructures: A Platform for Superconducting Spintronics and Quantum Computation, *Adv. Quantum Tech.* **6**, 2200080 (2023), 14 pages.
 138. M. Amundsen, J. Linder, J. W. A. Robinson, I. Žutić, and N. Banerjee, Colloquium: Spin-Orbit Effects in Superconducting Hybrid Structures, *Rev. Mod. Phys.* (in press, invited review), arXiv:2210.03549, 34 pages.
 137. C. Shen, J. E. Han, T. Vezin, M. Alidoust, and I. Žutić, Signatures of Enhanced Spin-Triplet Superconductivity Induced by Interfacial Properties, *Phys. Rev. B* (under review), preprint, 12 pages.
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(2) Non-refereed Journals:

3. I. Žutić, Scientific Advances and Sustainable Development (in Croatian), *Vox Academiae* **19**, 4 (2019).
2. J. Lee and I. Žutić, Spintronics Stretches its Arms to Lasers (invited article), *SPIE Newsroom*, 10.1117 /2.1201209.004437 (2012), 3 pages, <http://spie.org/x90592.xml?highlight=x2408>
1. I. Žutić, D. Rodinis, Fractal Dimensions or How to Measure in Nature (in Croatian), *Priroda*, **79**, 12-17 (1989).

(3) Conference Proceedings:

4. B. Barman; Y. Tsai, T. Scrace, J. R. Murphy, A. N. Cartwright, J. M. Pientka, I. Žutić, B. D. McCombe, A. Petrou, I. R. Sellers, R. Oszwaldowski, A. Petukhov, W. C. Fan, W. C. Chou, and C. S. Yang, Conventional versus Unconventional Magnetic Polarons: $\text{ZnMnTe}/\text{ZnSe}$ and $\text{ZnTe}/\text{ZnMnSe}$ Quantum Dots, *Proc. SPIE* 9167, 91670L (2014), 7 pages.
3. H. Dery, H. Wu, B. Ciftcioglu, M. Huang, Y. Song, R. K. Kawakami, J. Shi, I. N. Krivorotov, D. A. Telesca, I. Žutić, and Lu J. Sham, Reconfigurable Nanoelectronics Using Graphene Based Spintronic Logic Gates, *Proc. SPIE* 8100, 81000W (2011), arXiv:1101.1497.
2. S. Das Sarma, J. Fabian, X. D. Hu, and I. Žutić, Issues, Concepts and Challenges in Spintronics, *The 58th Annual Device Research Conference (IEEE, Piscataway, 2000)*, p. 95-98, cond-mat/0006369.
1. J. Buan, B. P. Stojković, A. Bhattacharya, I. Žutić, N. Israeloff, A. M. Goldman, D. Grupp, C. C. Huang, and O. T. Valls, Determination of the Pairing State of High- T_C Superconductors Through Measurements of the Transverse Magnetic Moment, *Proceedings of the 10th Anniversary HTS Workshop on Physics, Materials and Applications, Houston, Texas, 1996*, edited by B. Batlogg, C. W. Chu, W. K. Chu, D. U. Gubser and K. A. Müller, *World Scientific* (1996), pp. 219-222 (1996).

(4.) Books:

3. J. Fabian, A. Mathos-Abiague, C. Ertler, P. Stano, and I. Žutić, Semiconductor Spintronics, Cambridge University Press, in preparation (textbook including original problems).
2. Spintronics Handbook: Spin Transport and Magnetism, 2nd Edition, edited by E. Y. Tsymbal and I. Žutić, (Taylor & Francis/CRC Press, Boca Raton, FL, 2019), 3 Volumes, 2168 pages, 54 chapters including an overview by A. Fert, 2007 Nobel Laureate in Physics, ISBN 9781498769723.
1. Handbook of Spin Transport and Magnetism, edited by E. Y. Tsymbal and I. Žutić, (Chapman and Hall/CRC Press, New York, 2011), approx. 800 pages, 39 chapters including an overview by A. Fert, 2007 Nobel Laureate in Physics.
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(5.) Contributions to Books:

8. I. Žutić, J. Lee, C. Gothgen, P. E. Faria Junior, G. Xu, G. M. Sipahi, and N. C. Gerhardt, Semiconductor Spin-Lasers, in Spintronics Handbook: Spin Transport and Magnetism, 2nd Edition, edited by E. Y. Tsymbal and I. Žutić, (Taylor Francis/CRC Press, Boca Raton, FL, 2019), Volume 3, pp. 500-539.
7. J. Lee, G. Boeris, R. Oszwałdowski, K. Vyborny and C. Gothgen, and I. Žutić, Spin Modulation: Teaching Lasers New Tricks, in Future Trends in Microelectronics, edited by S. Luryi, J. Xu, and A. Zaslavsky, (Wiley, Hoboken, 2013), pp. 183-190.
6. I. Žutić, R. Oszwałdowski, C. Gothgen, and J. Lee, Semiconductor Spin-Lasers, in Handbook of Spin Transport and Magnetism, edited by E. Y. Tsymbal and I. Žutić, (Chapman and Hall/CRC Press, New York, 2011), pp. 731-746.
5. I. Žutić, J. Fabian, and C. Ertler, Spin-Polarized Transport and Spintronic Devices, chapter in Comprehensive Semiconductor Science and Technology, volume 6, edited by P. Bhattacharya, R. Fornari, and H. Kamimura, (Elsevier, Amsterdam, 2011), pp. 615-647.
4. J. Fabian and I. Žutić, The Standard Model of Spin Injection, Lecture notes for the 40th IFF Spring School Spintronics—From GMR to Quantum Information, 09 - 20 March 2009 (Forschungszentrums Juelich, 2009), edited by S. Bluegel.
3. I. Žutić and J. Fabian, Towards Semiconductor Spin Logic, chapter in Future Trends in Microelectronics, edited by S. Luryi, J. Xu, and A. Zaslavsky, (Wiley, Hoboken, 2007), pp. 41-50.
2. I. Žutić and J. Fabian, Bipolar Spintronics, chapter in Concepts in Spin Electronics, edited by S. Maekawa, (Oxford University Press, Oxford, 2006), pp. 43-92.
1. J. Supercond. **15**, 1-104 (2002), I. Žutić, Guest Editor. (Spintronics 2001: Novel Aspects of Spin-Polarized Transport and Spin Dynamics).

(6.) Other Publications:

1. I. Žutić, Nanoelectronic Device Applications Handbook, J. Nanotech. Eng. Med. **4**, 036501 (2014), 2 pages. Invited and Refereed Book Review.

