MADALINA I. FURIS, Ph.D.

University of Vermont
Professor & Materials Science Program Director
Department of Physics, 82 University Place Burlington, VT, 05405
phone: (802)-656-5177, fax: (802) 656-0817 e-mail: Madalina.Furis@uvm.edu
Mobile: (716)-903-5741, private email: mailto:madalinafuris@gmail.com

EDUCATION:

University of Buffalo, SUNY, Buffalo, NY
Ph.D., Physics 09/97 - 02/04
University of Bucharest, Bucharest, Romania
M.S., Semiconductor Physics 09/96 - 09/97
University of Bucharest, Bucharest, Romania
B.S., Solid State Physics 09/91 - 09/96

EXPERIENCE:

University of Vermont

Director of Materials Science Program 10/13 - present

- Managed a PhD and MS graduate program of 20 faculty and 20 graduate students
- Project lead on a $0.5 million Tip-Enhanced Raman Spectroscopy instrument acquisition and user facility development project funded by the NSF -MRI program (start date 09/01/2019)
- Project lead on multi-investigator NSF International Research Experience for Students (IRES) collaboration with Yamagata University (Project start date 09/01/2018)
- Project Lead on a large scale interdisciplinary international proposal in organic semiconductor excitonics targeting the NSF PIRE program
- Organized and mentored the MRS University Chapter, secured funding from MRS for organizing workshops and outreach activities
- Organized the Advanced Materials for Energy and Bioengineering Applications (AMEBA) and the Advanced Next Generation Energy Leadership (ANGEL) workshops at UVM
- Participated as Co-PI on large scale proposals submitted to NSF MRI programs and the DOE infrastructure programs.
- Led international collaboration in organic semiconductors between Yamagata University (Japan) and the UVM MATS program
- Served on a Physics TT faculty search committee and chaired the Biology Chair search committee
- Served in the new $100 m STEM building design committee, providing architects with specific experimental spaces design requirements.

University of Vermont

Professor, Physics Department 05/19 -present

- Project lead on a $0.5 million Tip-Enhanced Raman Spectroscopy instrument acquisition and user facility development project

Associate Professor, Physics Department 09/12 – 05/19

- UVM project lead on an FSU/UVM/UAB trilateral $1.5 million equipment development grant (NSF-MRI) for the construction of a free-space optical spectroscopy infrastructure in the 25T Split-Coil Helix magnet

- Developed magnetic circular dichroism, time and polarization – resolved luminescence, fluorescence line narrowing experiments for the unique 25T Helix magnet during a 6-month sabbatical at the National High Magnetic Field Laboratory in Tallahassee, FL.
- Project lead on studies of magnetic exchange interactions in organic semiconductors alloys at low temperatures using magnetic circular dichroism techniques supported from the NSF CAREER program
- Project lead on spectroscopy experiments that probe coherent excitonic states in organic semiconductors supported by the NSF CAREER program
- Organized the weekly physics colloquium series since joining UVM in 2006.
- Served as co-PI and coordinated logistics for an NSF-REU project in complex materials
- Taught a variety of introductory and senior level physics courses including Solid State Physics, Physical Optics and flipped introductory physics for STEM majors
- Serves on the Graduate College Executive Committee starting Fall of 2018.
- Serves on the Academic Planning and Budget Committee starting Fall 2019

University of Vermont

Assistant Professor Physics Department 09/06 – 09/12

- Awarded funding from the NSF CAREER program for studies of excitonic states in organic semiconductors in 2011 (NSF DMR #1056589).
- Co-PI on an NSF - REU program on Complex materials awarded in 2011 (NSF-DMR #1062966).
- Project lead on an NSF MRI grant for the acquisition of a magneto-optical instrumentation system (NSF –DMR# 0821268)
- Investigated magnetic exchange interactions in organic semiconductors at low temperatures using magnetic circular dichroism techniques supported from the NSF CAREER program NSF –DMR# 0821268).
- Conducted spectroscopy experiments that probe delocalized excitonic states in organic semiconductors supported by the NSF CAREER program
- Co-organized the "*Optical Spectroscopy in the Florida Helix*" exploratory workshop hosted at the National High Magnetic Field Laboratory in Tallahassee Florida, Oct 1st 2009.
- Served on three consecutive TT faculty search committees
- Developed and streamlined an online nominations collection system for the Faculty governance elections.
- Organized the weekly physics colloquium series since joining UVM in 2006 until 2017.
- Implemented flipped courses in the introductory physics curriculum for STEM majors.

National High Magnetic Field Laboratory (NHMFL/MagLab-LANL)

Post-Doctoral Associate – Optics and Lasers Ops 03/04 - 08/06

- Mapped the exciton fine structure in CdSe colloidal nanocrystals through unique fluorescence line narrowing experiments in high magnetic fields (< 33T). (highly cited papers in PRB-RC, PRL and JPCB)
- Imaged spin currents in ferromagnet-semiconductor lateral spin transport devices using magneto-optical Kerr effect spectroscopy. (published in Science)
- Operated DC superconducting magnets, CW and ultrafast lasers.
- Co-authored a successful LDRD on spin-dependent phenomena in Mn:CdSe colloidal nanocrystals (PIs: S. A. Crooker & V. I. Klimov)

University of Buffalo, SUNY

Research Assistant 01/99 - 02/04

- Investigated continuous wave and ultrafast optical properties of GaN/AlN quantum well heterostructures and AlGaN epilayers (PI: A.N. Cartwright)
- Responsible for alignment and maintenance of the CAPEM ultrafast laser facility (Ti-sapphire oscillator, regenerative amplifier, OPAs)
- CW and time-resolved photoluminescence studies of GaP and InP nanoparticles grown by colloidal chemistry (a collaboration with the Institute for Lasers, Photonics, and Biophotonics at UB-PI P.N. Prasad).
- Market analysis and scientific evaluation of a laser spectrum analyzer system (a collaboration with the UB Technology Incubator and Imaging and Sensing Technologies, PI: A.N. Cartwright)
- Magneto-photoluminescence, reflection and transmission studies of ferromagnetic GaAs/Mn digital layers and Mn –doped GaAs epilayers grown by molecular beam epitaxy. (DARPA SpinS-Program- PI: Dr. Bruce D. McCombe)
- Magneto-photoluminescence and electroluminescence studies of recombination mechanisms in ZnMnSe/GaAs/AlGaAs Spin-LED's. (PI: Athos Petrou)
- Optically detected resonance experiments on diluted magnetic II-VI semiconductors: internal transitions of negatively charged excitons and spin flip transitions in CdTe and CdMnTe quantum wells.

