

Giti A. Khodaparast
September 2023

Department of Physics, Virginia Tech, Blacksburg, VA, 24061

Tel: 540-231-8729,

Fax: 540-231-7511

Email: khoda@vt.edu

Website: <http://www.phys.vt.edu/people/khodaparast.shtml>

PROFESSIONAL EXPERIENCE:

- 2019-Present: Professor of Physics, Virginia Tech, Blacksburg, Virginia
- 2009-2019: Associate Professor of Physics, Virginia Tech, Blacksburg, Virginia
- 2004-2009: Assistant Professor of Physics, Virginia Tech, Blacksburg, Virginia
- 2001-2004: Postdoctoral Research Associate, Department of Electrical and Computer Engineering, Rice University, Houston, Texas
- 2001 Ph.D., Physics, University of Oklahoma, Norman, Oklahoma
- 2007-2008: User of the High Magnetic Field Laboratories, Dresden, Germany
- 2001-2004: User, Stanford Picosecond Free Electron Laser Center, Stanford University, Stanford, California
- 2001-Present: User, Megagauss Laboratory, Institute for Solid State Physics University of Tokyo, Kashiwa, Chiba, Japan
- 2002-Present: User, National High Magnetic Field Laboratory, Tallahassee, Florida
- 2011-2019, Visiting Faculty at the École Polytechnique, France
- 2001-Present, Collaborations with Tokyo Institute of Technology

PROFESSIONAL ACTIVITIES & MEMBERSHIPS:

- Member of the American Physical Society, 1994-Present
- Member of the Optical Society of America, 2002-Present
- Member of SPIE Society: 2017-Present
- Referee for Physical Review B, Applied Physics Letters, Journal of Applied Physics, Semiconductor, and Science Technology, Physical Review Materials, Journal of Physics D: Applied Physics, Journal of Physics: Condensed Matter, Journal of Luminescence, Nanomaterials, ACS Nano, Nature Communication, Nano Letters
- Reviewer for NSF, DOE, AFOSR, NASA, the Defense Threat Reduction Agency, and the Helmholtz Young Investigators Program
- Member of the organizing committee for CLEO (Optical Interactions with Condensed Matter and Ultrafast Phenomena), 2012 and 2013
- Member of the National Research Council Review Panel for the Research Associate Program since 2014
- Member of the SPIE-OPTICS, Spintronics subcommittee since 2012
- Member of the Photonics West sub-committee, “Quantum Sensing and Nano Electronics and Photonics” in 2017 and I am Co-chairing the same subcommittee since 2018
- Organizer of the 15th International Conference on Narrow Gap Systems at Virginia Tech in August 2011, attended by more than 90 people from 9 different countries. I continued

to serve on the organizing committee of this conference series since then which is now combined with New Trends in Topological Insulators.

- Reviewer of a graduate program in France in 2017.
- Chair of the organizing committee to host the American Physical Society Conference for Undergraduate Women in Physics (CUWiP) in 2017 at Virginia Tech. More than 130 female undergraduate students attended the conference.
- Reviewer of science books to be implemented in the State of Virginia from elementary to middle school.
- Guest Editor, Journal of Physics: Photonics (Quantum Sensing Focus).
- Fellow of OPTICA (formerly OSA).

AWARDS and RECOGNITIONS:

- Award for the Best Ph.D. Dissertation, Department of Physics and Astronomy, University of Oklahoma, 2001.
- Air Force Office of Scientific Research, Young Investigator Award 2007.
- Scholar of the Week at Virginia Tech: Nov. 26, 2007 - Dec. 2, 2007.
- National Science Foundation CAREER Award, 2009.
- Named "Woman Physicist of the Month" by the APS Committee on the Status of Women in Physics, March 2016.
- L.C. Hassinger Faculty Fellow in Nanoscience at Virginia Tech Since 2019.
- College of Science Diversity and Inclusion Award, 2021.

PATENT:

Storage medium for recording information comprises ferromagnetic semiconductor comprising group III element, Group V element, and dopant

Patent Number(s): US2004258935-A1

Inventor(s): KONO J, WANG J, KHODAPARAST G A, MUNEKATA H

Patent Assignee Name(s) and Code(s): UNIV RICE WILLIAM MARSH (RICV-C)

CURRENT COLLABORATORS:

My current external collaborators are:

Prof. Jacek Furdyna, Notre Dame

Prof. Javad Shabani, New York University

Prof. Manijeh Razeghi, Northwestern University

Prof. Yasuhiro Matsuda: The Megagauss Laboratory in Kashiwa, University of Tokyo

Dr. Joe Tischler: The Naval Research Laboratory

Dr. Steve McGill: National High Magnetic Field in Tallahassee (NHMFL)

Prof. Chris Palmstrøm: Univ. of California Santa Barbara

Prof. Chris Stanton: University of Florida

Prof. Markus Raschke, UC-Boulder

Prof. Alexey Belyanin, Texas A&M

Prof. Henri-Jean Drouhin, Ecole Polytechnique, France

Prof. Jean-Eric Wegrowe, Ecole Polytechnique, France

Prof. Hiro Munekata, Tokyo Institute of Technology

Prof. Russ Bowers: University of Florida

Prof. Shashank Priya: Penn State

Prof. Oana Malis: Purdue University

My current collaborators at Virginia Tech:

Prof. Mantu Hudait: Electrical Engineering

Prof. Michael Shultz: Chemistry

Prof. Wei Zhou: Electrical Engineering

Prof. Li Na Quan: Chemistry

STUDENT ADVISING:

Graduate:

Aliya Gifford (Master's Degree: 2007, PhD Vanderbilt University. Currently Data Scientist at the Department of Biomedical Informatics, Vanderbilt University),

Kanokwan Nontapot (PhD Degree: 2008, Positions: National Institute of Standards, Maryland, and currently a research scientist in Thailand),

Matthew Frazier (PhD Degree: 2010, Positions: Post-doctoral research scientist at the University of Maryland and currently a physics teacher),

Mithun Bhowmick (PhD Degree: 2012, Positions: Faculty at Nazarbayev University in Kazakhstan, currently research scientist at the University of Illinois Urbana Champaign will join as the faculty in Fall 2019, University of Miami, OH),

Travis Merritt (PhD Degree: 2013, Positions: physics instructor at Virginia Tech, now at Virginia Tech as a collegiate faculty in physics),

Megan LeBlanc (co-advised in the group of Prof. Westwood in the Department of Plant Pathology, Physiology, and Weed Science as part of an IGERT activity. Position: Reporting Manager at Pacific Ag Group, CA),

Michael Meeker (PhD Degree: 2016, Positions: National Research Council Post-doctoral Fellow at the Naval Research Laboratory, currently research scientist at the graduate center in New York City),

John Burton (Master's Degree: 2017, Position: Researcher at Army Laser Research Lab).

Joseph Spencer (Master's Degree: 2020, Position: At the Naval Research Laboratory)

Rathsara Herath (PhD in physics, May 2021, currently at Intel, Portland, OR.