INVITED PRESENTATIONS:

195. Putting Spins in Energy-Efficient Electronics, Topical Group on Energy Research and Applications

- (GERA) Energy Workshop, American Physical Society March Meeting, Minneapolis, MN, March 3-8, 2024.
194. Proximitized Materials: From Spintronics to Majorana States, colloquium at the Pennsylvania State University, State College, PA, October 5, (2023).
 193. Panelist, Reflection, Insight, and Perspective on Topological Phenomena Exhibited/Enabled in the Solid-State Matters, International Cryogenic Materials Conference, Honolulu, HI, July 9 - 13, 2023.
 192. Planar Josephson Junctions: From Topological Superconductivity to Novel Switching Mechanism, International Cryogenic Materials Conference, Honolulu, HI, July 9 - 13, 2023.
 191. Topology, Anisotropy, Disorder, and Superconducting Diode Effect in Planar Josephson Junctions (presented by B. Pekerten), SPIE Optics + Photonics, San Diego, CA, August 20-24, 2023.
 190. Planar Josephson Junctions: From Topological Superconductivity to a Time-Dependent Diode Effect (presented by D. Monroe), SPIE Optics + Photonics, San Diego, CA, August 20-24, 2023.
 189. Terahertz Spin Resonance of Proximitized Dirac Electrons (presented by K. Denisov), SPIE Optics + Photonics, San Diego, CA, August 20-24, 2023.
 188. Quantum Proximitized Materials: From Photonics and Spintronics to Majoranas, QUEST 2023, International Conference on Quantum Engineered Sensing and Information Technology, Paris, France, June 27-30, 2023
 187. Old Bipolar Spintronics and Some New Opportunities, Institut Jean Lamour, Université de Lorraine, Nancy, France, June 21, 2023.
 186. Enhanced Magnetoresistance in Nanostructures with a Single Ferromagnet, Institut Jean Lamour, Université de Lorraine, Nancy, France, June 20, 2023.
 185. Proximitized Materials: From Spintronics to Majorana States, Imperial College, London, UK, June 15, 2023.
 184. Enhanced Magnetoresistance in Nanostructures with a Single Ferromagnet (presented by C. Shen), American Physical Society March Meeting, Las Vegas, NV, March 5-10, 2023.
 183. Proximitized Materials: From Spintronics to Majorana States, Frontiers of Condensed Matter Physics Lecture, online Colloquium at the Columbia University, New York, NY, February 6, 2023.
 182. Proximitized Materials: From Spintronics to Majorana States, 48th Conference on the Physics and Chemistry of Surfaces and Interfaces, Redondo Beach, CA, January 15-19, 2023.
 181. Enhanced Spin-Triplet Superconductivity: From Spintronics to Majorana States, CRIM2022: Superconducting Spintronics in Low Dimensions, Institute of Physics, England (online), September 19, 2022.
 180. Enhanced Spin-Triplet Superconductivity: From Spintronics to Majorana States, 769. Wilhelm and Else Heraeus Seminar Novel Quantum Phases in Superconducting Heterostructures, Bad Honnef, Germany, May 30 - June 2, 2022.
 179. Robust Topological Spintronics with Spin-Valley-Momentum Locking (presented by T. Zhou), American Physical Society March Meeting, Chicago, IL, March 14-18, 2022.
 178. Novel Topological Kink States with Spin-Valley-Momentum Locking (presented by T. Zhou), 2021 Workshop on Innovative Nanoscale Devices and Systems, Big Island, HI, November 28-December 3, 2021.
 177. Towards Non-Abelian Statistics in Topological Planar Josephson Junctions (presented by T. Zhou), SPIE Optics + Photonics, San Diego, CA, August 1-5, 2021

176. Spintronics and Proximitized Materials, National Renewable Energy Laboratory, Golden, Co, May 25, 2021.
175. Proximitized Materials: From Spintronics to Majorana States, EPFL, Switzerland, May 21, 2021.
174. Proximitized Materials and Topological Devices, Army Research Lab, Adelphi, MD, Colloquium Series: Topologically Enabled Devices, April 28, 2021.
173. 2D Platforms for Majorana States and Phase Measurement of Topological Superconductivity, 2021 Virtual Materials Research Society Spring Meeting, April 18, 2021.
172. Proximitized 2D Materials, Online Workshop Proximity Effects at Meso-, Nano-, and Atomic Scales: A new Path to Quantum Functionalities, Los Alamos National Lab, Los Alamos, December 21, 2020.
171. Proximitized 2D Materials, seminar at Nanyang Technological University, Singapore, November 9, 2020.
170. Proximitized 2D Materials, Online Spintronics Seminar Series, <https://www.spintalks.org/> June, 12, 2020.
169. Resilient Universities and Societies, Conference of the International Scientific Advisory Committee, hosted by the University of Rijeka, Croatia, May 4, 2020.
168. Putting Spin into Photonics, SPIE Photonics West 2020, San Francisco, CA, February 2-6, 2020.
167. Proximitized Materials, colloquium at the University of New South Wales, Sydney, Australia, January 14, 2020.
166. Scalable Majorana States and Phase Measurement of Topological Superconductivity, 2019 Workshop on Innovative Nanoscale Devices and Systems, Big Island, HI, December 1-5, 2019.
165. Proximitized Materials, colloquium at the Emory University, Atlanta, October 17, 2019.
164. Proximitized 2D Materials, Workshop on 2D Materials: From Fundamentals to Spintronics, Natal, Brazil, September 30-October 4, 2019.
163. Majorana Bound States: From Magnetic Textures to Phase-Sensitive SQUID Measurements of Topological Transition, SPIE Optics + Photonics, San Diego, CA, August 11-15, 2019.
162. Resonant Tunneling Anisotropic Magnetoresistance: Massive Versus Massless (presented by C. Shen), SPIE Optics + Photonics, San Diego, CA, August 11-15 2019.
161. Enhanced Triplet Pairing in Magnetic Junctions with S-wave Superconductors (presented by T. Vezin), SPIE Optics + Photonics, San Diego, CA, August 11-15, 2019.
160. Scientific Advances and Sustainable Development, Conference of the International Scientific Advisory Board, University of Rijeka, Croatia, July 10, 2019.
159. Atomic Monolayers: Towards Spin-Lasers (presented by G. Xu), Ruhr University, Bochum, Germany, April 30, 2019.
158. Bipolar Spintronics: Putting Spin in Photonics, Centre National de la Recherche Scientifique-Thales, Palaiseau, France, April 25, 2019.
157. Atomic Monolayers: From Magnetic Proximity to Tunable Topology (presented by G. Xu), University of Regensburg, Germany, April 24, 2019.
156. Proximitized Materials, Loughborough University, United Kingdom, April 23, 2019.
155. Proximitized Materials, Ecole Polytechnique, Palaiseau, France, April 11, 2019.
154. Proximitized Materials, Ecole Normale Supérieure, Paris, France, April 8, 2019.