University of Buffalo, SUNY

Teaching Assistant 09/97 - 01/99

Semiconix Design, Romanian Division

Device Physicist 07/96 - 08/97

SYNERGISTIC ACTIVITIES:

- Editorial Board Member of Scientific Reports since June 2017 (edited 8 papers to date)
- Ad-hoc reviewer for Physical Review Letters, Phys Rev B, Optical Materials and Physica E & Scientific Reports
- NHMFL Users Committee Chair since January 2017
- Member of the National High Magnetic Field (NHMFL) Users Committee and Users Executive Committee (2007-2010) and (2015-present)
- Ad-hoc proposal reviewer for the User Collaborative Proposal program of the National High Magnetic Field Lab since 2007
- Participated in outreach Nanodays activities at the Echo Center in Burlington VT
- Organized outreach activities with the MRS Chapter (Science Fair at Winooski Middle School)
- Member in the NSF-EPM proposal panel review (Spring 2017)
- Ad-hoc proposal reviewer for NSF –DMR division
- MRSEC NSF –site review panel member (Spring 2015)
- NSF-DMR-MRI proposal panel review member (Spring 2015)
- NSF-DMR CMP proposal review panel member (February 2015)
- Participated in the "Scientist in Residence" program at the Jericho Elementary School (Feb 2013)
- Prepared and delivered presentations entitled "So, you think you know what you'll do after graduation…" that offers career guidance and advice for physics and engineering students. Sept 2013
- *"Electronic and Photonics Materials and Devices"* proposal review panel member at NSF-ECCS (April 2011)
- *"Research in Undergraduate Institutions"* NSF-DMR/RUI proposal review panel member (DMR division-March 2011)

- Member of the National High Magnetic Field (NHMFL) Users Committee since Fall 2007 and Users Executive Committee since Fall 2008 u
- *"Spin Electronics"* NSF –ECCS proposal review panel member (March 2007).
- Organized and ran the Physics and Material Science Journal Club at UVM (Fall 2008/Spring 2009)
- Jumpstarted the Women in Physics Club at UVM (Fall 2008)

MEMBERSHIP IN THESIS COMMITTEES: Hua Zhang (PhD Materials Science -UVM), Konstantin Afanasyev (MS in Physics-UVM), Nathan Mahany (MS in Medicinal Chemistry-UVM), Songtao Wo (PhD Materials Science-UVM), Lan Zhou (PhD Materials Science –UVM), Lyndelle LeBruin (MS Chemistry-UVM), Benjamin Knight (MS Physics UVM), Ishviene Cour (PhD Material Science-UVM), Jacob Whalen Strothman (Honors Thesis, B. S. Physics- UVM), Amanda Graves (Chemistry, PhD), Abi Ruksznis (Geology BS 2013), Daniel Burrill (Physics, MS), Matthew Conger (PhD Chemistry –UVM), Daniel DePuccio (PhD Chemistry-UVM), Robert Tracy (PhD Chemistry UVM), Christine Bange (PhD Chemistry UVM), Daniel Burke (Honors' Thesis Chemistry) Ben Isenhart (Honors Thesis BS physics) Yang Li (PhD Materials Science) Jing Wan (PhD Materials Science)

CURRENT ADVISEES: Kim Ngan Hua (PhD Materials Science UVM), Libin Liang (PhD Materials Science -UVM), Katy Czar-Honors Thesis (UVM Physics major).

FORMER ADVISEES: Lane Manning (PhD 2016 Material Science-UVM- now at AVR Optics), Naveen Rawat (PhD 2015 Materials Science –UVM now assist. prof at Roorkee Institute of Tech., India), Zhenwen Pan (PhD 2012 Material Science –UVM currently with CGG), Margaret Sutton (BS Physics-UVM), Christopher Gordon Libby (BS Physics-UVM), Eli Kinigstein (BS Physics-UVM), Lane Manning (BS Physics -UVM- URECA awardee), Erik Horak (BS Physics/Chemistry-UVM- REU awardee, currently at U. Wisconsin Maddison), Roy Anderson (BS Physics –UVM- REU awardee), Lauren Paladino (BS Physics-Univ. of South Florida REU awardee), Jacob Whalen Strothman (B. S. Physics- UVM co-advised with K. Chu now at Rice Univ.), Cody Lamarche (BS Physics –UVM-Honors College Summer Research and REU awardee now at Cornell Univ.), Matt DiMario (BS Physics -UVM now at University of New Mexico), Alice Perrin (BS Physics- College of William and Mary REU awardee now at Carnegie Mellon), Nick Gould (Cornell University REU awardee), Derrick Butler (BS Physics-UVM), Victoria Ainsworth (BS Physics-UVM now at UMass Amherst- Medical Physics).

PUBLICATIONS

Book Chapters:

"*Quantum Dot Devices*", M. Furis and A. N. Cartwright, in *Encyclopedia of Optical Engineering*, Marcel Dekker Inc., New York, pp. 2188-2196 (2003).

Peer –Reviewed Journals: (Google Scholar h-index 18, 1728 citations; Web of Science h-index 15, 1096 citations)

1. "*Concerted Photoluminescence of Electrochemically Self-Assembled CuSCN/Stilbazolium Dye Hybrid Thin Films*" Uda, K. Tsuda, Y., Okada, S., Yamakado, R., Sun, L., Suzuri, Y., White, M. S., Furis, M. Stadler, P., Dimitriev, O., ACS Omega **4**, 4056-4063 (2019).
2. "*Photoluminescent Property of Electrochemically Self-Assembled CuSCN/Dye Hybrid Thin Films*" Uda, K. Tsuda, Y., Okada, S., Yamakado, R., Sun, L., Suzuri, Y., White, M. S., Furis, M. Stadler, P., Dimitriev, O., ECS Transactions **88**, 323-333 (2018)
3. "*Photoconductive Properties of dibenzotetrathisfulvalene-tetracyanoquinodimethane nanocrystals prepared by the reprecipitation method*" M. Takeda, K. Hojo, K. Umemoto, M. C. Sharber, P. Stadler, C. Yumusak, N.