Nick Smith (Current Student)

Undergraduate in Physics:

Undergraduate students in the past 18 years:

(Mr. Brett Spencer, Ms. Emily Wade, Mr. Jonathan Cates, Mr. Justin Waugh, Mr. Jose Umanzor-Alvarez, Ms. Ariana Reese, Mr. Thomas Howe, Mr. Bryan Byners, Ms. Sara Case, Mr. Armando Garcia, Mr. Youssef Khamisi, Mr. Jameel McMillan, Mr. Doug Wilson, Mr. Roy Bishwamoy Sinha, Ms. Amnah Eltahir, Mr. Alex Winemiller, Ms. Rochelle Silverman, Ms. Meagan Alexis – Croninma, Mr. Alejandro Sosa, Ms. Grace Mulholland, Mr. Ralph Romero, Mr. Jessi Barber, Ms. Moira Miller, Ms. Kiara McMillan, Ms. Ada Morral,, Ms. Gabi Gagliano, Mr. Yannick Pleimling).

Major undergraduate research projects with the following undergraduate students resulted in the co-authorships in publications: Jonathan Cates, Justin Waugh, Jose Umanzor-Alvarez, Emily Wade, Ariana Cruz-Reese, Jameel McMillan, Amnah Eltahir, Grace Mulholland, Pamela Moore, Yussef Khamisi, Moira Miller, Kiara McMillan, Ada Morral, Gabi Gagliano, Yannick Pleimling.

Undergraduates in Nanoscience Research and Lab Rotations:

Steven Dail

Nathan Garg

Richard Abrahamson

Joseph Spencer
Kevin Tranhuu
Alex Shenenberger (Co-advised with Brenden Magill)
Ruoshui Ma (Co-advised with Brenden Magill)

International Exchange Trainees:

Adriane Messager (Ecole Polytechnique, France)
Benjamin Madon (Ecole Polytechnique, France)

POST DOCTORAL ADVISING:

Dr. Rajeev Kini: Employed: 2005-2007, Employment after leaving postdoctoral position: National Renewal Energy Laboratory, Golden, Colorado. Currently a faculty member in India (IISER-TVM).

Dr. Brenden Magill: Employed: Shared with Prof. Hans Robinson, 2012-2014 and fully employed in my group 2014-2016. In 2016 he was promoted to a research scientist at Virginia Tech as a member of my group. Employment after leaving postdoctoral position: In 2018 he was hired as collegiate assistant professor for the nanoscience program at Virginia Tech.

Dr. Rathsara Herath: May 2021-Present

TEACHING:

In the last 17 years, I have developed and taught several classes at the undergraduate and graduate levels. One of the undergraduate level courses that I developed, the Quantum Physics of Nanostructures course, is now part of a new nanoscience undergraduate major at Virginia Tech. The other courses I taught at Virginia Tech include:
Solid State Physics (both graduate and undergraduate level),
The sophomore level Modern Physics course,
Highlights of Contemporary Physics for physics and non-physics majors,
The junior level Intermediate Electricity and Magnetism,
The freshman course: Foundations of Physics,
The combined senior and graduate level course Nanotechnology,
The graduate and undergraduate Classical Mechanics.

Department/College/University Service

- I collaborate with the Multicultural Academic Opportunities Program (MAOP) at Virginia Tech whose central goal is the promotion of diversity within the student body of Virginia Tech. As part of this program, four African-American students performed summer research in my group.
- I have participated in nano-science public lectures for youth and their parents.
- I established collaborations with Prof. Jill Sible at Virginia Tech on an NSF STEP grant to increase student retention in the physical and quantitative science majors. I served as an adviser of the program which has the following main goals: promote academic success and engagement, provide interdisciplinary undergraduate training for science and engineering students, and promote retention and diversity in STEM majors.
- I collaborate with the Advance Program at Virginia Tech to increase the visibility of female faculty members by inviting keynote speakers such as Prof. Mildred Dresselhaus (MIT). These events have provided opportunities for our female students and faculty to learn about the success stories from female researchers and to establish networks.

- I served on the graduate, undergraduate, building, and shop committees in the physics department.
- I served on various departmental search committees and chaired 3 search committees.
- I served on the electrical engineering and computational neuroscience search committees.
- I served as the condensed matter seminar organizer.
- I served on the year of the physics committee, 2005.
- I served on the search committee for the Dean of the College of Science in 2006.
- I was a member of the College of Science cluster hiring committee, 2008-2011.
- I served on the Institute for Critical Technology and Applied Sciences (ICTAS) advisory board and doctoral scholar program at Virginia Tech since 2008.
- I served on the nano-science new degree committee to develop the new curriculum and the degree requirements.
- I served on the departmental long-range planning committee.
- I mentored several assistant professors.
- I served on the Sowers Distinguished Lecture Series Committee and invited three speakers, Dave Reitze and Naomi Halas, and Donna Strickland (Nobel Laureate).
- I served on the departmental executive and promotion/tenure committees and chaired the committee in 2019.

DIVERSITY INITIATIVES OR CONTRIBUTIONS:

- Attracting Females, African American, and Hispanic students to my research group. A female student (Ariana Reese), from Norfolk State, two students (Armando Garcia, Youssef Al Khamsi) from University of Texas El Paso, and three African American students from Virginia Tech (Amnah Eltahir earned her PhD in 2020, Jameel McMillan employed in an engineering discipline, Kiara McMillan; currently attending graduate school in engineering).
- Adviser of the STEM programs at VT promoting diversity and retention of science majors. Collaborations with the Multicultural Academic Opportunities Program (MAOP) to mentor minority students.
- To reach a broader group of high school students, I provided regular lectures for 7 years at the Roanoke Valley Governor's school on modern topics including nanoscale science. Hosted high school students in my group: summer 2006 (Mr. Philip McElmurray), summer 2007 (Ms. Ashley Aissi), January 2009 (Ms. Hannah Aly). Summer 2011 (Mr. Jameel McMillan, continued the activities at VT), spring 2016 (Ms. Kiara McMillan).
- Presented talks for the VT summer nano-camp, the NSF-STEM CURIE and several open-house events.
- Advisor of Ladies of Robeson at the Department of Physics.

PUBLICATIONS:

- 1- Sunil K. Thapa, Rathsara R. H. H. Mudiyansele, Thalya Paleologu, Sukgeun Choi, Zhuo Yang, Y. Kohama, Y. H. Matsuda, Joseph Spencer, Brenden A. Magill, Chris J. Palmström, Christopher J. Stanton, and Giti A. Khodaparast Phys. Rev. B 108, 115202, (2023).