153. Proximitized Materials, Institute of Physics, Zagreb, February 22, 2019.
152. Proximitized Materials, University of Regensburg, Germany, February 5, 2019.
151. Spintronics Beyond Magnetoresistance: From Spin-LEDs to Spin-Lasers, 2018 Workshop on Innovative Nanoscale Devices and Systems, Big Island, HI, November 25-30, 2018.
150. What Can We Do with Dilute Magnetic Semiconductors? Workshop on Dilute Magnetic Semiconductors: Challenges and Opportunities, Kavli Institute for Theoretical Sciences, Beijing, China, November 4-5, 2018.
149. Tunable Magnetic Textures: From Majorana Bound States to Braiding, Asia Pacific Workshop, Highlights of Condensed Matter Physics, Kavli Institute for Theoretical Sciences, Beijing, China, November 1-3, 2018.
148. Proximity Effects in van der Waals Materials, Wayne State University, Detroit, MI, October 18, 2018.
147. Magnetic Proximity Effects in Two-Dimensional Materials, European Materials Research Society, Warsaw, Poland, September 17-20, 2018.
146. Strain-Induced Tunneling Hall Effect in Magnetically Proximitized Graphene (presented by A. Matos-Abiaga), SPIE Optics + Photonics, San Diego, CA, August 19-23, 2018.
145. Ultrafast Spin-Lasers (presented by G. Xu), SPIE Optics + Photonics, San Diego, CA, August 19-23, 2018.
144. Putting Spin in Electronics, Science First Conference, University of Rijeka, Croatia, July 6, 2018.
143. Proximitized Materials, From Solid State to Biophysics IX, Cavtat, Croatia, June 16-23, 2018.
142. Nanoelectronics with Proximitized Materials, Future Trends in Microelectronics, Sardinia, Italy, June 10-16, 2018.
141. Magnetic Proximity Effects in Two-Dimensional Materials, Peking University, Beijing, China, May 25, 2018.
140. Proximitized Materials, Beijing Normal University, Beijing, China, May 24, 2018.
139. Proximitized Materials, Zhongguancun Forum, Institute of Physics, Chinese Academy of Sciences, Beijing, China, May 23, 2018.
138. Magnetic Proximity Effects in Two-Dimensional Materials, American Physical Society March Meeting, Los Angeles, CA, March 5-9, 2018.
137. Novel Excitations with Magnetic Proximity Effects, Reimei/GP-Spin/ICC-IMR International Workshop New Excitations in Spintronics, Sendai, Japan, January 10-14, 2018.
136. Magnetic Proximity Effects and Novel Excitations in 2D Materials, Workshop on Nonequilibrium Phenomena in Quantum Systems, Krvavec, Slovenia, December 17-20, 2017.
135. Magnetic Proximity Effects in Two-Dimensional Materials, 2017 Workshop on Innovative Nanoscale Devices and Systems, Big Island, HI, November 26 - December 1, 2017.
134. Magnetism: Yesterday, Today, and Tomorrow, University of Rijeka, Croatia, October 9, 2017.
133. Spintronic Devices: From Spin-Valves and Spin Lasers to Fault-Tolerant Quantum Computing, Workshop on Spin, Charge and Energy Transport in Novel Materials, Hvar, Croatia, October 1-7, 2017.
132. Spintronics Beyond Magnetoresistance: Putting Spin in Lasers, Gordon Research Conference Spin Dynamics in Nanostructures, Les Diablerets, Switzerland, July 16-21, 2017.

131. Magnetic Proximity Effects: From Graphene and Topological Insulators to Majorana Fermions, University of Zagreb, Croatia, July 3, 2017.
130. Nanomagnets and Proximitized Materials (Plenary Talk), Solid-State Science & Research Conference, Zagreb, Croatia, June 28-30, 2017.
129. Putting Spin in Lasers, IEEE Photonics Society Boston Chapter, Emerging Optical Materials Workshop, MIT Lincoln Laboratory, April 19, 2017.
128. Manipulating Majorana Bound States with Tunable Magnetic Textures (presented by A. Matos-Abiague), American Physical Society March Meeting, New Orleans, LA, March 13-17, 2017.
127. Teaching Nanomagnets New Tricks, Brock University, St. Catharines, Canada, February 7, 2017.
126. Wireless Majorana Bound States: From Magnetic Tunability to Braiding, 2016 Workshop on Innovative Nanoscale Devices and Systems, Big Island, HI, December 4-9, 2016.
125. Spin-Lasers: Spintronics Beyond Magnetoresistance, Magnetism and Magnetic Materials, New Orleans, LA, October 31-November 4, 2016.
124. Magnetic Proximity Effects: From Graphene and Topological Insulators to Majorana Fermions, International Workshop on Emergent Relativistic Effects in Condensed Matter, Regensburg, September 27-29, 2016.
123. Tunneling Planar Hall Effect (presented by A. Matos-Abiague), European Physical Society: Condensed Matter Division, CDM26 Condensed Matter in Gröningen, Netherlands, September 4-9, 2016.
122. Wireless Majorana Fermions: From Magnetic Tunability to Braiding (presented by G. Fatin), SPIE Optics + Photonics, San Diego, CA, August 28-September 1, 2016.
121. Tunneling Anomalous and Planar Hall Effects (presented by A. Matos-Abiague), SPIE Optics + Photonics, San Diego, CA, August 28-September 1, 2016.
120. Excitonic Stark Effect and Spintronics in MoS₂ Monolayers (presented by B. Scharf), SPIE Optics + Photonics, San Diego, CA, August 28-September 1, 2016.
119. Effective Gating and Tunable Magnetic Proximity Effects in Two-Dimensional Heterostructures, Energy Materials Nanotechnology, Dubrovnik, Croatia, May 3-7, 2016.
118. Spin-Orbit Coupling in Hybrid Semiconductor Structures: From Majorana Fermions to Topological Insulators (presented by B. Scharf), American Physical Society March Meeting, Baltimore, MD, March 14-18, 2016.
117. Probing Spin-Orbit Coupling in Superconducting Junctions: From Spintronics to Majorana Fermions, Sixth International Symposium on Advanced Nanodevices and Nanotechnology, Big Island, HI, November 29-December 4, 2015.
116. Teaching Nanomagnets New Tricks, University of Nebraska - Lincoln, NE, October 21, 2015.
115. Teaching Nanomagnets New Tricks, Michigan State University, MN, October 12, 2015.
114. Spintronics Beyond Magnetoresistance: Putting Spin in Lasers, New Perspectives in Spintronic and Mesoscopic Physics, Kashiwa Japan, June 1-19, 2015.
113. Teaching Nanomagnets New Tricks, New Perspectives in Spintronic and Mesoscopic Physics, Kashiwa Japan, June 1-19, 2015.
112. Probing Topological States and Transitions in Systems of Reduced Dimensionality (presented by B. Scharf), 17th Brazilian Workshop on Semiconductor Physics, Uberlandia, MG, Brazil, May 3-8, 2015.
111. Putting Spin in Lasers: Spintronics Beyond Magnetoresistance, Kalifa University, Sharjah, UAE, April 21, 2015.