S. Saricifici, M. S. White, M. Furis, T. Yoshida, J. Matsui, and A. Masuhara, accepted for publication in Journal of Nanoscience and Nanotechnology

4. "*Exciton Delocalization in $H_2OBPc_{1-x}MOBPc_x$ (M = Co, Cu, Ni, Mn) Crystalline Thin Film Organic Alloys",* L. W. Manning, N. Rawat, C. Lamarche, R. Waterman, R. L. Headrick, M. Furis, J. Phys. Chem. C **120,** 11966 (2016) (impact factor 4.7)
5. "*Spin Exchange Interaction in Substituted Copper Phthalocyanine Crystalline Thin Films*", N. Rawat, Z. Pan, C. J. Lamarche, A. Wetherby, R. Waterman, T. Tokumoto, J. G. Cherian, R. L. Headrick, S. A. McGill and M. Furis, Sci. Rep. **5,** 15536 (2015). (impact factor 4.8)
6. "*Polarization- Resolved Spectroscopy Imaging of Grain Boundaries and Optical Excitations in Crystalline Organic Thin Films*", Z. Pan, N. Rawat, I. Cour, L. W. Manning, R. L. Headrick and M. Furis, Nat. Commun. **6**, 8201 (2015) (impact factor 13)
7. "*Macroscopic Molecular Ordering and Exciton Delocalization in Crystalline Phthalocyanine Thin Films*", N. Rawat, Z. Pan, L. W. Manning, C. Lamarche, I. Cour, R. Waterman, R. L. Headrick, A. Woll and M. Furis, J. Phys. Chem. Lett. **6,** 1834-1840 (2015) (impact factor 8.3)
8. "*Selective Orientation of Discotic Films by Interface Nucleation*", I. Cour*, Z. Pan*, L. T. Lebruin*, M. A. Case, M. Furis and R. L. Headrick, Organic Electronics **13**, 419 (2012). (impact factor 3.4)
9. **"***Magnetic Circular Dichroism (MCD) in the Split Magnet: Bridging Quantum Chemistry to Solid State Physics*" (invited cover story) Z. Pan, N. Rawat, C. Lamarche. T. Tokumoto, D. Semenov, M. Furis and S. McGill Mag Lab Reports **18**, 14-16 (2011).
10. "*Radiative lifetimes and orbital symmetry of electronic energy levels of CdS nanocrystals: Size dependence",* B. Yang, J. E. Schneeloch, Z. Pan, M. Furis and M. Achermann, Phys. Rev. B **81**, 073401 (2010). factor 3.7)
11. "*Anomalous Circular Polarization of Photoluminescence Spectra of Individual CdSe Nanocrystals in an Applied Magnetic Field*" H. Htoon, S. A. Crooker, M. Furis, S. Jeong, Al. L. Efros, and V. I. Klimov, Phys Rev. Lett **102**, 017402 (2009). (impact factor 7.8)
12. "*Linearly Polarized 'Fine Structure'of the Bright Exciton State in Individual CdSe Nanocrystal Quantum Dots"* H. Htoon, M. Furis, S. A. Crooker, S. Jeong, and V. I. Klimov Phys. Rev B **77**, 035328 (2008). (impact factor 3.7)
13. "*Local Hanle-effect studies of spin drift and diffusion in n: GaAs epilayers and spintransport devices" (invited)* M. Furis, D. L. Smith, S. Kos, E. S. Garlid, K. S. M. Reddy, C. J. Palmstrøm, P. A. Crowell, and S. A. Crooker, New J. Phys. **9**, 347 (2007). (impact factor 3.6)
14. "*Optical and electrical spin injection and spin transport in hybrid Fe/GaAs devices",* S. A. Crooker, M. Furis, X. Lou, P. A. Crowell, D. L. Smith, C. Adelmann, and C. J. Palmstrøm, J. Appl. Phys. **101**, 081716 (2007). (impact factor 2.1)
15. "*Bias-Dependent Electron Spin Lifetimes in n-GaAs and the Role of Donor Impact Ionization",* M. Furis, D. L. Smith, S. A. Crooker, and J. L. Reno, Appl. Phys. Lett. **89**, 102102 (2006). (impact factor 3.3)
16. "*Bright Exciton Fine- Structure and Anisotropic Exchange in CdSe Nanocrystal Quantum Dots",* M. Furis, S. A. Crooker, T. D. Barrick, M. Petruska, V. I. Klimov, Phys. Rev. B **73**, 241313 (2006). (impact factor 3.7)
17. "*Electrical Detection of Spin Accumulation at a Ferromagnet-Semiconductor Interface",* X. Lou, C. Adelmann, M. Furis, S. A. Crooker, C. J. Palmstrøm, and P. A. Crowell, Phys. Rev. Lett. **96**, 176603 (2006). (impact factor 7.8)
18. "*Excitons in Carbon Nanotubes with Broken Time-Reversal Symmetry",* S. Zaric, G. N. Ostojic, J. Shaver, J. Kono, O. Portugall, P. H. Frings, G. L. J. A. Rikken, M. Furis, S.A. Crooker, X. Wei, V. C. Moore, R. H. Hauge, and R.E. Smalley, Phys. Rev. Lett. **96**, 016406 (2006). (impact factor 7.8)
19. "*Imaging Spin Injection and Accumulation in Lateral Ferromagnet/Semiconductor Devices",* S. A. Crooker, M. Furis, X. Lou, C. Adelmann, D. L. Smith, C. J. Palmstrøm, and P. A. Crowell, Science **309**, pp.2191-2195 (2005). (impact factor 38)