- 2- Seied Ali Safiabadi Tali, Rath Sara R. H. H. Mudiyansele, Yizhou Qian, Nicholas William Gary Smith, Yuming Zhao, Ada Morral, Junyeob Song, Meitong Nie, Brenden A. Magill, Giti A. Khodaparast, and Wei Zhou, "Dual-Modal Nanoplasmonic Light Upconversion through Anti-Stokes Photoluminescence and Second-Harmonic Generation from Broadband Multiresonant Metal Nanocavities" *ACS Nano*, 17, 12, 11362 (2023).
- 3- Sengunthar Karthikeyan, Rutwik Joshi, Jing Zhao, Robert J Bodnar, Brenden A Magill, Yannick Pleimling, Giti A Khodaparast, Mantu K Hudait, "Lattice matched GeSn/InAlAs heterostructure: role of Sn in energy band alignment, atomic layer diffusion and photoluminescence", *Journal of Materials Chemistry C*, 11, 9472 (2023).
- 4- Proceeding of Quantum Sensing and Nano Electronics and Photonics XIX M Razeghi, GA Khodaparast, MS Vitiello - Proc. of SPIE Vol, (2023).
- 5- Nicholas W. G. Smith, Yannick Pleimling, Brenden A. Magill, Rath Sara R. H. H. Mudiyansele, Alex Shenenberger, Shunta Ogawa, Nozomi Nishizawa, Hiro Munekata, and Giti A. Khodaparast "Probe and control of photo-excited magnetization precession in Co/Pd multilayer films at low laser fluence regime" *J. Appl. Phys.* 132, 243902 (2022).
- 6- M.B. Clavel, Murphy-Armando, Y. Xie, K.T. Henry, M. Kuhn, R.J. Bodnar, G.A. Khodaparast, D. Smirnov, J.J. Heremans, and M.K. Hudait "Multivalley Electron Conduction at the Indirect-Direct Crossover Point in Highly Tensile-Strained Germanium" *Phys. Rev. Appl.* 18, 064083 (2022). **Editor's Suggestion**
- 7- Mantu K. Hudait, Steven W. Johnston, Michael Meeker, and Giti A. Khodaparast "Carrier recombination dynamics and temperature dependent optical properties of InAs–GaSb heterostructures" *J. Mater. Chem. C*, 10, 17994–18003 (2022).
- 8- Mantu K Hudait, Michael Meeker, Jheng-Sin Liu, Michael B Clavel, Shuvodip Bhattacharya, Giti A Khodaparast "Temperature and doping-dependent interplay between the direct and indirect optical response in buffer-mediated epitaxial germanium", *Optical Materials*, 131, 2022, 112633 (2022).
- 9- Brenden A. Magill, Kai Wang, Stephen McGill, Christopher J. Stanton, Shashank Priya, and Giti A. Khodaparast "Probe of the excitonic transitions and lifetimes in quasi-2D organic–inorganic halide perovskites" *AIP Advances* 12, 015114 (2022).
- 10- Yang Cao, Brandon Dzuba, Brenden A Magill, Alexander Senichev, Trang Nguyen, Rosa E Diaz, Michael J Manfra, Stephen McGill, Carlos Garcia, Giti A Khodaparast, Oana Malis "Photoluminescence study of carrier localization and recombination in nearly strain-balanced non-polar InGaN/AlGaN quantum wells" *Phys. Status Solidi B*, 2100569 (2022).
- 11- Invited Paper: Rath Sara R. H. H. Mudiyansele, Nicholas W. G. Smith, Brenden A. Magill, Min Gyu Kang, Shashank Priya, and Giti A. Khodaparast "Second Harmonic Generation in Multiferroic BaTiO₃-BiFeO₃ Film and Nanorod Arrays Grown on Si Substrate" *Proc. SPIE 12002, Oxide-based Materials and Devices XIII*, 120020L (2022).
- 12- Invited Paper: Oana Malis, Trang Nguyen, Yang Cao, Brenden A. Magill, Brandon Dzuba, Stephen McGill, Carlos Garcia, Giti A. Khodaparast, Michael J. Manfra, "Novel nitride quantum structures for infrared sensing" *Proc. of SPIE Vol. 12009, 120090B* (2022) SPIE · 0277-786X.

- 13- Co-Editor: PROCEEDINGS VOLUME 12009, SPIE OPTO | 22 JANUARY - 28 FEBRUARY 2022 Quantum Sensing and Nano Electronics and Photonics XVIII, Editor(s): Manijeh Razeghi, Giti A. Khodaparast, Miriam S. Vitiello
- 14- Rathsara R. H. H. Mudiyansele, John Burton, Brenden A. Magill, Kiara McMillan, Gabi Gagliano, Ada J. Morral, Min Gyu Kang, Han-Byul Kang, Shashank Priya, Christopher J. Stanton, Giti A. Khodaparast “Optical properties of $\text{Pb}_{0.52}\text{Zr}_{0.48}\text{TiO}_3$ nanorod arrays: second harmonic generation and multiphoton carrier dynamics”, *Journal of Physics: Photonics* **3** (3), 034012 (2021).
- 15- Tao Ye, Ke Wang, Yuchen Hou, Dong Yang, Nicholas Smith, Brenden Magill, Jungjin Yoon, Rathsara R. H. H. Mudiyansele, Giti A. Khodaparast, Kai Wang, Priya Shashank, “Ambient-air-stable lead-free CsSnI_3 solar cells with $>7.5\%$ efficiency”: *J. Am. Chem. Soc.* **143**, 11, 4319 (2021).
- 16- Brenden A. Magill, Sunil Thapa, Jade Holleman, Stephen McGill, Hiro Munekata, Christopher J. Stanton, and Giti A. Khodaparast “Magnetic field enhanced detection of coherent phonons in a GaMnAs/GaAs film” *Phys. Rev. B* **102**, 045306 (2020).
- 17- Joseph Yuan, Mehdi Hatefipour, Brenden A. Magill, William Mayer, Matthieu C. Dartailh, Kasra Sardashti, Kaushini S. Wickramasinghe, Giti A. Khodaparast, Yasuhiro H. Matsuda, Yoshimitsu Kohama, Zhuo Yang, Sunil Thapa, Christopher J. Stanton, and Javad Shabani, “Experimental measurements of effective mass in near-surface InAs quantum wells”, *Phys. Rev. B* **101**, 205310 (2020).
- 18- Yang Cao, Brandon Dzuba, Brenden A Magill, Alexander Senichev, Trang Nguyen, Rosa E Diaz, Michael J Manfra, Stephen McGill, Carlos Garcia, Giti A Khodaparast, Oana Malis “Photoluminescence study of non-polar m-plane InGaN and nearly strain-balanced InGaN/AlGaN superlattices” *Journal of Applied Physics* **127**, 185702 (2020).
- 19- Co-Editor of the Quantum Sensing and Nano Electronics and Photonics XVII Proceedings: Quantum Sensing and Nano Electronics and Photonics XVII, M. Razeghi, J. S. Lewis, G. A. Khodaparast, P. Khalili, *Proc. of SPIE Vol 11288*, 1128801-1 (2020).
- 20- Michael B Clavel, Jheng-Sin Liu, Michael A Meeker, Giti A Khodaparast, Yuantao Xie, Jean J Heremans, Shuvodip Bhattacharya, Mantu K Hudait, “Electronic and optical properties of highly boron-doped epitaxial Ge/AlAs (001) heterostructures” *Journal of Applied Physics* **127**, 075702 (2020).
- 21- Rathsara R. H. H. Mudiyansele, Brenden A. Magill, John Burton, Moira Miller, Joseph Spencer, Kiara McMillan, Giti A. Khodaparast, Han Byul Kang Min Gyu Kang, Deepam Maurya, Shashank Priya, Jade Holleman, Steve McGill, and Christopher J. Stanton, “Coherent acoustic phonons and ultrafast carrier dynamics in hetero-epitaxial $\text{BaTiO}_3\text{-BiFeO}_3$ films and nanorods”, *J. Mater. Chem. C*, **7**, 14212-14222 (2019).
- 22- Co-Editor of the Quantum Sensing and Nano Electronics and Photonics XVI Proceedings: Quantum Sensing and Nano Electronics and Photonics XVII Manijeh Razeghi, Jay S Lewis, Eric Tournié, Giti A Khodaparast, Volume:10926, (2019).
- 23- Jonathan S Metzman, Assad Ullah Khan, Brenden Magill, Giti A Khodaparast, James R Heflin, Guoliang Liu “Critical Role of Polystyrene Layer on Plasmonic Silver Nanoplates in Organic Photovoltaics”, *ACS Appl. Energy Mater.* **2** (4), pp 2475–2485 (2019).