110. Graphene Spintronics: From Spin Injection to Magnetologic Gates, 2014 Workshop on Innovative Nanoscale Devices and Systems, Big Island, HI, December 1-5, 2014.
109. Spintronics: Basic Principles and Devices, Columbia University, NY, September 18, 2014.
108. Teaching Nanomagnets New Tricks, Columbia University, NY, September 16, 2014.
107. Graphene Spintronics: Spin Injection and Proximity Effects from First Principles, SPIE Optics + Photonics, San Diego, CA, August 17-21, 2014.
106. Spin-Lasers: From Optical Gain to High-Frequency Operation (presented by P. E. Faria Junior), SPIE Optics+Photonics, San Diego, CA, August 17-21, 2014.
105. From Magnetic Polarons to Spin Wigner Molecules in Quantum Dots, 10th International Workshop on Nanomagnetism and Superconductivity Coma-ruga, 2014, June 30 - July 4, 2014
104. Spintronics and Magnetism, (Closing Presentation) 4th International Conference on Superconductivity and Magnetism, Antalya, April 27- May 2, 2014.
103. Putting Spin in Lasers, 4th International Conference on Superconductivity and Magnetism, Antalya, April 27- May 2, 2014.
102. From Magnetic Polarons to Spin Wigner Molecules in Quantum Dots, The 3rd Super-PIRE REIMEI Workshop on Frontiers of Condensed Matter Physics, Beijing, China, March 17-21, 2014.
101. Putting Spin into Lasers (presented by J. Lee), American Physical Society March Meeting, Denver, CO, March 3-7, 2014.
100. Unconventional Magnetism in Quantum Dots,' Kavli Institute of Theoretical Physics, Santa Barbara, CA, November 8, 2013.
99. Unconventional Magnetic Ordering in Quantum Dots, SPIE Optics+Photonics, San Diego, CA, August 25-29, 2013.
98. Unconventional Magnetic Ordering in Quantum Dots, 9th International Workshop on Nanomagnetism and Superconductivity at the Nanoscale, Coma-ruga, Spain, July 1-5, 2013.
97. Tailoring Magnetism in Quantum Dots, Workshop on Electron Transport in Nanocrystal Assemblies, Fine Theoretical Physics Institute, Minneapolis, MN, June 14-16, 2013.
96. Putting Spin in Lasers (presented by J. Lee), 16th Brazilian Workshop on Semiconductor Physics, Itirapina, SP, Brazil, May 5-10, 2013.
95. Spintronics: Basic Principles and Devices, 16th Brazilian Workshop on Semiconductor Physics, Itirapina, SP, Brazil, May 5-10, 2013.
94. Unconventional Magnetic Ordering in Quantum Dots, Workshop on Computational Physics in Magnetic Semiconductor Nanostructures, National Chiao Tung University, Hsinchu, Taiwan, March 11-12, 2013.
93. Unconventional Magnetic Ordering in Quantum Dots, University of Washington, Settle, WA, February 19, 2013.
92. Unconventional Magnetic Ordering in Quantum Dots, University of Oklahoma, Norman, OK, February 8, 2013.
91. Putting Spin in Lasers, University of Oklahoma, Norman, OK, February 7, 2013.
90. Spin Lasers and Spin Communication, 2012 Workshop on Innovative Nanoscale Devices and Systems, Big Island, HI, December 3-7, 2012.
89. Tailoring Magnetism in Quantum Dots, University of Minnesota, Minneapolis, MN, October 18,

- 2012.
88. Semiconductor Spin-Lasers, Workshop on Spin Phenomena in Reduced Dimension, Regensburg, Germany, September 19-21, 2012.
 87. Controlling Magnetic Order in Quantum Dots, SPIE Optics+Photonics, San Diego, CA, August 12-16, 2012.
 86. Spin Lasers and Spin Communication, Future Trends in Microelectronics, Corsica, France, June 25-29, 2012.
 85. Semiconductor Spin-Lasers, IWCE 2012 : 15th International Workshop on Computational Electronics, Madison, WI, May 22-25, 2012.
 84. Magnetic Polarons and Bipolarons in Quantum Dots, University of Maryland at College Park, MD, April 12, 2012.
 83. Magnetic Polarons and Bipolarons in Quantum Dots (presented by R. Oszwaldowski), American Physical Society March Meeting, Boston, MA, February 27- March 2, 2012.
 82. Magnetic Polarons and Bipolarons in Quantum Dots, University of Regensburg, Germany, January 31, 2012.
 81. Tailoring Spin and Magnetism in Quantum Dots, 2nd Advanced Science Research Center International Workshop, Tokai, Japan, January 10-13, 2012.
 80. Spintronics: Fundamentals and Applications, 7th Scientific Meeting of the Croatian Physical Society, Primošten, Croatia, October 13-16, 2011.
 79. Magnetic Ordering in Quantum Dots, SPIE Optics+Photonics, San Diego, CA, August 21-25, 2011.
 78. Large and Small Signal Analyses of Semiconductor Spin-Lasers (presented by J. Lee), US-Korea Conference on Science, Technology, and Entrepreneurship, Park City, UT, August 10-14, 2011.
 77. Semiconductor Spin-Lasers, 2011 CMOS Emerging Technologies Workshop, Whistler, BC, Canada, June 15-17, 2011.
 76. Tailoring Magnetism in Semiconductors, 15th Brazilian Workshop on Semiconductor Physics, Juiz de Fora, Brazil, April 10-15, 2011.
 75. Tailoring Spin and Magnetism in Quantum Dots, University of Waterloo, Canada, November 3, 2010.
 74. Tailoring Spin and Magnetism in Quantum Dots, SPIE Optics+Photonics, San Diego, CA, August 1-5, 2010.
 73. Silicon Spintronics? 2010 CMOS Emerging Technologies Workshop, Whistler, BC, Canada, May 19-21, 2010.
 72. Semiconductor Spin-Lasers, 6th Research Institute of Electrical Communications International Workshop on Spintronics, Tohoku University, Sendai, Japan, February, 5-6, 2010.
 71. Tailoring Magnetism in Bulk Semiconductors and Quantum Dots, University of Toronto, ON, Canada, January 20, 2010.
 70. Spintronics: Fundamentals and Applications, 6th Scientific Meeting of the Croatian Physical Society, Primošten, Croatia, October 8-11, 2009.
 69. Spintronics: Fundamentals and Applications, Reconfigurable Systems Workshop 2009 Santa Fe, NM, July 20-22, 2009.
 68. Tailoring Magnetism in Semiconductor Quantum Dots, Spin Phenomena in Reduced Dimensions, Regensburg, Germany, September 24-26, 2008.