20. "*Magneto-Optical Spectroscopy of Carbon Nanotubes*", S. Zaric, G. N. Ostojic, J. Shaver, J. Kono, X. Wei, M. Furis, S. A. Crooker, O. Portugall, P. H. Frings, G. L. J. A. Rikken, V. C. Moore, R. H. Hauge, and R. E. Smalley, Physica E **29**, pp. 469-474 (2005). (impact factor 2)
21. "*Time and Polarization-Resolved Optical Spectroscopy of Colloidal CdSe Nanocrystal Quantum Dots in High Magnetic Fields*", M. Furis, J. Hollingsworth, V. I. Klimov, and S. A. Crooker, J. Phys. Chem. B **109**, pp.15332-15338 (2005). (impact factor 3.1)
22. "*Mono-dispersed InP Quantum Dots Prepared By Precursor Based Colloidal Chemistry in a Non-coordinating Solvent*", D. W. Lucey, D. J. MacRae, M. Furis, Y. Sahoo, A. N. Cartwright, P. N. Prasad, Chem. Mat. **17**, pp. 3754-3762 (2005). (impact factor 9.2)
23. "*Growth of InN on Ge Substrates by Molecular Beam Epitaxy*", E. Trybus, G. Namkoong, W. Henderson, W. A. Doolittle, R. Liu, J. Mei, F. Ponce, M. Cheung, F. Chen, M. Furis, and A. Cartwright, J. Cryst. Growth, **279**, pp. 311-315 (2005). (impact factor 1.6)
24. "*Spectral and Temporal Evolution of Recombination from Multiple Excitation States in Modulation Doped AlGaN/GaN Multiple Quantum Well Heterostructures*", M. Furis, A. N. Cartwright, E. L. Waldron, and E. F. Schubert, Appl. Phys. Lett. 86, pp.162103 (2005). (impact factor 3.3)
25. "*Exciton Spin States in Nanocrystal Quantum Dots Revealed by Spin-Polarized Resonant Photoluminescence and Raman Spectroscopy*", M. Furis, T. Barrick, S. A. Crooker, M. Petruska, V. Klimov, and Al. L. Efros, Intl. J. Mod. Phys B 18, pp. 3769-3774 (2004). (impact factor 0.6)
26. "*Room Temperature UV Emission from GaN/AlN Multiple Quantum Well Heterostructures*", M. Furis, A. N. Cartwright, H. Wu, and W. J. Schaff, Appl. Phys. Lett. **83**, pp.3486-3488 (2003). (impact factor 3.3)
27. "*Many Body Effects and Internal Transitions of Confined Excitons in GaAs and CdTe Quantum Wells*", C. J. Meining, H. A. Nickel, A. B. Dzyubenko, A. Petrou, M. Furis, D. R. Yakovlev, and B. D. McCombe, Solid State Comm. **127,** pp. 821-827 (2003). (impact factor 1.6)
28. "*Surfactant-Imposed Interference in the Optical Characterization of GaP Nanocrystals*", M. Furis, A. N. Cartwright, Y. Sahoo, D. J. MacRae, and P. N. Prasad, J. Phys. Chem B **107**, pp.11622-11625 (2003). (impact factor 3.1)
29. "*Optical phonon spectra of GaP nanoparticles*", F. S. Manciu, Y. Sahoo, D. J. MacRae, M. Furis, B. D. McCombe, and P. N. Prasad, Appl. Phys. Lett. **82**, pp. 4059-4061 (2003). (impact factor 3.1)
30. **"***Ultrafast Differential Transmission Spectroscopy of Excitonic Transitions in InGaN/GaN Multiple Quantum Wells*", F. Chen, M. C. Cheung, P. M. Sweeney, W. D. Kirkey, M. Furis, and A. N. Cartwright, J. Appl. Phys. **93**, pp. 4933-3935 (2003). (impact factor 2.1)
31. **"***Excitonic field screening and bleaching in InGaN/GaN multiple quantum wells***",** F. Chen, W. D. Kirkey, M. Furis, M. C. Cheung, and A. N. Cartwright, Solid State Comm. **125**, pp.617-622 (2003). (impact factor 1.5)
32. "*Si Doping of High-Al-Mole Fraction $Al_xGa_{1-x}N$ Alloys with RF Plasma-Induced Molecular Beam Epitaxy*", J. Hwang, W. J. Schaff, L. F. Eastman, S. T. Bradley, L. J. Brillson, D. C. Look, J. Wu, W. Walukiewicz, M. Furis, and A. N. Cartwright, Appl. Phys. Lett. **81**, pp.5192-5194 (2002). (impact factor 3.1)
33. "*Interaction of an Electron Gas with Photoexcited Electron-Hole Pairs in ModulationDoped GaAs and CdTe Quantum Wells*", H. A. Nickel, T. Yeo, C. J. Meining, D. R. Yakovlev, M. Furis, A. B. Dzyubenko, B. D. McCombe, and A. Petrou, Physica E **12**, pp.499-502 (2002). (impact factor 2)
34. "*Quantifying Electrical Spin Injection:Component-Resolved Electroluminescence from Spin- Polarized Light-Emitting Diodes*", B. T. Jonker, A. T. Hanbicki, Y. D. Park, G. Itskos, M. Furis, G. Kioseoglou, and A. Petrou, Appl. Phys. Lett. **79**, pp.3098-3100 (2001). (impact factor 3.1)
35. "*Electrical Spin Injection Across Air-Exposed Epitaxially Regrown Semiconductor Interfaces*", Y. D. Park, B. T. Jonker, B. R. Bennett, G. Itskos, M. Furis, G. Kioseoglou, and A. Petrou, Appl. Phys. Lett. **77**, pp.3989-3991 (2000). (impact factor 3.1)

Peer-Reviewed Conference Proceedings:

