

MICHAEL D. JOHNSON

CONTACT INFORMATION

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EDUCATION

B.S. Applied Mathematics University of Virginia

Ph.D. Physics University of Virginia

EMPLOYMENT

- 2011 – present Dean, College of Sciences, University of Central Florida
- 2009 – 2011 Senior Advisor, Academic Affairs, University of Central Florida
- 2005 – 2011 Associate Dean, College of Sciences, University of Central Florida
- 2004 – present Professor, Department of Physics, University of Central Florida
- 2004 – 2005 Associate Dean, College of Arts & Sciences, University of Central Florida
- 2004 Acting Chair, Department of Statistics & Actuarial Science, UCF
- 2002 – 2005 Assistant Dean, College of Arts & Sciences, University of Central Florida
- 1995 – 2004 Associate Professor, Department of Physics, University of Central Florida
- 1990 – 1995 Assistant Professor, Department of Physics, University of Central Florida
- 1988 – 1990 Postdoctoral research associate, Department of Physics, Indiana University.
- 1986 – 1988 Postdoctoral research associate, Department of Physics and Astronomy and Center for Computational Sciences, University of Kentucky.
- 1985 – 1986 Instructor, Department of Physics, University of Virginia
- 1979 – 1985 Teaching and research fellowships, University of Virginia

RESEARCH

My research is in theoretical condensed matter and mathematical physics. Most of my work has focused on electronic properties in highly correlated and nanoscale systems, including quantum dots in the fractional quantum Hall regime. This work included new developments in density functional theory to accurately handle electron interactions in strongly interacting system. I have also studied highly nonequilibrium electronic transport in mesoscopic systems. Other topics include the quantum statistical mechanics of integrable one-dimensional quantum systems, nonlinear optical properties of crystalline solids, fractional statistics, stochastic dynamics in financial markets (via a formal connection to the mathematics of mesoscopic transport), and pattern formation in complex fluids.

Journal publications (refereed)

1. M.D. Johnson and M. Fowler, “Finite temperature excitations of the quantum sine-Gordon/massive Thirring model: Variation of the soliton mass with coupling constant and temperature,” *Phys. Rev. B* **31**, 536 (1985).
2. N.F. Wright, M.D. Johnson and M. Fowler, “Magnon mass renormalization in TMMC,” *Phys. Rev. B* **32**, 3169 (1985).

3. M.D. Johnson and N.F. Wright, "Soliton specific heat of spin chains: limitations of the quantum sine-Gordon model," *Phys. Rev. B* **32**, 5798 (1985).
4. N.N. Chen, M.D. Johnson and M. Fowler, "Classical limit of Bethe ansatz thermodynamics for the sine-Gordon system," *Phys. Rev. Lett.* **56**, 904 (1986); erratum **56**, 1427 (1986).
5. M.D. Johnson and M. Fowler, "Soft modes in the one-dimensional Heisenberg antiferromagnet near saturation," *Phys. Rev. B* **34**, 1728 (1986).
6. M.D. Johnson, N.N. Chen and M. Fowler, "Classical limit of sine-Gordon thermodynamics using the Bethe ansatz," *Phys. Rev. B* **34**, 7851 (1986).
7. M.D. Johnson, K.R. Subbaswamy and G. Senatore, "Hyperpolarizabilities of alkali halide crystals using the local density approximation," *Phys. Rev. B* **36**, 9202 (1987).
8. M.D. Johnson, K.R. Subbaswamy and G. Senatore, "Refractive index of rare gas liquids: first principles calculation," *Phys. Rev. B* **37**, 6508 (1988).
9. G. Senatore, M.D. Johnson and K.R. Subbaswamy, "Self-consistent LDA approach for closed-shell atomic liquids," *Phil. Mag. A* **58**, 53 (1988).
10. M.D. Johnson and K.R. Subbaswamy, "Nearest-neighbor resonating-valence-bond state in two dimensions," *Phys. Rev. B* **37**, 9390 (1988).
11. M. Fowler and M.D. Johnson, "Is the finite-temperature sine-Gordon mass discontinuous?" *J. Phys. A* **21**, 4149 (1988).
12. M.D. Johnson and K.R. Subbaswamy, "Anisotropic hyperpolarizabilities in alkali halide crystals," *Phys. Rev. B* **39**, 10275 (1989).
13. C. Gros and M.D. Johnson, "Wick's theorem for charged spin systems," *Phys. Rev. B* **40**, 9423 (1989) (Rapid Communications).
14. M.D. Johnson and G.S. Canright, "Anyons in a magnetic field," *Phys. Rev. B* **41**, 6870 (1990).
15. G.S. Canright and M.D. Johnson, "Anyons and condensed matter: why there is more room in two dimensions," *Comments Cond. Mat. Phys.* **15**, 77 (1990).
16. C. Gros and M.D. Johnson, "An exact mapping of the t - J model to the unrestricted Hilbert space," *Physica B* **165 & 166**, 985 (1990).
17. M.D. Johnson, M. Fowler, and N.N. Chen, "Coupling constant in classical sine-Gordon thermodynamics (comment)," *Phys. Rev. Lett.* **66**, 1244 (1991).
18. G.S. Canright and M.D. Johnson, "Orbital ferromagnetism of anyons," *Phys. Rev. B* **42**, 7931 (1990).
19. C. Gros, S.M. Girvin, G.S. Canright and M.D. Johnson, "Variational theorem for vector mean-field theories of statistical transmutation," *Phys. Rev. B* **43**, 5883 (1991).
20. M.D. Johnson, C. Gros, and K.J. von Szczepanski, "Geometry-Controlled Conserving Approximations for the t - J model," *Phys. Rev. B* **43**, 11207 (1991).
21. M.D. Johnson and A.H. MacDonald, "Composite edges in the $\nu=2/3$ fractional quantum Hall effect," *Phys. Rev. Lett.* **67**, 2060 (1991).
22. A.H. MacDonald and M.D. Johnson, "Magnetic oscillations of a fractional Hall dot," *Phys. Rev. Lett.* **70**, 3107 (1993).
23. A.H. MacDonald, S.-R.E. Yang, and M.D. Johnson, "Quantum dots in strong magnetic fields: stability criteria for the maximum density droplet," *Austr. J. Phys.* **46**, 345 (1993).
24. O. Heinonen and M.D. Johnson, "Mesoscopic transport beyond linear response," *Phys. Rev. Lett.* **71**, 1447 (1993).