67. Tailoring Magnetism in Bulk Semiconductors and Quantum Dots, Gordon Research Conference on Magnetic Nanostructures, Aussois, France, August 31-September 5, 2008.
66. Putting Spin Into Electronics, Bio-Harmony, A Life Sciences Seminar, Amherst, 5/15/2008.
65. Spin Electronics: Challenges and Opportunities, IT Collaboratory Research Symposium, Rochester Institute of Technology, April 14, 2008.
64. Tailoring Ferromagnetism in Bulk Semiconductors and Quantum Dots, American Physical Society March Meeting, New Orleans, LO, March 10-14, 2008.
63. Putting Spin Into Electronics-Vision for the Future, Public Lecture at the Symposium on Magnetic Excitations in Semiconductors, Buffalo, NY, March 6-8, 2008.
62. Tailoring Ferromagnetism in Bulk Semiconductors and Quantum Dots, International Workshop on Spin Currents, Institute of Materials Research, Tohoku University, Sendai, Japan, February 18-19, 2008.
61. Silicon Spintronics, Advanced Workshop on Frontiers in Electronics (WOFE), Cozumel, Mexico, December 15-19, 2007.
60. Spin Electronics: Challenges and Opportunities in Semiconductors, University of Rochester, November 28, 2007.
59. Tailoring Ferromagnetism in Bulk Semiconductors and Quantum Dots, Spring Meeting of the German Physical Society, Regensbrug, March 26-31, 2007.
58. Spin-Dependent Bipolar Transport, plenary talk at 47th Sanibel Symposium, St. Simons Island, GA, February 22-27, 2007.
57. Bipolar Transport and Spin Currents in p - n junctions, International Workshop on Spin Currents, Institute of Materials Research, Tohoku University, Sendai, Japan, February 19-20, 2007.
56. Semiconductor Spintronics, Case Western Reserve University, Cleveland, November 6, 2006.
55. Putting Spin into Electronics, University of Toronto, ON, Canada, November 3, 2006.
54. Ferromagnetic Oxide Semiconductors: Challenges and Opportunities, Gordon Research Conference on Magnetic Nanostructures, Oxford University, U.K., September 3-8, 2006.
53. Semiconductor Spintronics: From Spin Injection to Spin-Controlled Logic, Kinken-Wakate 2006, 3rd Materials Science School for Young Scientists, Physics and Applications of Advanced Magnetic Materials, Sendai, Japan, August 26-28, 2006.
52. Magnetic Heterojunctions: From Electrical Spin Detection to Magnetic Bipolar Transistors, Tokyo Institute of Technology, Japan, August 24, 2006.
51. Semiconductor Spintronics: From Spin Injection to Spin-Controlled Logic, Future Trends in Microelectronics: Up the Nano Creek, Crete, Greece, June 26-30, 2006.
50. Research Opportunities in Andreev Reflection Spectroscopy, Department of Energy Workshop on Superconductivity, Washington, D.C., May 8-11, 2006.
49. Spin-Polarized Transport in Semiconductors: Lessons from Superconductivity, University of Florida, Gainesville, April 3, 2006.
48. Semiconductor Spintronics, Center for Nonlinear Studies, Los Alamos National Laboratory, January 23, 2006.
47. Semiconductor Spintronics, National Research Council, Ottawa, Canada, January 19, 2006.

46. Spin-Polarized Transport and Andreev Bound States in Superconducting Junctions, Strongly Correlated Electron Materials: Physics and Nanoengineering, International Conference on Optics & Photonics 2005, San Diego, July 31 - August 4, 2005.
45. Spin-Polarized Transport in Semiconductors: Lessons from Superconductivity, colloquium at Virginia Tech, Blacksburg, March 31, 2005.
44. Spin Injection in Semiconductors, Vanderbilt University, Nashville, March 29, 2005.
43. Spin-Polarized Transport in Semiconductors: Lessons from Superconductivity, colloquium at Vanderbilt University, Nashville, March 28, 2005.
42. Spin-Polarized Transport: From Spin Injection to Andreev Bound States, University of Tennessee, Knoxville, March 15, 2005.
41. Spin-Polarized Transport in Semiconductors: Lessons from Superconductivity, colloquium at University of Nebraska, Lincoln, March 10, 2005.
40. Spin-Polarized Transport in Semiconductors: Lessons from Superconductivity, University of California at Davis, March 7, 2005.
39. Spin Injection in Semiconductors, 43. Internationale Universitätswochen für Theoretische Physik Schladming, Austria, February 26 - March 4, 2005.
38. Spin-Polarized Transport in Semiconductor Junctions: From Superconductors to Magnetic Bipolar Transistors, 43. Internationale Universitätswochen für Theoretische Physik Schladming, Austria, February 26 - March 4, 2005.
37. Spin-Polarized Transport in Semiconductors: Lessons from Superconductivity, colloquium at University of California Riverside, February 3, 2005.
36. Spin-Polarized Transport: Fundamentals and Applications, Oak Ridge National Laboratory, December 13, 2004.
35. Spin-Polarized Transport in Semiconductor Junctions, University of Notre Dame, December 7, 2004.
34. Spintech: Challenges and Opportunities, panel presentation, DARPA workshop, San Francisco, October 29, 2004.
33. Concepts in Spin-Polarized Transport, colloquium at George Mason University, Fairfax, October 4, 2004.
32. Bipolar Spintronics, 4th Generation Light Source Spintronics Satellite Meeting, Rutherford Appleton Laboratories, Oxfordshire, UK, September 14-15, 2004.
31. Bipolar Spintronics: From Magnetic Diodes to Magnetic Bipolar Transistors, American Physical Society March Meeting, Montreal, Canada, March 22-26, 2004.
30. Spintronics: Fundamentals and Applications, colloquium at University of Arizona, Tucson, March 12, 2004.
29. Spintronics: Fundamentals and Applications, University of Virginia, Charlottesville, March 4, 2004.
28. Fundamentals of Spintronics, University of Pittsburgh, February 9, 2004.
27. Spinning Off into the Future - Ultra-Performance Spins in Semiconductors, panel presentation, DARPA SpinS Program Review, Santa Monica, October 17, 2003.
26. Semiconductor Spintronics, University at Buffalo, October 7, 2003.
25. Spin-Dependent Transport in Magnetic p-n Junctions, Institute for Materials Research, Sendai, Japan, August 25, 2003.