1. "*Tuning Exciton Delocalization in Organic Crystalline Thin Films*" K. N. Hua, L. W. Manning, N. Rawat, V. S. Ainsworth, L. Liang, M. Furis, *Proc. SPIE, Light Manipulating Organic Materials and Devices III*. **9939,** p. 993907 (2016).
2. *"Organic analogues of diluted magnetic semiconductors: bridging quantum chemistry to condensed matter physics" (invited)* M. Furis, N. Rawat, J.G. Cherian, A. Wetherby, R. Waterman, and S. McGill, *Proc. SPIE, Spintronics VIII*. **9551**: p. 95512I, (2015).
3. *"Tuning exchange interactions in organometallic semiconductors"* N. Rawat, L.W. Manning, K.-N. Hua, R.L. Headrick, J.G. Cherian, M.M. Bishop, S.A. McGill, and M.I. Furis Proc. SPIE, Spintronics VIII. **9551**: p. 95512R, (2015)
4. *"Spin-Polarized PL and Raman Spectroscopy of Nanocrystal Quantum Dots in High Magnetic Fields",* M. Furis, P. D. Robbins, T. Barrick, M. Petruska, V. I. Klimov, and S. A. Crooker, Proceedings of the 27th International Conference on the Physics of Semiconductors A **772,** pp.709-10 (2005).
5. *"Photoluminescence study of MBE grown InGaN with intentional indium segregation",* M. C. Cheung, G. Namkoong, F. Chen, M. Furis, H. E. Pudavar, A. N. Cartwright, W. A. Doolittle, International Workshop on Nitride Semiconductors (IWN 2004), Phys. Stat. Sol. C **7**, pp. 2779-82 (2004). (5 citations)
6. *"Spectroscopy studies of InP nanocrystals synthesized through a fast reaction"* M. Furis, D. J. MacRae, D. W. Lucey, Y. Sahoo, A. N. Cartwright, P. N. Prasad, Mater. Res. Soc. Symposium Proceedings **789**, 89-94 (2004) (2 citations)
7. *"Time-Resolved Photoluminescence of Si-Doped High Al Mole Fraction AlGaN Epilayers Grown by Plasma-Enhanced Molecular Beam Epitaxy"*, M. Furis, A. N. Cartwright, J. Hwang, and W. J. Schaff, MRS Fall Meeting Conference Proceedings **798**, pp. 667-672, Dec 1st-5th Boston, Massachusetts (2003).
8. *"Emission Mechanisms in UV Emitting GaN/AlN Multiple Quantum Well Structures",* M. Furis, A. N. Cartwright, H. Wu, W. J. Schaff, MRS Fall Meeting Conference Proceedings **798**, pp. 35-40, Dec 1st-5th Boston, Massachusetts (2003).
9. *"Spectroscopy Studies of InP Nanocrystals Synthesized Through a Fast Reaction",* M. Furis, D. J. MacRae, D. W. Lucey, Y. Sahoo, A. N. Cartwright, and P. N. Prasad, MRS Fall Meeting Conference Proceedings **789**, pp. 89-94 Dec 1st-5th Boston, Massachusetts (2003).
10. *"Ultrafast Dynamics in Nanostructured Materials",* A. N. Cartwright, W. D. Kirkey, M. Furis, X. G. Li, Y. Q. He, D. J. MacRae, Y. Sahoo, M. T. Swihart, and P. N. Prasad, Proceedings of the SPIE-The International Society for Optical Engineering **5222**, pp.134139, Nanocrystals and Organic and Hybrid Nanomaterials, Aug 4-8 2003, San Diego, California.
11. "*Room-Temperature Time-Resolved Photoluminescence of UV Emission from GaN/AlN Quantum Wells*", M. Furis, F. Chen, A. N. Cartwright, H. Wu, and W. J. Schaff, MRS Fall Meeting Conference Proceedings **743** pp.689-694, Dec 2nd-6th Boston, Massachusetts (2002).
12. "*Time-Resolved Optical Studies of InGaN Layers Grown on LGO*", M. Cheung, F. Chen, M. Furis, A. N. Cartwright, G. Namkoong, MRS Fall Meeting Conference Proceedings **743** pp.659-664, Dec 2nd-6th Boston, Massachusetts (2002).
13. "*Femtosecond Pump and Probe Spectroscopy of Optical Nonlinearities in an InGaN/GaN Heterostructure*", F. Chen, P. M. Sweeney, W. D. Kirkey, M. Furis, and A. N. Cartwright, 2002 MRS Fall Meeting Conference Proceedings **L11.8**, Dec 2nd-6th Boston, Massachusetts (2002).
14. "*Molecular Beam Epitaxial Growth of AlN/GaN Multiple Quantum Wells*", H. Wu, W. J. Schaff, G. Koley, K. A. Mkhoyan, J. Silcox, M. Furis, A. N. Cartwright, W. Henderson, W. A. Doolittle, and A. V. Osinsky, MRS Fall Meeting Conference Proceedings **743** pp.375-80, Dec 2nd-6th Boston, Massachusetts (2002).
15. "*Internal Transitions of Charged Magneto- Excitons in II-VI Quantum Well Heterostructures*", C. J. Meining, M. Furis, H. A. Nickel, D. R. Yakovlev, W. Ossau, A. Petrou, and B. D. McCombe, The 25th International Conference on the Physics of Semiconductors ICPS25 **H086**, Sept. 17th-22nd, Osaka, Japan (2000).

Invited Talks

1. "*Magnetic Interactions and Exciton Coherence in Small Molecule Semiconductors*", Spintronics XI, SPIE - Optics & Photonics, Nanoscience & Engineering, San Diego, CA, Aug 2018
2. "*Organic Magnetic Semiconductors: Bridging Quantum Chemistry to Condensed Matter Physics",* The 2nd International Workshop on Magnetic Excitations in Semiconductors: Bridges to the Next Decade, July 13-15th, Buffalo, NY.
3. "*Exciton coherence and Magnetic Exchange in Crystalline Organic Semiconductors*", SUNY Buffalo, EE Dept Seminar, March 2018.
4. "*Magnetic Exchange in Crystalline Organic Semiconductors*", Virginia Tech, Dept Colloquium, April 2017
5. "*Excitons in Small Molecule Thin Films",* Union College, Dept Colloquium, April 2017
6. "*Exciton Coherence in Organic Semiconductors Crystalline Thin Films"* University of New Hampshire, Materials Science Workshop, June 2017
7. "*Exciton Delocalization and Magnetic Interactions in Crystalline Organic Thin Films"* University of Crete, Greece, Materials Science Colloquium, May 2016.
8. "*Exciton Delocalization and Magnetic Interactions in Crystalline Organic Thin Films"* University of Michigan, Ann Arbor, MI, Condensed Matter Physics Seminar Series, March 2016
9. "*Organic Magnetic Semiconductors: Bridging Quantum Chemistry to Condensed Matter Physics* University of Florida, Physics Dept. Colloquium January 2016
10. "*Exciton Delocalization in Small Molecule Organic Semiconductors"* The 2nd ANGEL (Advanced Next Generation Energy Leadership) Symposium, Yamagata University, Yonezawa, Japan Nov 2015
11. "*Organic analogues of diluted magnetic semiconductors: bridging quantum chemistry to condensed matter physics" (invited)* M. Furis, N. Rawat, J.G. Cherian, A. Wetherby, R. Waterman, and S. McGill, Spintronics VIII, SPIE, San Diego CA, Aug 2015
12. "*Organic Magnetic Semiconductors: Bridging Quantum Chemistry to Condensed Matter Physics"* Smith College Physics, Dept. Colloquium, April 2015
13. "*Exploration of Excitonic States in Mixed Organo-Metallic Semiconducting Thin Films"* L. W. Manning, N. Rawat, R. L. Headrick, A. Woll, and M. Furis (Selected Hot Topic presentation) Gordon Research Conference on Conductivity and Magnetism in Molecular Materials: Understanding and Controlling Emergent Properties, Bates College, Maine, Aug 3rd-8th , 2014
14. "*Organic Analogues of Diluted Magnetic Semiconductors: Bridging Quantum Chemistry to Condensed Matter Physics"* University of Alabama at Birmingham (UAB) Physics Dept. Colloquium April 2014
15. "*Magneto-Spectroscopy of Organic Crystalline Semiconductors: Bridging Quantum Chemistry to Condensed Matter Physics",* Physics Department Colloquium, Clemson University, September 2013
16. "*Exploring the Origins of Magnetism with Light",* Condensed Matter Seminar, University of Vermont, March 2012
17. "*Optical Spectroscopy in High Magnetic Fields: Bridging Quantum Chemistry to Solid State Physics"* Physics Department Colloquium, University of Vermont, September 2011
18. "*Challenges of Optical Spectroscopy in High Magnetic Fields,* Workshop on Experimental Techniques in High Magnetic Fields, Los Alamos, NM, October 2010
19. "*Polarization –Resolved Spectroscopy Investigation of Molecular Discotic Structures*", Physics Department Seminar, Brown University, April 2010
20. "*Electronic States in Discotic Semiconductors"* Physics Department Seminar, Boston College, April 2010
21. "*Magneto-Optical Microscopy of Spin-Polarized Electrons Dynamics in Semiconductor Nanostructures and Spin-Transport Devices*" Physics Department Seminar, Clark University Nov 2008
22. "*Magneto-Optical Kerr Effect (MOKE) Studies of Spin Drift and Diffusion in n:GaAs Epilayers and Spin-Transport Devices",* Physics Department Seminar, University of Massachusetts at Amherst, May 2008