25. S.-R. Eric Yang, A.H. MacDonald, and M.D. Johnson, "Addition spectra of quantum dots in strong magnetic fields," *Phys. Rev. Lett.* **71**, 3194 (1993).
26. M.D. Johnson and G.S. Canright, "Haldane fractional statistics in the fractional quantum Hall effect," *Phys. Rev. B* **49**, 2947 (1994).
27. G.S. Canright and M.D. Johnson, "Fractional statistics: α to β ," *J. Phys. A* **27**, 3579 (1994).
28. O. Heinonen and M.D. Johnson, "Failure of the integer quantum Hall effect without dissipation," *Phys. Rev. B* **49**, 11230 (1994).
29. O. Heinonen and M.D. Johnson, "Density matrix for an ideal driven cylinder," *Phys. Rev. B* **49**, 13740 (1994).
30. M.D. Johnson and O. Heinonen, "Nonlinear steady-state mesoscopic transport: Formalism," *Phys. Rev. B* **51**, 14421 (1995).
31. O. Heinonen, M.I. Lubin, and M.D. Johnson, "Ensemble density functional theory of the fractional quantum Hall effect," *Phys. Rev. Lett.* **75**, 4110 (1995).
32. O. Heinonen and M.D. Johnson, "Integer quantum Hall effect for hard-core bosons and a failure of bosonic Chern-Simons mean-field theories for electrons at half-filled Landau level," *Phys. Rev. B* **53**, 1517 (1996).
33. O. Heinonen, M.I. Lubin, and M.D. Johnson, "Ensemble density functional theory for inhomogeneous fractional quantum Hall systems," *Int. J. Quantum. Chem.* **60**, 1443 (1996).
34. S.B. Isakov, G.S. Canright, and M.D. Johnson, "Exclusion statistics for fractional quantum Hall states on a sphere," *Phys. Rev. B* **55**, 6727 (1997).
35. M.I. Lubin, O. Heinonen, and M.D. Johnson, "Spin ensemble density functional theory for inhomogeneous quantum Hall systems," *Phys. Rev. B* **56**, 10373 (1997).
36. U. Zulicke, A.H. MacDonald, and M.D. Johnson, "Observability of counterpropagating modes at fractional-quantum-Hall edges," *Phys. Rev. B* **58**, 13778 (1998).
37. O. Heinonen, J.M. Kinaret, and M.D. Johnson, "Ensemble density functional approach to charge-spin textures in inhomogeneous quantum Hall systems," *Phys. Rev. B* **59**, 8073 (1999).
38. F. Michael and M.D. Johnson, "Financial market dynamics," *Physica A* **320**, 525 (2003) (cond-mat/0108017).
39. F. Michael and M.D. Johnson, "Derivative pricing with nonlinear Fokker-Planck dynamics," *Physica A* **324**, 359 (2003).
40. M.D. Johnson and G. Vignale, "Dynamics of dissipative quantum Hall edges," *Phys. Rev. B* **67**, 205332 (2003) (cond-mat/0303090).
41. F. Michael and M.D. Johnson, "Replacing leads by self-energies using nonequilibrium Green's functions," *Physica B* **339**, 31 (2003) (cond-mat/0203574).
42. M.D. Johnson, X. Duan, Brett Riley, Aniket Bhattacharya, Weili Luo, "Thermodynamic model of electric-field-induced pattern formation in binary dielectric fluids," *Phys. Rev. E* **69**, 041501 (2004) (cond-mat/0211495).
43. C.J. Efthimiou and M.D. Johnson, "Domino Waves," *SIAM Review* **49**, 111 (2007).