- 24- V. Whiteside, B. Magill, M. Lumb, H. Esmailpour, M. Meeker, R. Mudiyansele, A. Messenger, S. Vijayaragunathan, T. Mishima, M. Santos, I. Vurgaftman, G. A. Khodaparast, I. Sellers, "Valence band states in an InAs/AlAsSb multi-quantum well hot carrier absorber", *Semicond. Sci. Technol.*, **34** 025005 (2019).
- 25- M. K. Hudait, M. B. Clavel, S. Saluru, J-S Liu, M. A. Meeker, G. A. Khodaparast, R. Bodnar "Vibrational, Optical and Metal-oxide-semiconductor Characteristics of Sulfur Passivated Step-graded GaAs_{1-y}Sb_y Materials with Tunable Antimony Compositions", *AIP Advances* **8** (11), 115119 (2018).
- 26- B. Madon, H. Byul Kang, M. Gyu Kang, D. Maurya, B. Magill, M. Alves, J.-E. Wegrowe, H.-J. Drouhin, S. Priya, and G. A. Khodaparast "Room Temperature Ferromagnetic Resonance in Hetero-Epitaxial BTO-BFO/LSMO Magnetoelectric Composite", *AIP Advances* **8** (10), 105034 (2018). **Editor's Pick.**
- 27- S. Myung-Eun, H. Lee, M.-G Kang, W. Li, D. Maurya, B. Poudel, J. Wang, M. A. Meeker, G. A. Khodaparast, S. T. Huxtable, and S. Priya, "Nanoscale Texturing and Interfaces in Compositionally Modified Ca₃Co₄O₉ with Enhanced Thermoelectric Performance," *ACS Omega* **3**, 10798 (2018).
- 28- C. Wu, H. Li, Y. Yan, Bo Chi, K. M. Felice, R. B. Moore, B. A. Magill, R. R. H. H. Mudiyansele, G. A. Khodaparast, M. Sanghadasa, and S. Priya "Highly-Stable Organo-Lead Halide Perovskites Synthesized through Green Self-Assembly Process," *Advanced Science News: Solar RRL* **2**, 1800052 (2018), **Selected for cover page**
- 29- Invited Review Article: J-H Park, R. McClintock, D. Pavlidis, F. H. Teherani, D. J. Rogers, B. A. Magill, G. A. Khodaparast, Y. Xu, J. Wu, V. P. Dravid, and M. Razeghi "Functional Ga₂O₃ Metal Oxide thin films on c-sapphire (0001)", *Oxide-based Materials and Devices IX*; 105330R (2018).
- 30- A. Ghosh, M. B. Clavel, P. D. Nguyen, M. A. Meeker, G. A. Khodaparast, R. Bodnar, and M. K. Hudait, "Growth, Structural, and Electrical Properties of Germanium-on-Silicon Heterostructure by Molecular Beam Epitaxy," *AIP Advances* **7**, 095214 (2017).
- 31- M. A. Meeker, S. Kundu, D. Maurya, M-G Kang, A. Sosa, R. R. H. H. Mudiyansele, M. Clavel, S. Gollapudi, M. K. Hudait, S. Priya, and G. A. Khodaparast, "The Permittivity and Refractive Index Measurements of Doped Barium Titanate (BT-BCN)," *Optical Materials* **73**, 793 (2017).
- 32- D. Maurya, A. Charkhesht, S. K. Nayak, F-C Sun, D. George, A. Pramanick, M.-G Kang, H-C Song, M. M. Alexander, D. Lou, G. A. Khodaparast, S. P. Alpay, N. Q. Vinh, and S. Priya, "Soft Phonon Mode Dynamics in Aurivillius Type Structures," *Phys. Rev. B* **96**, 134114 (2017).
- 33- J. Gan, M. G. Kang, M. A. Meeker, G. A. Khodaparast, R. J. Bodnar, J. E. Mahaney, D. Maurya, and S. Priya, "Enhanced piezoluminescence in non-stoichiometric ZnS:Cu microparticle based light emitting elastomers," *Journal of Materials Chemistry C* **5**, 5387 (2017).
- 34- M. Bhowmick, G. A. Khodaparast, T. D. Mishima, M.B. Santos, D. Saha, G. D. Sanders, and C. J. Stanton, "Interband and Intraband Relaxation Dynamics in InSb Based Quantum Wells," *J. App. Phys.* **120**, 235702 (2016).

- 35- J-S Liu, M. B. Clavel, R. Pandey, S. Datta, *M. A. Meeker*, G. A. Khodaparast, and M. K. Hudait, "Growth and characterization of metamorphic InAs/GaSb tunnel heterojunction on GaAs by molecular beam epitaxy," *J. Appl. Phys.* **119**, 244308 (2016).
- 36- B. A. Magill, K-D Park, Y. Zhou, A. Chopra, Maurya, S. Priya, M. B. Raschke, A. Belyanin, C. J. Stanton, G. A. Khodaparast, "Ultrafast Anisotropic Optical Response and Coherent Acoustic Phonon Generation in Polycrystalline BaTiO₃-BiFeO₃," *Energy Harvesting and Systems* **3**, 229 (2016).
- 37- G. Mulholland, P. Moore, Y. Khamsi, J. McMillan, J. Sible, and G. A. Khodaparast, "Near-infrared Laser Cellular Ablation and Development in *Xenopus laevis* Embryos," *Journal of Laser Applications* **28**, 012009 (2016).
- 38- B. Madon, J.-E. Wegrowe, H.-J. Drouhin, X. Liu, J. Furdyna, and G. A. Khodaparast, "Influence of the carrier mobility distribution on the Hall and Nernst effect measurements in n-type InSb," *J. Appl. Phys.* **119**, 025701 (2016).
- 39- M. A. Meeker, B. A. Magill, G. A. Khodaparast, D. Saha, C. J. Stanton S. McGill, and B. W. Wessels, "High Field Magnetic Circular Dichroism in Ferromagnetic InMnSb and InMnAs: Spin-Orbit-Split Hole Bands and g-Factors," *Phys. Rev. B* **92**, 125203 (2015).
- 40- Y. Zhao, J. Wang, S. Huxtable, G. A. Khodaparast, and S. Priya, "Role of sintering atmosphere and synthesis parameters on electrical conductivity of ZnO," *Journal of Energy Harvesting and Systems*, **2**, 73 (2015).
- 41- Y. Zhao, D. Maurya, A. Miner, G. A. Khodaparast, and S. Priya, "Enhanced thermoelectric performance in PbTe-PbS nanocomposites," *Journal of Energy Harvesting and Systems* **2**, 55 (2015).
- 42- D. Inglefield, T. R. Merritt, B. A. Magill, T. Long, and G. A. Khodaparast, "Upconverting Nanocomposites Dispersed in Urea-Containing Acrylics," *J. Mater. Chem. C* **3**, 5556 (2015).
- 43- Y. Sun, F. V. Kyrychenko, G. D. Sanders, C. J. Stanton, G. A. Khodaparast, J. Kono, Y. H. Matsuda, and H. Munekata, "Probe of the Band Structure of MBE Grown p-type InMnAs at Ultrahigh Magnetic Fields," *Journal of Spin Vol.* **5**, No. 1, 1550002 (2015).
- 44- Invited Paper: B. A. Magill, M. Bishop, S. A. McGill, Y. Zhou, A. Chopra, H.-C Song, C. J. Stanton, S. Priya, G. A. Khodaparast "Ultrafast Magneto-Optical Spectroscopy of BiFeO₃-BaTiO₃ Based Structures", *Proc. Of SPIE*, Vol. **9551**, 95510T (2015).
- 45- G. A. Khodaparast, M. Bhowmick, C. Feeser, B. W. Wessels, D. Saha, G. D. Sanders, and C. J. Stanton, "Time Resolved Spectroscopy in Narrow Gap MOVPE Grown Ferromagnetic Semiconductors," *Proceeding of the first Ultrafast Conference in Strasbourg, France. Published by Springer Verlag*, Pages 8-10 (2015).
- 46- T. R. Merritt, M. A. Meeker, B. A. Magill, G. A. Khodaparast, S. McGill, J. G. Tischler, S. G. Choi, and C. J. Palmström, "Photoluminescence line shape and dynamics of localized excitonic transitions in InAsP epitaxial layers," *J. Appl. Phys.* **115**, 193503 (2014).
- 47- Y. Zhao, A. Kumar, G. A. Khodaparast, A. Eltahir, H. Wang, and S. Priya "Sintering Temperature-Dependent Chemical Defects and the Effect on the Electrical Resistivity of Thermoelectric ZnO," *Journal of Energy Harvesting and Systems* **1**, 113 (2014).