23. "*Magneto-Optical Kerr Effect (MOKE) Spectroscopy of Spin-Polarized Electron Transport in Semiconductors*", Magnetic Excitations in Semiconductors Conference, March 6th-9th 2008, Buffalo, New York, USA.
24. "*Magneto-Optical Kerr Effect (MOKE) Studies of Spin Drift and Diffusion in n:GaAs Epilayers and Spin-Transport Devices*", Physics and Engineering Joint Department Seminar, McGill University October 2007
25. "*Imaging the Injection, Accumulation and Flow of Spin- Polarized Electrons in Lateral Ferromagnet/Semiconductor Structures*", M. Furis, MORIS2006 Workshop on Thermal and Optical Magnetic Materials and Devices, Jun 6th-8th 2006, Chiba, Japan.
26. "*Probing the Bright Exciton Fine Structure and Anisotropy Exchange in CdSe Colloidal Nanocrystal Quantum Dots*" Physics Department Seminar Texas A&M, April 2006
27. "*Probing the Bright Exciton Fine Structure and Anisotropy Exchange in CdSe Colloidal Nanocrystal Quantum Dots*"- Physics Department Seminar, University of Vermont March 2006
28. "*Probing the Bright Exciton Fine Structure and Anisotropy Exchange in CdSe Colloidal Nanocrystal Quantum Dots*"- Physics Department Seminar, Ohio University, March 2006
29. *Probing the Bright Exciton Fine Structure and Anisotropy Exchange in CdSe Colloidal Nanocrystal Quantum Dots*"- Physics Department Seminar, Rochester Institute of Technology, February 2006
30. *Probing the Bright Exciton Fine Structure and Anisotropy Exchange in CdSe Colloidal Nanocrystal Quantum Dots*- Physics Department Seminar Georgia State University, February 2006
31. *Probing the Bright Exciton Fine Structure and Anisotropy Exchange in CdSe Colloidal Nanocrystal Quantum Dots*"-Physics Department Seminar Boise University, February 2006
32. "*Probing the Bright Exciton Fine Structure and Anisotropy Exchange in CdSe Colloidal Nanocrystal Quantum Dots*" –School of Optical Sciences Seminar, University of Arizona, December 2005.
33. "*Probing the Bright Exciton Fine Structure and Anisotropy Exchange in CdSe Colloidal Nanocrystal Quantum Dots*"- Physics Department Seminar, University of South Carolina, December 2005
34. "*Probing Exciton Spin States in CdSe Colloidal Nanocrystals: Resonant Photoluminescence Spectroscopy Experiments at B < 33 T*", National High Magnetic Field Laboratory seminar, Florida State University. October 2005
35. "*Exciton Spin States in Nanocrystal Quantum Dots Revealed by Spin-Polarized Resonant Photoluminescence and Raman Spectroscopy*", M. Furis, T. Barrick, S. A. Crooker, M. Petruska, V. Klimov, and Al. L. Efros, 16th International Conference on High Magnetic Fields in Semiconductor Physics, SEMIMAG16, Tallahassee, Florida, Aug 2nd-6th 2004
36. "*Photolumiescence Studies of CdSe Colloidal Nanocrystals in High Magnetic Fields*", M. Furis, S. A. Crooker, M. Petruska, J. Hollingsworth, and V. I. Klimov, Physical Phenomena in High Magnetic Fields V, PPHMF-V, Tallahassee, Florida, Aug. 4th-9th 2005.

Contributed Talks (Peer-Reviewed)

1. "*Exciton Coherence in 1D Crystalline Organic Semiconductors*" K. N. Hua, L. Manning, N. Rawat, V. Ainsworth, L. Liang and M. Furis, The 2nd Advanced Materials for Energy and BioEngineering Applications AMEBA II, Burlington, VT, Dec 4th, 2017
2. "*Exciton Coherence in Organic Crystalline Thin Films*" K. N. Hua, L. Manning, N. Rawat, V. Ainsworth, L. Liang, M. Arnold, J. Matsui, K. Nakayama and M. Furis, The 3rd ANGEL (Advanced Next Generation Energy Leadership) Symposium, Yamagata University, Yonezawa, Japan Dec 2016
3. "*Organic Analogues of Diluted Magnetic Semiconductors: Bridging Quantum Chemistry to Condensed Matter Physics*" Gordon Research Conference on Conductivity & Magnetism in Molecular Materials Aug 14th-19th Mount Holyoke, MA, 2016.
4. "*Tuning Exciton Delocalization in Organic Crystalline Thin Films*" K. N. Hua, L. W. Manning, N. Rawat, V. S. Ainsworth, L. Liang, M. Furis, *SPIE, Light Manipulating Organic Materials and Devices III*., San Diego, CA, Aug 2016.