Conference publications

44. M. Fowler, N.F. Wright and M.D. Johnson, "Is TMMC a sine-Gordon system?" in *Magnetic Excitations and Fluctuations: Proceedings of an international workshop, San*

- Miniato, Italy, May 28 – June 1, 1984*, ed. S.W. Lovesey *et al.* (Springer, Berlin, 1984), p. 99.
45. M.D. Johnson, C. Gros, S.M. Girvin, and G.S. Canright, “Vector Mean Field Theory of Statistics,” in *High-temperature superconductivity: physical properties, microscopic theory, and mechanisms*, ed. by J. Ashkenazi (Plenum, New York, 1991) (Proceedings of a University of Miami Workshop held Jan. 3-9, 1991.)
 46. M.D. Johnson and A.H. MacDonald, “Edge states and quasiparticles in the fractional quantum Hall effect,” in *Physical Phenomena at High Magnetic Fields*, ed. by E. Manousakis *et al.* (Addison-Wesley, 1992). (Proceedings of the National High Magnetic Field Laboratory Conference.)
 47. M.D. Johnson, “Edge properties of quantum dots in the FQHE regime,” in *High Magnetic Fields in the Physics of Semiconductors*, ed. by D. Heiman (World Scientific, 1995). (Proceedings of the 11th International Conference on High Magnetic Fields in Semiconductor Physics, held August 8-12, 1994, at the Francis Bitter National Magnet Laboratory at MIT),
 48. O. Heinonen, M.I. Lubin, and M.D. Johnson, “Ensemble density functional theory for inhomogeneous fractional quantum Hall systems,” in *Electronic Density Functional Theory: Recent Progress and New Directions*, ed. by J.F. Dobson, G. Vignale, and M.P. Das (Plenum, New York, 1998). (Proceedings of the International Workshop in Electronic Density Functional Theory: Recent Progress and New Directions, Queensland, Australia, July 14-19, 1996),
 49. U. Zulicke, A.H. MacDonald, and M.D. Johnson, “Fractional-quantum-Hall edges at filling factor $\nu=1-1/m$,” in *Quantum Physics at the Mesoscopic Scale: Proceedings of the XXXIVth Rencontres de Moriond, Les Arcs, Savoie, France, January 23-30, 1999*, ed. by C. Glattli, M. Sanquer, and J. Tran Thanh Van, Series Moriond Condensed Matter Physics (EDP Sciences, Les Ulis, France, 2000). (cond-mat/9905298).
 50. Brett Riley, Aniket Bhattacharya, Michael Johnson, Xiaodong Duan, and Weili Luo, “Electric-Field-Induced Lamellar Structures in Magnetic Fluids: a 2D Diffusion Model,” in *Electrorheological Fluids and Magnetorheological Suspensions: Proceedings of the Eighth International Conference*, Nice, France 9-13 July 2001, ed. by G. Bossis (World Scientific, 2002). Also published in a special journal issue: *Int. J. Mod. Phys. B* **16**, 2341 (2002).

PRESENTATIONS AND CONFERENCES

Invited presentations

- Director, *New Chairs Workshop*, Council of Colleges of Arts & Science, July 2014
- Academy for Academic Personnel Administration annual meeting 2010. Discussion panelist, “*Collective-bargaining impact of revenue-enhancing efforts.*”
- “*Program Assessment and Student Outcomes Solutions*,” presentation to deans, chairs, and faculty at Florida Institute University, Jan 2007 (with Paula Krist, Ronald Atwell).
- “*Modes on quantum Hall edges: dissipation switching*,” seminar, National Research Council, Ottawa, Canada, September 2004 (part of a week-long invited visit)
- Presentation on Diversity Courses to the 2004 Summer Faculty Development Conference, UCF Faculty Center for Teaching and Learning.
- International Conference on Economics and Physics, Bali, Indonesia, Aug. 29-31, 2002. Title: “*Non-extensive statistics and nonlinear Fokker-Planck dynamics in markets.*”