24. Spin-Dependent Transport in Magnetic p-n Junctions, Institute for Solid State Physics International Summer School for Young Researchers on Quantum Transport in Mesoscopic Scale and Low Dimensions, University of Tokyo, Japan, August 13-21, 2003.
23. Semiconductor Spintronics, International Workshop on Analysis and Numerics for Modeling Semiconductor Devices and Biological Channels, College Park, May 19-23, 2003.
22. Spintronics: Fundamentals and Applications, Institute of Physics, Zagreb, Croatia, April 28, 2003.
21. Spin-Polarized Transport in Electronic Materials, Oregon State University, Corvallis, April 8, 2003.
20. Spintronics: Fundamentals and Applications, colloquium at Oregon State University, Corvallis, April 7, 2003.
19. Spin-Polarized Transport in Inhomogeneous Semiconductors, Foundation Advanced Technology Institute, Tokyo, Japan, March 14, 2003.
18. Bipolar Spintronics, Tohoku University, Sendai, Japan, March 13, 2003.
17. Magnetic Semiconductor Nanodevices, International Workshop on Nanostructured Metallic Materials, Akigu, Japan, March 9-12, 2003.
16. Spin Injection in Electronic Materials, University of Toronto, ON, Canada, February 17, 2003.
15. Spintronics: Fundamentals and Applications, colloquium at McGill University, Montreal, Canada, February 10, 2003.
14. Bipolar Spintronics, Laboratory of Physical Sciences, College Park, January 29, 2003.
13. Bipolar Spintronics, Northeastern University, Boston, November 20, 2002.
12. Spintronics: Fundamentals and Applications, colloquium at Texas A&M University, College Station, September 12, 2002.
11. Spintronics: Fundamentals and Applications, University of Texas, Austin, September 10, 2002.
10. Spintronics and Spin-Polarized Transport, ICTP Trieste, Italy, July 3, 2002.
9. Spintronics and Spin-Polarized Transport, University of Delaware, Newark, March 28, 2002.
8. Spintronics and Spin-Polarized Transport, University of Massachusetts, Amherst, March 14, 2002.
7. Spintronics and Spin-Polarized Transport, NIST, Gaithersburg, March 7, 2002.
6. Semiconductor Spintronic Devices: Theoretical Concepts, colloquium at IBM Almaden, February 8, 2002.
5. Spintronics and Spin-Polarized Transport in Electronic Materials, University of Pittsburgh, January 17, 2002.
4. Magnetic and Spin-Polarized p-n Junctions and Solar Batteries: A Theoretical Proposal for Semiconductor Spintronic Devices, Princeton University, November 5, 2001.
3. Spin-Polarized Transport and Andreev Reflection in Semiconductors, American Physical Society March Meeting, Seattle, WA, March 12-16, 2001.
2. Spin-Polarized Tunneling in Unconventional Superconductors, Johns Hopkins University, Baltimore, April 27, 1999.
1. Spin-Polarized Transport and Andreev Reflection in Ferromagnet/Superconductor Junctions, Naval Research Laboratory, Washington, D.C., April 20, 1999.

CONTRIBUTED ORAL AND POSTER PRESENTATIONS (since 2005):

152. K. Patel, G. Xu, J. D. Cao, and I. Žutić, The Dynamical Operation of Scaled-Down Spin-Lasers, American Physical Society March Meeting, Minneapolis, MN, March 3-8, 2024.
151. B. Pekerten, D. Brandao, T. Zhou, J. E. Han, A. Matos-Abiague, J. Shabani, and I. Žutić, Disorder and Microwave Signatures of Topological Transitions in Planar Josephson Junctions, American Physical Society March Meeting, Minneapolis, MN, March 3-8, 2024.
150. D. Brandao, B. Pekerten, B. H. Elfeky, T. Zhou, J. E. Han, J. Shabani, and I. Žutić, Absorption Peaks in Topological Phase Transition of Planar Josephson Junctions, American Physical Society March Meeting, Minneapolis, MN, March 3-8, 2024.
149. D. Monroe, B. Bussiere, D. Tringali, and I. Žutić, Driving Josephson Junctions with Spin-Orbit Coupling American Physical Society March Meeting, Minneapolis, MN, March 3-8, 2024.
148. C. Shen, C. Gonzalez-Ruanol, T. Vezin, J. E. Han, F. G. Aliev, and I. Žutić, Shot Noise in Ferromagnet/Superconductor Junctions with Spin-Orbit Coupling, American Physical Society March Meeting, Minneapolis, MN, March 3-8, 2024.
147. D. Brandao, M. Malard, and I. Žutić, Leaking a Majorana Between a Kitaev Chain and a Kitaev Ring, American Physical Society March Meeting, Minneapolis, MN, March 3-8, 2024.
146. D. Ayala, T. Zhou, Ti Xie, S. Siddique, Q. Tan, Xi Ling, J. J. Cha, C. Gong, and I. Žutić, Strain Engineering of Ferroelectricity in a Monolayer CuInP_2S_6 , American Physical Society March Meeting, Minneapolis, MN, March 3-8, 2024.
145. K. Denisov, I. V. Rozhansky, S. O. Valenzuela, and I. Žutić, Spin Resonance from Spin-Pseudospin Coupling of Dirac Electrons in van der Waals Heterostructures, American Physical Society March Meeting, Minneapolis, MN, March 3-8, 2024.
144. D. Ayala, T. Zhou, C. Gong, and I. Žutić, Strain Engineering of Ferroelectricity in a Monolayer CuInP_2S_6 , 127th Annual Meeting of the New York State Section, American Physical Society, University at Buffalo, April 29, 2023.
143. D. Monroe, M. Alidoust, and I. Žutić, Tunable Planar Josephson Junctions Driven by Time-Dependent Spin-Orbit Coupling, 127th Annual Meeting of the New York State Section, American Physical Society, University at Buffalo, April 29, 2023.
142. J. D. Cao, G. Xu, B. Scharf, and I. Žutić, Optical Response of Transition-Metal Dichalcogenides with Rashba Spin-Orbit Coupling and Trigonal Warping, 127th Annual Meeting of the New York State Section, American Physical Society, University at Buffalo, April 29, 2023. **The Best Poster Award.**
141. D. Tringali, D. Monroe, M. Alidoust, J. Shabani, and I. Žutić, Josephson Junction Dynamics with Rashba and Dresselhaus Spin-Orbit Coupling, 127th Annual Meeting of the New York State Section, American Physical Society, University at Buffalo, April 29, 2023. **The Best Poster Award.**
141. D. Ayala, T. Zhou, C. Gong, and I. Žutić, Ferroelectric Spin-Valley Coupling in van der Waals Bilayers, American Physical Society March Meeting, Las Vegas, March 5-10, 2023.
140. K. Patel, I. Žutić, and G. Xu, The Dynamics of Circular Polarization in Spin-Lasers. American Physical Society March Meeting, Las Vegas, March 5-10, 2023.
139. J. D. Cao, G. Xu, B. Scharf, and I. Žutić, Optical Response of Transition-Metal Dichalcogenides with Trigonal Warping and Rashba Spin-Orbit Coupling American Physical Society March Meeting, Las Vegas, March 5-10, 2023.
138. B. Pekerten, T. Zhou, J. E. Han, A. Matos-Abiague, J. Shabani, and I. Žutić, Effects of Disorder in Planar Topological Josephson Junctions, American Physical Society March Meeting, Las Vegas, March 5-10, 2023.
137. T. Zhou, J. E. Han, A. Matos-Abiague, J. Shabani, and I. Žutić, Hybridization and Fusion of Majorana Bound States in Topological Planar Josephson Junctions, American Physical Society March Meeting,