5. *"Magneto-Optical Studies of π-d Exchange in Organic Analogues of Diluted Magnetic Semiconductors"* M. Furis, N. Rawat, K. Hua, L. W. Manning, R Waterman, Conference of Physical Phenomena in High Magnetic Fields PPHMF-8, Tallahassee, FL, Jan 2016.
6. *"Tuning exchange interactions in organometallic semiconductors"* N. Rawat, L.W. Manning, K.-N. Hua, R.L. Headrick, J.G. Cherian, M.M. Bishop, S.A. McGill, and M.I. Furis, Spintronics VIII SPIE, San Diego, CA, Aug. 2015.
7. *"Magnetic Exchange Interactions and Long-Range Ordering in Metal- Phthalocyanine Organic Semiconductors"* - N. Rawat, L. Manning, R. Waterman, R. L. Headrick, L. Kilanski, S. McGill, and M. Furis Gordon Research Conference on Conductivity and Magnetism in Molecular Materials: Understanding and Controlling Emergent Properties Bates College, Maine, Aug 3rd-8th 2014.
8. *"MCD of Crystalline Organic Semiconductors"* N. Rawat, Z. Pan, L. Manning, R. Waterman, S. McGill and M. Furis, The 16th Conference on Modulated Semiconductors Structures, Worclaw, Poland, Jun 30th-Jul 7th, 2013.
9. *"Imaging Excitons in Crystalline Organic Semiconductors",* Z. Pan, C. Lamarche N. Rawat, L. Manning, I. Cour, R. L. Headrick and M. Furis, The 15th Conference on Modulated Semiconductors Structures (MSS-2011) Tallahassee, Florida, 2011.
10. *"Bright Exciton Fine Structure Observed in Single CdSe Nanocrystal Quantum Dots",* M. Furis, S. A. Crooker, H. Htoon, M. A. Petruska, and V. I. Klimov, International Conference on the Physics of Semiconductors (ICPS), Viena, Austria, July 22nd-27th, 2006.
11. *"Probing Exciton Spin States in CdSe Nanocrystals Using Resonant Photoluminescence",* M. Furis, T. Barrick, P. D. Robbins, S. A. Crooker, M.Petruska, J, Hollingsworth, and V. I. Klimov, Excited State Processes in Nano- and Bio-Materials, Santa Fe, New Mexico, Aug 8th-11th , 2005.
12. *"Photolumiescence Studies of CdSe Colloidal Nanocrystals in High Magnetic Fields",* M. Furis, S. A. Crooker, M. Petruska, J. Hollingsworth, and V. I. Klimov, Physical Phenomena in High Magnetic Fields V, PPHMF-V, Tallahassee, Florida, Aug. 4th-9th, 2005.
13. "*Insights into Electrical Spin Injection from Spin-LED Structures*", B. T. Jonker, Y. D. Park, A. Hanbicki, B. R. Bennett, G. Itskos, M. Furis, G. Kioseoglou, and A. Petrou, The 200th Meeting of the Electrochemical Society and the 52nd Annual Meeting of the International Society of Electrochemistry **no.1251**, San Francisco, California, Sept. 2nd-7th, 2001.
14. "*Interaction of an Electron Gas with Photoexcited Electron-Hole Pairs in ModulationDoped GaAs and CdTe Quantum Wells*", H. A. Nickel, T. Yeo, C. J. Meining, A. B. Dzyubenko, M. Furis, D. R. Yakovlev, B. D. McCombe, and A. Petrou, The 14th International Conference on the Electronic Properties of Two Dimensional Systems **MB.2**, Prague, Czech Republic, Jul. 30th-Aug. 3rd, 2001.
15. "*Growth and Characterization of Digital Alloys of GaAs/MnGa and GaInAs/MnGa*", X. Chen, K. P. Mooney, T. Yeo, M. Furis, L. Guo, H. Luo, B. D. McCombe, A. Petrou, S. Lee, Y. Sasaki, X. Liu, and J. K. Furdyna, The International Conference on the Physics and Applications of Spin-Related Phenomena in Semiconductors PASPS2000 **K2**, Sendai, Japan, Sept. 13-15th, 2000.
16. "*Transmission Electron Microscopy Studies of ZnMnSe/AlGaAs/GaAs Spin-LEDs*", R. M. Stroud, Y. D. Park, B. T. Jonker, B. R. Bennett, G. Itskos, M. Furis, G. Kioseoglou, and A. Petrou, 2001MRS Spring Meeting **T6.6**, San Francisco, California, April 16-20th, 2001.
17. "*Efficient Electrical Spin Injection and Realization of Spin-LED*", B. T. Jonker, Y. D. Park, A. Hanbicki, R. M. Stroud, B. R. Bennett, G. Itskos, M. Furis, G. Kioseoglou, and A. Petrou, 2001 MRS Spring Meeting **T6.3**, San Francisco, California, April 16-20th, 2001.
18. "*Growth and Characterization of Digital Alloys and Heterostructures of GaAs/Mn*", X. Chen, K. P. Mooney, T. Yeo, M. Furis, H. Luo, B. D. McCombe, and A. Petrou, 2000 MRS Fall Meeting **I1.3**, , Boston, Massachusetts, Nov. 27th – Dec. 1st, 2000.

Note: Complete list of APS non-peer-reviewed Oral Presentations (26 total) available upon request

Poster Presentations:

Material Research Society Meetings (peer-reviewed)