- “*Hall edges and a dissipation knob*,” a colloquium presented at the University of Tennessee, November 2000.
- “*High-current mesoscopic transport*,” a Condensed Matter Seminar presented at the University of Tennessee, November 2000.
- “*Hall edges and a dissipation knob*,” colloquium presented at the University of Georgia, November 1999.
- SNS/Forum Workshop “Semiconductor Nanostructures,” at the Scuola Normale Superiore in Pisa, Italy, June 11-19, 1998. Spoke on “*Screening and dissipation in quantum Hall edges*.”
- Workshop on “Novel Physics in Low-Dimensional Electron Systems,” held at the Max-Planck-Institut für Physik Komplexer Systeme, Germany, in July and August 1997. Spoke on “*Screened quantum Hall edges*.”
- “*Screened quantum Hall edges*,” colloquium presented at the University of Missouri, Columbia, May 1997.
- MATSCIENCE Workshop on Novel Physics in Low-Dimensional Electron Systems, Madras, India, January 9-14, 1995. Cancelled due to illness.
- Research Workshop on Condensed Matter Physics at the International Centre for Theoretical Physics, Trieste, Italy, July 31–August 4, 1995. Cancelled due to illness.
- 11th International Conference on “The Application of High Magnetic Fields in Semiconductor Physics,” August 8-12, 1994, at the Massachusetts Institute of Technology. Title: “*Edge properties of quantum dots in the fractional Hall regime*.”
- “*Edges in fractional quantum Hall systems*,” seminar at the University of Kentucky, November 1994.
- Third NRC Workshop on Quantum Dots held at the National Research Council of Canada, June 6-10, 1993. Invited to speak on my work on magnetic oscillations in a fractional Hall dot, and also spoke on nonlinear mesoscopic transport.
- “*Edge states in the fractional quantum Hall regime*,” seminar at the University of Florida, November 1992.
- Invited to give a series of lectures at the International Centre for Theoretical Physics, in Trieste, Italy, in July 1992. Spoke on “*Edge properties in quantum Hall systems*.” Five speakers were invited for a weeklong workshop on States of Matter in High Magnetic Fields.
- “*Composite edges in the fractional quantum Hall effect*,” Los Alamos National Laboratory, April 1992 (as part of an invited one-week stay).
- Invited presentation on “*Composite edges in the fractional quantum Hall effect*” at the General Meeting of the APS in March 1992.
- “*Electronic hyperpolarizability of closed-shell ions*,” CREOL, December 1991.
- “*Orbital ferromagnetism of anyons*,” seminar at University of Florida, October 1990.
- CAP-NSERC High T_c Summer Workshop in Theoretical Physics, held at Queen's University, Kingston, Ontario, July 16-22, 1990. I was invited to speak on “*Real-space studies of the t-J model: conserving approximations and loop expansions*,” and to give a conference summary presentation “*The t-J/Hubbard approach to high T_c*.”

Other conference presentations

- “Working Through Negotiations to Hire Your Top Faculty Candidate,” Panelist, Council of Colleges of Arts & Sciences Annual Meeting, 2016.
- “Do’s and Don’ts of Advisory Boards,” panelist, Council of Colleges of Arts & Sciences Annual Meeting, 2015.
- Academy of Academic Personnel Administration national meetings, 2009, 2010.
- American Physical Society March meetings, 1985-1994, 1997-2002.
- Frederick Michael (presenter) and M.D. Johnson, “*Financial market dynamics*,” Applications of Physics in Financial Analysis III, London, England, December 2001.
- B. Riley (presenter), A. Bhattacharya, M.D. Johnson and W. Luo, “*Electric-field-induced lamellar structures in magnetic fluids: a 2D diffusion mode*,” at the 8th International Conference on Electro-rheological and Magneto-rheological Suspensions, Nice, France, July 9-13, 2001.
- “*Mesoscopic transport at high currents*,” NATO Advanced Institute on Mesoscopic Electron Transport, Curacao, June 24 – July 5, 1996.
- “*Edge states and quasiparticles in the fractional quantum Hall regime*,” National High Magnetic Field Laboratory Conference “Physical Phenomena at High Magnetic Fields,” Tallahassee, Florida, May 1991.
- “*Vector mean field theory of statistics*,” University of Miami Workshop on: Electronic Structure and Mechanisms for High Temperature Superconductivity, January 3-9, 1991.
- “*Real-space studies of the t-J model*,” NATO Advanced Study Institute on the Theory of High-Tc Superconductivity, Institut d'Etudes Scientifiques de Cargèse, France, June 18-29, 1990.