- Las Vegas, March 5-10, 2023.
135. D. Tringali, D. Monroe, a Quinn, M. Alidoust, and I. Žutić, Josephson Junction Dynamics with Rashba and Dresselhaus Spin-Orbit Coupling, American Physical Society March Meeting, Las Vegas, March 5-10, 2023.
 134. D. Monroe, M. Alidoust, and I. Žutić, Tunable Planar Josephson Junctions Driven by Time- Dependent Spin-Orbit Coupling, American Physical Society March Meeting, Las Vegas, March 5-10, 2023.
 133. C. Shen, J. Han, T. Vezin, R. Cai, W. Han, and I. Žutić, Enhanced Spin-Triplet Superconductivity Induced by Spin-Orbit Coupling, 2022 Workshop on Innovative Nanoscale Devices and Systems, Lihue, HI, December 4-9, 2022.
 132. I. Žutić, D. Monroe, and M. Alidoust, Tunable Planar Josephson Junctions Driven by Time- Dependent Spin-Orbit Coupling, 2022 Workshop on Innovative Nanoscale Devices and Systems, Kaua'i, Lihue, HI, December 4-9, 2022.
 131. D. Monroe, M. Alidoust, and I. Žutić, Tunable Planar Josephson Junctions Driven by Time- Dependent Spin-Orbit Coupling, CRIM2022: Superconducting Spintronics in Low Dimensions, Institute of Physics, England (online), September 19, 2022.
 130. D. J. Cao, V. Labinac, G. Xu, and I. Žutić, High-Birefringence Spin Lasers as Coupled Harmonic Oscillators, American Physical Society March Meeting, Chicago, II, March 14-18, 2022.
 129. K. Patel, G. Xu, and I. Žutić, The Effect of Spontaneous Emission on the Dynamical Operation of Spin Lasers, American Physical Society March Meeting, Chicago, II, March 14-18, 2022.
 128. C. Shen, J. E. Han, M. Alidoust, T. Vezin, and I. Žutić, Signatures of Enhanced Spin-Triplet Superconductivity Induced by Spin-Orbit Coupling, American Physical Society March Meeting, Chicago, II, March 14-18, 2022.
 127. T. Zhou, S. Cheng, M. Schleenvoigt, P. Schüffelgen, H. Jiang, Z. Yang, and I. Žutić, Robust Topological Spintronics with Spin-Valley-Momentum Locking, American Physical Society March Meeting, Chicago, II, March 14-18, 2022.
 126. D. Monroe, M. Alidoust, and I. Žutić, Tuning Current-Phase Relations with Spin-Orbit Coupling in Planar Josephson Junctions, American Physical Society March Meeting, Chicago, II, March 14-18, 2022.
 125. T. Zhou, M. C. Dartiailh, K. Sardashti, J. E. Han, A. Matos-Abiague, J. Shabani, and I. Žutić, Towards Non-Abelian Statistics in Topological Planar Josephson Junctions, American Physical Society March Meeting, Chicago, II, March 14-18, 2022.
 124. R. Cai, Y. Yao, P. Lv, Y. Ma, W. Xing, B. Li, Y. Ji, H. Zhou, C. Shen, S. Jia, X. C. Xie, I. Žutić, Q.-F. Sun, and W. Han, Evidence for Anisotropic Spin-Triplet Andreev Reflection at the 2D van der Waals Ferromagnet/Superconductor Interface, American Physical Society March Meeting, Chicago, II, March 14-18, 2022.
 123. J. Joshi, B. Scharf, I. Mazin, S. Krylyuk, D. J. Campbell, J. Paglione, A. Davydov, I. Žutić, and P. M. Vora, A Charge Density Wave Activated Exciton in $\text{TiSe}_2\text{-MoSe}_2$ Heterostructures, American Physical Society March Meeting, Chicago, II, March 14-18, 2022.
 122. T. Zhou , M. C. Dartiailh , K. Sardashti , J. E. Han , A. Matos-Abiague , J. Shabani , and I. Žutić, Towards Non-Abelian Statistics in Topological Planar Josephson Junctions, 2022 Workshop on Innovative Nanoscale Devices and Systems, Big Island, HI, November 28-December 3, 2021.
 121. C. Shen, T. Leeney, A. Matos-Abiague, B. Scharf, J. E. Han, and I. Žutić, Resonant Tunneling Anisotropic Magnetoresistance Induced by Magnetic Proximity, American Physical Society March Meeting, Virtual, March 15-19, 2021.