1. "*Exploration of Excitonic States in Mixed Organo-Metallic Semiconducting Thin Films*" L. W. Manning, N. Rawat, R. Headrick, R. Waterman, M. Furis, A.Woll MRS Fall Meeting, Boston, Massachusetts, Nov.30th-Dec.4th, 2015.
2. "*Optical Spectroscopy of Electronic States in Crystalline Organic Thin Films*" Z. Pan, I. Cour, C. Lamarche, M. Sutton, R. L. Headrick and M. Furis MRS Fall Meeting, Boston Massachusetts Nov.30th-Dec.4th, 2010.
3. "*Interface Effects on the Molecular Alignment of Discotic Phthalocyanine Films*" I. Cour, Z. Pan, L. T. Lebruin, M. Case, M. Furis and R. L. Headrick MRS Fall Meeting, Nov.30th-Dec.4th, Boston, Massachusetts, (2010)
4. "*Effect of Different II-VI Shells on the Photoluminescence of InP Nanoparticles*", M. Furis, W. D. Kirkey, G. Singh, A. N. Cartwright, D. W. Lucey, and P. N. Prasad, MRS Fall Meeting Conference Boston, Massachusetts, Dec. 1st-5th, 2004.
5. "*Time-Resolved Photoluminescence of Si-Doped High Al Mole Fraction AlGaN Epilayers Grown by Plasma-Enhanced Molecular Beam Epitaxy*", M. Furis, A. N. Cartwright, J. Hwang, and W. J. Schaff, MRS Fall Meeting, Boston, Massachusetts, Dec. 1st-5th, 2003.
6. "*Emission Mechanisms in UV Emitting GaN/AlN Multiple Quantum Well Structures*", M. Furis, A. N. Cartwright, H. Wu, W. J. Schaff, MRS Fall Meeting Conference, Boston, Massachusetts, Dec. 1st-5th, 2003.
7. "*Spectroscopy Studies of InP Nanocrystals Synthesized Through a Fast Reaction*", M. Furis, D. J. MacRae, D. W. Lucey, Y. Sahoo, A. N. Cartwright, and P. N. Prasad, MRS Fall Meeting Conference, Dec 1st-5th Boston, Massachusetts (2003).
8. "*Room-Temperature Time-Resolved Photoluminescence of UV Emission from GaN/AlN Quantum Wells*", M. Furis, F. Chen, A. N. Cartwright, H. Wu, and W. J. Schaff, 2002 MRS Fall Meeting Conference Proceedings **L11.14**, Dec 2nd-6th Boston, Massachusetts (2002).
9. "*Time-Resolved Optical Studies of InGaN Layers Grown on LGO*", M. Cheung, F. Chen, M. Furis, A. N. Cartwright, G. Namkoong, W. A. Doolittle, and A. Brown, 2002 MRS Fall Meeting Conference Proceedings **L11.6**, Dec 2nd-6th Boston, Massachusetts (2002).
10. "*Femtosecond Pump and Probe Spectroscopy of Optical Nonlinearities in an InGaN/GaN Heterostructure*", F. Chen, P. M. Sweeney, W. D. Kirkey, M. Furis, and A. N. Cartwright, 2002 MRS Fall Meeting Conference Proceedings **L11.8**, Dec 2nd-6th Boston, Massachusetts (2002).
11. "*Molecular Beam Epitaxial Growth of AlN/GaN Multiple Quantum Wells*", H. Wu, W. J. Schaff, G. Koley, K. A. Mkhoyan, J. Silcox, M. Furis, A. N. Cartwright, W. Henderson, W. A. Doolittle, and A. V. Osinsky, 2002 MRS Fall Meeting Conference Proceedings **L6.2**, Dec 2nd-6th, Boston, Massachusetts (2002).

Other Peer- Reviewed Conferences

1. "*Organic Analogues of Diluted Magnetic Semiconductors*", M.Furis, 50 Years of Optical Orientation in Semiconductors: From the Original Discovery to New Horizons, École Normale Supérieure, Paris, France, Jun 18th-19th, 2018.
2. "*Linear Dichroism and Photoluminescence Imaging of Grain Boundary and Structure in Crystalline Organic thin Film*", L. Liang, K.-N. Hua, K. Czar, V. Ainsworth, N. Rawat, and M. Furis, The 2nd Advanced Materials for Energy and BioEngineering Applications AMEBA II, Burlington, VT, Dec 4th, 2017

3. "*Long- Lived Excitons and Molecular Reorientation in Crystalline Organic Semiconductors*" Z. Pan, L.W. Manning, I. Cour, R. L. Headrick and M. Furis, The 31st International Conference on the Physics of Semiconductors –ICPS2012, ETH-Zurich, Switzerland, Jul. 28th-Aug. 3rd, 2012.
4. "*Exploring Spin Exchange Mechanisms in Cu-Phthalocyanine Crystalline Thin Films*" Z. Pan, N. Rawat, C. Lamarche, T. Tokumoto, S. McGill and M. Furis, High Magnetic Fields in Semiconductor Physics Conference, HMF-20, Chamonix, France, Jul. 22nd-26th, 2012.
5. "*Relationship Between Molecular Alignment, Ordering and Charge Carrier Transport Properties of Discotic Phthalocyanines*" I. Cour, Z. Pan, L. T. Lebruin, M. Case, M. Furis, R. L. Headrick, Gordon Research Conference on Organic Electronics, Mount Holyoke College, Hadley, Massachusetts, Jul. 22nd-28th 2010.
6. "*Electronic States in Discotic Crystalline Phthalocyanine Thin Films*", Z. Pan, I Cour, M. Sutton, R. Headrick and M. Furis, Gordon Research Conference on Organic Electronics, Mount Holyoke College, Hadley, Massachusetts, Jul. 22nd-28th, 2010.
7. "*Magneto-Optical Kerr Effect (MOKE) Spectroscopy at the University of Vermont*" Z. Pan, L.Zhou, H.Zhou, R Headrick, H. Zeng and M. Furis, Magnetic Excitations in Semiconductors", Buffalo, New York, March 6th-9th, 2008.
8. "Exciton *Dynamics in Nanometer-Wide GaN/AlN Quantum Wells and Si:AlGaN Epilayers",* M Furis, A. N. Cartwright and W. J. Schaff, Multifunctional Nanomaterials and Nanodevices, Buffalo, New York, May18th-19th, 2007
9. "*Imaging Spin Injection and Spin Accumulation in Lateral Ferromagnet/Semiconductor Devices*", S. A. Crooker, M. Furis, X. Lou, C. Adelmann, D. L. Smith, C. J. Palmstrom, P. A. Crowell, Physical Phenomena in High Magnetic Fields V, PPHMF-V, Tallahassee, Florida, Aug. 4th-9th, 2005.
10. "*Optical and Transport Studies of GaAs Doped with Mn and GaAs/Mn Digital Alloys*", M. Furis, G. Comanescu, M. H. Na, A. Petrou, B. D. McCombe, H. Luo, Y. Sasaki, X. Liu, and J. K. Furdyna, The 1st International Conference and School on Spintronics and Quantum Information Technology SpinTech-I **no. 018**, Maui, Hawaii, May 13-18th, 2001.