- 48- Invited Paper: B. A. Magill, M. A. Meeker, T. R. Merritt, G. A. Khodaparast, S. McGill, and C. J. Palmström, "Time Resolved Magneto-Optical Studies of InAsP Ternary alloys," Proceedings of SPIE, Volume **9167**, 916718-5 (2014).
- 49- M. A. Meeker, B. A. Magill, T. R. Merritt, M. Bhowmick, K. McCutcheon, G. A. Khodaparast, J. G. Tischler, S. McGill, S. G. Choi, and C. J. Palmstrom, "Dynamics of photoexcited carriers and spins in InAsP ternary alloys," App. Phys. Lett. **102**, 222102 (2013).
- 50- G. A. Khodaparast, Y. H. Matsuda, D. Saha, G. D. Sanders, C. J. Stanton, H. Saito, S. Takeyama, T. R. Merritt, C. Feeser, B. W. Wessels, X. Liu, and J. Furdyna, "Cyclotron resonance in ferromagnetic InMnAs and InMnSb," Phys Rev. B **88**, 235204 (2013).
Editor's Selection
- 51- M. L. LeBlanc, T. R. Merritt, J. McMillan, J. H. Westwood, and G. A. Khodaparast, "Optoperforation of single, intact Arabidopsis cells for uptake of extracellular dye-conjugated dextran," Optics Express, **21**, 14622 (2013). *Selected by the editors for appearance in the Virtual Journal for Biomedical Optics (VJBO), which is a special feature of OSA's Optics InfoBase*
- 52- M. K. Hudait, Y. Zhu, N. Jain, S. Vijayaraghavan, A. Saha, T. R. Merritt, and G. A. Khodaparast, "In situ grown Ge in an arsenic-free environment for GaAs/Ge/GaAs heterostructures on off-oriented (100) GaAs substrates using molecular beam epitaxy," J. Vac. Sci. Technol. B **30**, 051205 (2012).
- 53- M. Bhowmick, T. R. Merritt, G. A. Khodaparast, B. W. Wessels S. A. McGill, D. Saha, X. Pan, G. D. Sanders, and C. J. Stanton, "Time-resolved differential transmission in MOVPE-grown ferromagnetic InMnAs," Phys. Rev. B **85**, 125313 (2012).
- 54- Invited paper: Giti A. Khodaparast, M. Bhowmick, C. Feeser, B. W. Wessels, D. Saha, Gary. D. Sanders, C. J. Stanton "Time-resolved Spectroscopy of MOVPE-grown III-Mn-V Ferromagnetic Semiconductors", Proceedings of SPIE, Volume **8461**, 84611O-1 (2012).
- 55- Invited Paper: X. Pan, Y. Sun, D. Saha, G. Sanders, M. B. Santos, R.E Doezema, S. E. Hayes, G. A. Khodaparast, H. Munekata, Y. H. Matsuda, J. Kono, C. J. Stanton, "Optically detecting spin-split bands in semiconductors in magnetic fields", Proceedings of SPIE, Volume **8461**, 84611P-1 (2012).
- 56- Y. Matsuda, G. A. Khodaparast, R. Shen, S. Takeyama, X. Liu, J. Furdyna, and B. W. Wessels, "Cyclotron resonance in InMnAs and InMnSb ferromagnetic films," Journal of Physics: Conference Series **334**, 012056 (2011).
- 57- Editor of the 15th International Conference on Narrow Gap Systems Proceeding, Giti Khodaparast (Co-Editors Michael Santos and Chris Stanton). AIP Conference Series, Volume (**1416**), Pages 1-200, (2011).
- 58- M. Bhowmick, T. Merritt, G. A. Khodaparast, C. Feeser, B. W. Wessels, S. McGill, D. Saha, X. Pan, G. D. Sanders, and C. J. Stanton, "Time Resolved Spectroscopy of MOVPE Grown Narrow Gap Ferromagnetic Semiconductors," AIP Conf. Proc. **1416**, 188191 (2011).