120. G. Xu, T. Zhou, B. Scharf, and I. Žutić, Optically Probing Tunable Band Topology in Atomic Monolayers, American Physical Society March Meeting, Virtual, March 15-19, 2021.
119. D. J. Cao, G. Xu, V. Labinac, and I. Žutić, Birefringent Spin-Lasers, American Physical Society March Meeting, Virtual, March 15-19, 2021.
118. V. Labinac, G. Xu, D. J. Cao, and I. Žutić, Spin Lasers as Coupled Harmonic Oscillators, American Physical Society March Meeting, Virtual, March 15-19, 2021.
117. K. Patel, G. Xu, and I. Žutić, Rate-Equations Description of Spin Lasers, American Physical Society March Meeting, Virtual, March 15-19, 2021.
116. Y. K. Luo, T. Zhou, M. R. Neupane, A. Matos Abiague, R. Bailey-Crandell, M. J Newburger, I. Lyalin, I. Žutić, R. Kawakami, van der Waals Photothermoelectric Effect in Atomic Layer Heterojunctions, American Physical Society March Meeting, Virtual, March 15-19, 2021.
115. I. Žutić, A. Matos-Abiague, B. Scharf, G. Xu, T. Zhou, P. Lazić, and K. Belashchenko, Magnetic Proximity Effects in 2D Materials, International Winterschool on Electronic Properties of Novel Materials, Kirchberg, Austria, March 9-16, 2019.
114. H. Dery, D. Van Tuan, B. Scharf, and I. Žutić, Shortwave Coulomb Excitations and Local-Field Effects in Monolayer Transition-Metal Dichalcogenides, American Physical Society March Meeting, Boston, MA, March 4-8, 2019.
113. W. A. Mayer, S.-C. Yu, K. Wickramasinghe, J. Yuan, N. Mohanta, A. Matos-Abiague, I. Žutić, and J. Shabani, Probing Spin-Orbit Coupling in InAs/Al SQUIDs, American Physical Society March Meeting, Boston, MA, March 4-8, 2019.
112. J. Pientka, P. Zhang, T. Norden, A. Najafi, Y. Tsai, B. McCombe, J. E. Han, I. Žutić, A. Petrou, R. M. Oszwaldowski, W.-C. Fan, and W.-C. Chou, Modification of the Heavy Hole Wave-function in Multiply Occupied Magnetic Quantum Dots, American Physical Society March Meeting, Boston, MA, March 4-8, 2019.
111. I. Žutić, T. Zhou, N. Mohanta, J. E. Han, and A. Matos-Abiague, From Spintronics to Majorana Bound States, American Physical Society March Meeting, Boston, MA, March 4-8, 2019.
110. N. Mohanta, T. Zhou, J. E. Han, A. D. Kent, J. Shabani, I. Žutić, and A. Matos-Abiague, Current-Controlled Majorana Bound States in Hybrid Semiconductor-Superconductor Nanowires Deposited on Magnetic Stripe Domains, American Physical Society March Meeting, Boston, MA, March 4-8, 2019.
109. G. Xu, T. Zhou, B. Scharf, and I. Žutić, Probing Topology Through Optical Response in Group V Monolayers, Physical Society March Meeting, Boston, MA, March 4-8, 2019.
108. T. Zhou, J. Zhang, H. Jiang, I. Žutić, and Z. Yang, Multiple Hall Effects in Functionalized Bismuth Monolayers, American Physical Society March Meeting, Boston, MA, March 4-8, 2019.
107. A. Matos-Abiague, N. Mohanta, W. A. Mayer, S.-C. Yu, K. Wickramasinghe, J. Yuan, J. Shabani, and I. Žutić, Spin-Orbit Coupling Effects on the Current-Phase Relation of a DC SQUID, American Physical Society March Meeting, Boston, MA, March 4-8, 2019.
106. T. De Campos, J. Pientka, A. Matos-Abiague, J. E. Han, and I. Žutić, Correlated States in Magnetic Quantum Dots with Multiple Occupancy, American Physical Society March Meeting, Boston, MA, March 4-8, 2019.
105. C. Shen, T. Vezin, J. E. Han, and I. Žutić, Enhanced Triplet Pairing in Magnetic Junctions with s-wave Superconductors, American Physical Society March Meeting, Boston, MA, March 4-8, 2019.
104. T. Leeney, C. Shen, A. Matos-Abiague, B. Scharf, J. E. Han, and I. Žutić, Proximity-Induced Tunneling Anisotropic Magnetoresistance: Massive vs. Massless States, American Physical Society March Meeting, Boston, MA, March 4-8, 2019.

- Meeting, Los Angeles, CA, March 5-9, 2018.
103. T. Zhou, A. Matos-Abiague, J. E. Han, and I. Žutić, Topological Superconductivity with Spin Valves, American Physical Society March Meeting, Los Angeles, CA, March 5-9, 2018.
 102. Ji. Xu, S. Singh, J. Katoch, G. Wu, T. Zhu, I. Žutić, and R. Kawakami, Spin Inversion in Graphene Spin Valves by Gate-Tunable Magnetic Proximity Effect at One-Dimensional Contacts, American Physical Society March Meeting, Los Angeles, CA, March 5-9, 2018.
 101. A. Matos-Abiague and I. Žutić, Magnetic and Spin-Orbit Proximity Effects on the Transport Properties of Hybrid Heterostructures, American Physical Society March Meeting, Los Angeles, CA, March 5-9, 2018.
 100. G. Xu, N. Gerhardt, and I. Žutić, Towards Ultrafast Spin Lasers?, American Physical Society March Meeting, Los Angeles, CA, March 5-9, 2018.
 99. B. Scharf, G. Xu, A. Matos-Abiague, and I. Žutić, Magnetic Proximity Effects in Transition-Metal Dichalcogenides: Converting Excitons, American Physical Society March Meeting, Los Angeles, CA, March 5-9, 2018.
 98. J. Seo, M. Murat Arik, A. Mukherjee, C. Zhao, H. Zeng, B. Scharf, I. Žutić, and J. Cerne, Magneto Photoluminescence Measurements in Transition Metal Dichalcogenides on a Magnetic Substrate, YIG, American Physical Society March Meeting, Los Angeles, CA, March 5-9, 2018.
 97. J. Pientka, P. Zhang, T. Norden, A. Najafi, B. Barman, Y. Tsai, B. McCombe, J. E. Han, I. Žutić, A. Petrou, R. Oszwaldowski, W.-C. Fan, and W.-C. Chou, Modeling of ZnTe Quantum Dots (QDs) Embedded in a ZnMnSe matrix, American Physical Society March Meeting, Los Angeles, CA, March 5-9, 2018.
 96. I. Žutić, A. Matos-Abiague, G. Fatin, and B. Scharf, Manipulating Majorana Bound States with Tunable Magnetic Textures Majorana States in Condensed Matter: Towards Topological Quantum Computation, Mallorca, Spain, May 14-20, 2017.
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