- 59- M. Bhowmick, T. Merritt, K. Nontapot, G. A. Khodaparast, T. D. Mishima, and M. B. Santos, "Carrier Dynamics in Parabolic InSb Based Multi Quantum Wells," AIP Conf. Proc. **1416**, 192 (2011).
- 60- J. Umazor-Alvarez, E. C. Wade, A. Gifford, K. Nontapot, A. Cruz-Reese, T. Gotoh, J. C. Sible, and G. A. Khodaparast, "Near-Infrared Laser Delivery of Nanoparticles to Developing Embryos: A Study of Efficacy and Viability," Biotechnology Journal **6**, 519, May (2011). **Selected for the cover page of the journal.**
- 61- Invited Paper: G. A. Khodaparast, M. Bhowmick, T. D. Mishima, M. Santos, C. Feaser, B. W. Wessels, "Probe of Coherent and Quantum States in Narrow-Gap Based Semiconductors with strong Spin-Orbit Coupling", Spintronics III, Proc. of SPIE Vol. **77600x-1** (2010).
- 62- Invited Paper: G. A. Khodaparast, M. Bhowmick M. Frazier, R. N. Kini, K. Nontapot, T. D. Mishima, M. Santos, B. W. Wessels, "Probe of Coherent and Quantum States in Narrow-Gap Semiconductors in the presence of strong Spin-Orbit Coupling", Proc. of SPIE: Vol. **7608** 76080O-1 (2010).
- 63- M. Bhowmick, R. N. Kini, K. Nontapot, N. Goel, S. J. Chung, T. D. Mishima, M. B. Santos, G. A. Khodaparast, "Probe of Interband Relaxations of Photo-excited and Carriers and Spins in InSb Based Quantum Wells", Physics Procedia (**3**) 1161 (2010).
- 64- M. Bhowmick, T. R. Merritt, K. Nontapot, B. W. Wessels, O. Drachenko, G. A. Khodaparast, "Time Resolved Spectroscopy of InMnAs Using Differential Transmission Technique in Mid-Infrared", Physics Procedia, (**3**) 1167 (2010).
- 65- M. Frazier, J. G. Cates, J. A. Waugh, J. J. Heremans, M. B. Santos, X. Liu, and G. A. Khodaparast, Photoinduced Spin-polarized Current in InSb-Based Structures," J. App. Phys. **106**, 103513 (2009).
- 66- R. N. Kini , K. Nontapot, G. A. Khodaparast, L. J. Guido, R.E. Welser "Time Resolved Measurements of Spin and Carrier Dynamics in InAs Films", J. App. Phys. **103**, 064318 (2008).
- 67- M. Frazier, K. Nontapot, R. Kini, G. A. Khodaparast, T. Wojtowicz, X. Liu , J. K. Furdyna "Time Resolved Magneto-Optical Studies of Ferromagnetic InMnSb Films", Appl. Phys. Lett., **92**, 061911 (2008).
- 68- G. A. Khodaparast, R. N. Kini, K. Nontapot, M. Frazier, E. C. Wade, J. J. Heremans, S. J. Chung, N. Goel, M. B. Santos, T. Wojtowicz, X. Liu, J. K. Furdyna "Control and Probe of Carrier and Spin Relaxations in InSb-Based Structures", Springer Proc. Phys. Series, 13th Intern. Conf. of NGS. P15-18 (2008).
- 69- R. N. Kini, G. A. Khodaparast, K. Nontapot, S. J. Chung, N. Goel, M. B. Santos "Carrier Dynamics in InSb Based Quantum Well Structures", Proc., 9th Intern. Conf. on Intersubband Transitions in QWs, Page P66-67, (2007).
- 70- K. Nontapot, R. N. Kini, A. Gifford, T. R. Merritt, G. A. Khodaparast, T. Wojtowicz, X. Liu, J. K. Furdyna , "Relaxation of Photoinduced Spins and Carriers in Ferromagnetic InMnSb Films", Appl. Phys. Lett. **90**, 143109, (2007).

- 71- J. Wang, C. Sun, Y. Hashimoto, J. Kono, G. A. Khodaparast, L. Cywinski, L. J. Sham, G. D. Sanders, C. J. Stanton, and H. Munekata, "Ultrafast magneto-optics in ferromagnetic III-V semiconductors", *J. Phys.: Condens. Matter* **18** R501 (2006). **Selected as Top Papers 2006 Showcase by Institute of Physics, Journal of Physics.**
- 72- T. Kasturiarachchi, F. Brown, N. Dai, G. A. Khodaparast, R. E. Doezema, S. J. Chung, M. B. Santos "Determination of deformation potentials in strained InSb quantum wells", *Appl. Phys. Lett.* **88**, 17 (2006).
- 73- T. Kasturiarachchi, F. Brown, N. Dai, G. A. Khodaparast, R. E. Doezema, S. J. Chung, M. B. Santos "Exciton determination of strain parameters in InSb/Al_xIn_{1-x}Sb quantum wells", *J. of Vacuum Science & Technology B* **24** (5): 2429-2431 (2006).
- 74- G. A. Khodaparast, K. Nontapot, A. Gifford, S. J. Chung, N. Goel, M. B. Santos, T. Wojtowicz, X. Liu, J. K. Furdyna "Time Resolved Studies of Magnetic and Nonmagnetic Narrow-gap Semiconductors", *Institute of Physics Conference Proceeding*, **187**, 517 (2006).
- 75- J. Wang, G. A. Khodaparast, J. Kono, A. Oiwa, and H. Munekata "Ultrafast Optical and Magneto-Optical Studies of III-V Ferromagnetic Semiconductors", *Journal of Modern Optics* **51** pp. 2771 (2004).
- 76- Y. H. Matsuda, G. A. Khodaparast, M. A. Zudov, J. Kono, Y. Sun, F. V. Kyrychenko, G. D. Sanders, C. J. Stanton, N. Miura, S. Ikeda, Y. Hashimoto, S. Katsumoto, and H. Munekata "Ultrahigh-Field Hole Cyclotron Resonance Absorption in InMnAs Films", *Physical Review B* **70**, 195211 (2004).
- 77- G. A. Khodaparast, R. E. Doezema, S. J. Chung, K. Goldammer, and M. B. Santos "Spectroscopy of Rashba spin splitting in InSb quantum wells", *Phys. Rev. B* **70**, 155322 (2004).
- 78- D. C. Larrabee, G. A. Khodaparast, F. K. Tittel, J. Kono, M. Rochat, L. Ajili, J. Faist, H. Beere, E. Linfield, Y. Nakajima, M. Nakai, S. Sasa, M. Inoue, S. J. Chung, and M. B. Santos "Application of Terahertz Quantum Cascade Lasers to Semiconductor Cyclotron Resonance", *Optics Letters*, **29**, 122 (2004).
- 79- Invited paper: G. A. Khodaparast, R.C. Meyer, X.H. Zhang, T. Kasturiarachchi, R. E. Doezema, S.J Chung, N. Goel, and M. B. Santos "Spin effects in InSb quantum wells", *Physica E* **20**,386 (2004).
- 80- Invited paper: J. Wang, G. A. Khodaparast, J. Kono, T. Slupinski, A. Oiwa, and H. Munekata "Ultrafast Softening in InMnAs", *Physica E* **20**,412 (2004).
- 81- Y. Sun, G. D. Sanders, F. V. Kyrychenko, C. J. Stanton, G. A. Khodaparast, J. Kono, Y. H. Matsuda, N. Miura, and H. Munekata "Electron-active Cyclotron Resonance in p-type InMnAs in High Magnetic Fields", *Physica E* **20**, 374 (2004).
- 82- G. D. Sanders, Y. Sun, C. J. Stanton, G. A. Khodaparast, J. Kono, D. S. King, Y. H. Matsuda, S. Ikeda, N. Miura, A. Oiwa, and H. Munekata "Determining Carrier Densities in InMnAs by Cyclotron Resonance", *Physica E* **20**, 378 (2004).
- 83- G. A. Khodaparast, J. Kono, Y. H. Matsuda, S. Ikeda, N. Miura, Y. J. Wang, T. Slupinski, A. Oiwa, H. Munekata, Y. Sun, F. V. Kyrychenko, G. D. Sanders, and C. J. Stanton, "High-

Field Cyclotron Resonance Studies of InMnAs-Based Ferromagnetic Semiconductor Heterostructures”, *Physica E* **21**, 978 (2004).

- 84-** J. Li, K. I. Kolokolov, C. Z. Ning, D. C. Larrabee, G. A. Khodaparast, J. Kono, K. Ueda, Y. Nakajima, S. Sasa, and M. Inoue “Microscopic Modeling of Intersubband Resonances in InAs/AlSb Quantum Wells”, *Physica E* **20**, 268 (2004).
- 85-** G. A. Khodaparast, D. C. Larrabee, J. Kono, D. S. King, J. Kato, T. Slupinski, A. Oiwa, H. Munekata, G. D. Sanders, and C. J. Stanton “Terahertz dynamics of photo-generated carriers in ferromagnetic InGaMnAs”, *Journal of Applied Physics* **93**, 8286 (2003).
- 86-** G. A. Khodaparast, M. A. Zudov, J. Kono, Y. H. Matsuda, T. Ikaida, S. Ikeda, N. Miura, T. Slupinski, A. Oiwa, H. Munekata, G. D. Sanders, Y. Sun, and C. J. Stanton “Cyclotron resonance of electrons and holes in paramagnetic and ferromagnetic InMnAs-based films and heterostructures”, *Journal of Superconductivity: Incorporating Novel magnetism* **16** (1), 107 (2003).
- 87-** J. Wang, G. A. Khodaparast, J. Kono, T. Slupinski, A. Oiwa, and H. Munekata “Ultrafast optical manipulation of ferromagnetic order in InMnAs/GaSb”, *Journal of Superconductivity: Incorporating Novel magnetism* **16** (2), 373 (2003).
- 88-** D. C. Larrabee, G. A. Khodaparast, J. Kono, K. Ueda, Y. Nakajima, M. Nakai, S. Sasa, M. Inoue, K. I. Kolokolov, J. Li, and C. Z. Ning “Temperature Dependence of Intersubband Transitions in InAs/AlSb Quantum Wells”, *Appl. Phys. Lett.* **83**, 3936 (2003).
- 89-** G. D. Sanders, Y. Sun, F. V. Kyrychenko, C. J. Stanton, G. A. Khodaparast, M. A. Zudov, J. Kono, Y. H. Matsuda, N. Miura, and H. Munekata “Electronic States and Cyclotron Resonance in n-type InMnAs”, *Phys. Rev. B* **68**, 165205 (2003).
- 90-** G. A. Khodaparast, D. C. Larrabee, J. Kono, D. S. King, S. J. Chung, and M. B. Santos “Relaxation of quasi-2D electrons in a quantizing magnetic field probed by time-resolved cyclotron resonance”, *Phys. Rev. B* **67**, 035307 (2003).
- 91-** G. D. Sanders, Y. Sun, C. J. Stanton, G. A. Khodaparast, J. Kono, Y. H. Matsuda, N. Miura, T. Slupinski, A. Oiwa, and H. Munekata “Theoretical and experimental studies of cyclotron resonance in p-type InAs and InMnAs at ultrahigh magnetic fields”, *Journal of Applied Physics* **93**, 6897 (2003).
- 92-** G. D. Sanders, Y. Sun, C. J. Stanton, G. A. Khodaparast, J. Kono, Y. H. Matsuda, N. Miura, T. Slupinski, A. Oiwa, and H. Munekata “Theory of cyclotron resonance and magneto-optics in n-and p-type InMnAs in ultrahigh magnetic fields”, *Journal of Superconductivity: Incorporating Novel magnetism* **16** (2), 449 (2003).
- 93-** J. Wang, G. A. Khodaparast, J. Kono, T. Slupinski, A. Oiwa, and H. Munekata, “Ultrafast Photoinduced Softening in a Ferromagnetic Semiconductor”, *Quantum Electronics and Laser Science Conference, OSA Technical Digest (Optical Society of America, Washington DC, 2003)*, QThB6.
- 94-** G. A. Khodaparast, J. Kono, Y. H. Matsuda, T. Ikaida, S. Ikeda, N. Miura, T. Slupinski, A. Oiwa, and H. Munekata, “Cyclotron resonance of itinerant holes in ferromagnetic InMnAs/GaSb heterostructures”, *Proceedings of the 26th International Conference on the Physics of Semiconductors*. Edited by A. R. Long and J. H. Davies (Institute of Physics Publishing, Bristol, 2003), P320.

- 95-** Invited Paper: G. A. Khodaparast, G. N. Ostojic, A. Srivastava, J. Wang, and J. Kono, “Mid-infrared ultrafast and nonlinear spectroscopy of semiconductors”, The Proceedings of the 2002 Annual Meeting of the IEEE Lasers and Electro-Optics Society.
- 96-** D. C. Larrabee, J. Tang, M. Liang, G. A. Khodaparast, J. Kono, K. Ueda, Y. Nakajima, O. Suekane, S. Sasa, M. Inoue, K. I. Kolokolov, J. Li, and C. Z. Ning “Intersubband transitions in narrow InAs/AlSb quantum wells”, Published in Proceedings of the 26th International Conference on the Physics of Semiconductors. Edited by A. R. Long and J. H. Davies (Institute of Physics Publishing, Bristol, 2003), P129.
- 97-** J. Li, K. I. Kolokolov, C. Z. Ning, D. C. Larrabee, G. A. Khodaparast, J. Kono, K. Ueda, Y. Nakajima, S. Sasa, and M. Inoue, “Intersubband Transitions in InAs/AlSb Quantum Wells”, MRS Proceedings Volume 744, Progress in Semiconductors II – Electronics and Optoelectronic Applications, edited by B. D. Weaver, M. O. Manasreh, C. C. Jagadish, and S. Zollner (Materials Research Society, 2003), pp. M9.2.1-M9.2.12.
- 98-** D.C. Larrabee, G. A. Khodaparast, J. Kono, D.S King, S.J. Chune, S. J., M. B. Santos “Picosecond time-resolved cyclotron resonance study of InSb quantum wells in a quantizing magnetic field,” High Performance Devices, Proceedings, IEEE Lester Eastman Conference on High Performance Devices **228**, 2002.
- 99-** G. A. Khodaparast, R. E. Doezema, S.J. Chung, K.J. Goldammer, and M. B. Santos, “Spin resonance probe of zero-field spin splitting in InSb quantum wells”, Proceedings of the 10th International Conference on Narrow Gap Semiconductors, 2000, ed. N. Miura, S. Yamada, and S. Takeyama (Institute of Pure and Applied Physics, Tokyo, 2001), pp. 245-247.
- 100-** N. Dai, F. Brown, G. A. Khodaparast, R. E. Doezema, S. J. Chung, and M. B. Santos “Excitons in InSb Quantum Wells: a Multi-use Tool,” Proceedings of the Fourth International Conference on Thin Film Physics & Applications, (2001).
- 101-** S. J. Chung, N. Dai, G. A. Khodaparast, J. L. Hicks, K. J. Goldammer, F. Brown, W. K. Liu, R. E. Doezema, S. Q. Murphy, and M. B. Santos “Electronic Characterization of InSb Quantum Wells”, Physica E **7**, 809 (2000).
- 102-** N. Dai, G. A. Khodaparast, F. Brown, S. J. Chung, R. E. Doezema, K. J. Goldammer, and M. B. Santos “Determination of band offset in strained InSb/AlInSb layer” Appl. Phys. Lett. **76**, 3905 (2000).
- 103-** K. J. Goldammer, W. K. Liu, G. A. Khodaparast, S. C. Lindstrom, M. B. Johnson, R. E. Doezema, and M. B. Santos, “Electrical Properties of InSb Quantum Wells Remotely-Doped with Si”, J. Vac. Sci. Technol. B **16**, 1367 (1998).
- 104-** N. Dai, F. Brown, P. Barsic, G. A. Khodaparast, R. E. Doezema, S. J. Chung, K. J. Goldammer, and M. B. Santos, “Observation of excitonic transition in InSb quantum wells”, Appl. Phys. Lett. **73**, 1101 (1998).
- 105-** Z. Hasan, L. Biyikli, M. J. Sellers, G. A. Khodaparast, F. S. Richardson, and J. R. Quagliano “Energy Transfer and Up Conversions in Cubic Cs₂NaYCl₆:Er⁺³ and Cs₂NaErCl₆”, Phys. Rev. B **56**, 4518 (1997).

SELECTED INVITED LECTURES AND TALKS:

1. Invited Talk at Gordon Godfrey Workshop, Australia, Nov. 2023.
2. Invited Talk at Nonlinear and Ultrafast Spectroscopy Symposium, NC, Oct. 2023.
3. Invited Seminar, Howard University, DC, March 2023.
4. Invited Seminar, Lawrence Livermore National Labs, Feb. 2023.
5. Invited Talk, Photonics West, San Francisco, Jan. 2023
6. Invited Talk, Photonics West, San Francisco, Jan. 2022.
7. Invited Talks at Spintronics Symposium, August 2022.
8. Invited Talk, Photonics West, San Francisco, Jan. 2022.
9. Invited Colloquium, University of Central Florida, 2021
10. Invited Talk, SPIE, San Diego, 2021 (presented by Nick Smith from my group).
11. Invited Talk, Photonics West, San Francisco, 2020.
12. Invited Seminar, Penn State, Jan. 27th, 2020.
13. Invited Seminar, University of Oklahoma, Jan. 17th, 2020.
14. Invited Seminar, Tohoku University, Japan, January 11th, 2019.
15. Invited Seminar, University of Tokyo, Kashiwa Campus, January 8th, 2019.
16. Invite Talk, Photonics West, February 2019.
17. Invited Seminar, Univ. of Illinois Urbana Champaign, October 2018.
18. Invited Talk, Materials Science and Engineering Conference, June 11-13, 2018, Barcelona, Spain.
19. Invited seminar at Drexel as part of the Franklin Award Symposium, April 19th, 2018.
20. Invited Talk, European Advanced Energy Materials and Technology Congress (25 - 28 March 2018), Sweden.
21. Invited Talk, Photonics West, San Francisco, CA, January 27-Feb. 1st, 2018.
22. Invited presentation as part of the US Army Research Laboratory Center of Semiconductor Modeling Consortium, California, March 2018.
23. Invited Talk at Tokyo Tech, Nov. 20th, 2017 (Presented by Post Doc: Brenden Magill).
24. SPIE-OPTICS, Spintronics Conference, San Diego, CA, August 10th, 2017 (Presented by Post Doc: Brenden Magill).
25. Nano-Star Symposium at UVA, April 19th, 2017 (Presented by Post Doc: Brenden Magill).
26. Colloquium at Lehigh University, April 20th, 2017.
27. AFOSR PI-Meeting, Arlington, VA, May 2017.
28. The 83rd Annual Meeting of the Southeastern Section of the American Physical Society (SESAPS), November 10-12, 2016, in Charlottesville, Virginia.
29. 11th Energy Harvesting Workshop, Alexandria, VA, Sep. 6-7, 2016.
30. SPIE-OPTICS, Spintronics Conference, San Diego, CA, August 28th, 2016.
31. Colloquium at Ecole Polytechnique, France, July 11th, 2016.
32. AFOSR PI-Meeting, Arlington, VA, May 2016.
33. Seminar at the Department of Physics, Purdue University, April 22nd, 2016.
34. Physical Phenomena in High Magnetic Fields (PPHMF-8), Jan 2016.
35. Invited presentation as part of NSF/IUCRC Center for Next Generation Nanomaterial and Device Engineering (NGeNE), Charlottesville, UVA, October 2015.
36. Colloquium at the Department of Physics, University of Kansas, Sept. 14th, 2015.
37. SPIE-OPTICS, Spintronics Conference, San Diego, CA, Aug. 9, 2015.
38. AFOSR PI-Meeting, Arlington, VA, May 20, 2015.
39. Invited Presentation at the Magneto-Optics Workshop, Winter Park, Colorado, April 11-13, 2015.
40. Korea University and Virginia Tech Collaboration Meeting, VA, Feb. 10, 2015.
41. Colloquium at the Department of Physics, University of Vermont, Oct. 2014.

42. Air Force Young Investigator Reunion Workshop, Arlington, VA, June 2014.
43. SPIE-OPTICS, Spintronics Conference, San Diego, CA, Aug. 2014.
44. Colloquium at the Department of Physics, James Madison Univ., Virginia Feb. 2013.
45. Naval Research Laboratory, Washington DC, July 15, 2013.
46. Institute of Solid-State Physics, Univ. of Tokyo, Kashiwa, Japan. May 21st, 2012.
47. SPIE-OPTICS, Spintronics, San Diego, CA, August 16th, 2012.
48. Terahertz Workshop at the Jefferson Lab, July 11, 2011.
49. Seminar at the Ecole Polytechnique, France, November 15, 2011.
50. Seminar at the University of Exeter, England, November 28th, 2011.
51. Seminar at the University of Surrey, England, November 30th, 2011.
52. Seminar at the Imperial College, England, Dec. 1st, 2011.
53. Spintronics III, SPIE: Optics and Photonics, San Diego, August 2010.
54. SPIE, Photonic West Conference, San Francisco, Jan. 2010.
55. Colloquium speaker, University of Nebraska, Nov. 20th, 2008.
56. Invited speaker at the JLAB Free Electron User meetings, May 16th, 2007.
57. Condensed Matter Seminar, Physics Department, Univ. of Virginia, October 11th, 2007.
58. Seminar at the Material Science Department at Virginia Tech, Dec 2006.
59. Condensed seminar at the Physics Department, The University of Florida, October 10th, 2005.
60. Invited speaker at the APS March meeting 2005.
61. Colloquium Speaker at the Wayne State University, Detroit, MI, Feb. 10th, 2004.
62. Colloquium Speaker at the Washington State University, Pullman, WA, Feb. 12th, 2004.
63. Colloquium Speaker at the College of William & Marry, Williamsburg, VA, Feb. 16th, 2004.
64. Colloquium Speaker at RPI, Troy, NY, March 5th, 2004.
65. Invited speaker in the 11th conference on narrow gap semiconductors, Buffalo, NY, June 19th, 2003.
66. Colloquium Speaker at the University of Oklahoma, April 4th, 2002.
67. Colloquium Speaker at JILA, Boulder, Colorado, Jan. 28th, 2003.
68. Invited Speaker of the Optical Society of America Annual Meeting, Orlando, Florida, Oct. 3rd, 2002.