Other conferences attended

- Council of Colleges of Arts & Sciences Annual Meetings, 2011-2016.
- National meeting on General Education and Assessment of the American Association of Colleges & Universities, Philadelphia, Feb 27-Mar 1, 2003.
- 47th Annual Conference on Magnetism & Magnetic Materials, Tampa, FL, November 2002 (Session Chair)
- Conference on Quantum Magnetism, Institute for Theoretical Physics, UCSB, Santa Barbara, CA, Aug. 16-20, 1999
- Workshop on “Disorder and Interactions in Quantum Hall and Mesoscopic Systems,” Institute for Theoretical Physics, UCSB, Santa Barbara, CA, October 1998
- Aspen Center for Physics Workshop on Quantum Liquids, Aspen Colorado, August 5-18, 1996
- Aspen Center for Physics workshop on quantum Hall effect, July 1993 (expenses paid)
- International Conference on the Physics of Highly Correlated Electron Systems, Santa Fe, NM, Sept. 1989
- Workshop on High Temperature Superconductivity, Institute for Theoretical Physics, University of California at Santa Barbara, June 1989
- Gordon Conference on High Temperature Superconductivity, Ventura, CA, Feb. 1989
- Midwest Solid State Theory Conferences, 1987, 1988, 1989

GRANTS

- 2008-2009 Lisa Dieker (PI), Bobby Jeanpierre (co-PI), Michael Johnson (co-PI), Erhan Haciomeroglu, “*Marion County Public Schools Mathematics/Science Module Development*,” Marion County Public Schools, \$120,000.
- 1999-2003 M.D. Johnson, “*The quantum Hall effect and nonlinear mesoscopic transport*,” National Science Foundation, \$186,000 (1999-2002, extended to June 2003)
- 1996-1999 M.D. Johnson (PI) and O. Heinonen (co-PI), “*The quantum Hall effect and nonlinear mesoscopic transport*,” National Science Foundation, \$180,000
- 1993-1996 M.D. Johnson (PI) and O. Heinonen (co-PI), “*The quantum Hall effect and nonlinear mesoscopic transport*,” National Science Foundation, \$180,000
- 1998 M.D. Johnson and D.J. Hagan, “*Hyperfast optical nonlinearities*,” UCF College and Center/Institute Award, \$20,035
- 1998 All expenses paid by The Institute of Theoretical Physics at UCSB for the five-week workshop “*Disorder and Interactions in Quantum Hall and Mesoscopic Systems*,” fall 1998.
- 1992-1994 Computer time at the FSU Supercomputer Center.

TEACHING

Teaching Incentive Plan awards, University of Central Florida (1994, 1999)

Classroom instruction at UCF

<i>Course</i>	<i>Title</i>
PHY 1121L	Physical Sciences (supervision of lab GTAs only)
PHY 3048	Physics for Scientists & Engineers I
PHY 3048H	... honors section ...
PHY 3049	Physics for Scientists & Engineers II
PHZ 3113	Introduction to Theoretical Methods
PHY 4324	Electricity & Magnetism II
PHY 5346	Electrodynamics I
PHY 6347	Electrodynamics II
PHY 5524	Statistical Mechanics
PHZ 6425	Advanced Condensed Matter Physics
PHY 6246	Classical Mechanics
PHY 5606	Quantum Mechanics I
PHY 6624	Quantum Mechanics II
PHZ 6428	Condensed Matter Physics II
PHZ 6156	Advanced Computational Physics

Students supervised

- Tony Delia – undergraduate honors thesis (1993): *Functional integral studies of correlated electrons*. Tony was invited by the U.S. Society of Physics Students (expenses paid, one of two students) to present his thesis research at the International Conference of Physics Students in Lisbon, Portugal in August 1992.
- Roxanne Brown – Physics MS (1994): *Edges in quantum Hall bars*

- Mark Lubin – Physics PhD (1997): *Ensemble density functional theory for quantum hall systems* (joint supervision with committee chair Olle Heinonen)
- Minority Mentor for Orondo Opeyo, summer 1998
- Fred Michael – Physics PhD (2002): *Techniques and applications of quantum and classical statistical analysis*
- Douglas Willard – Physics PhD (2011): *Tunneling conductance characterization of a quantum dot in the fractional quantum Hall regime*

PhD dissertation committees

- Vaibhav Thakore, Physics (2012): *Nonlinear dynamic modeling, simulation and characterization of the mesoscale neuron-electrode interface*
- Nathan Bickel, Optics (2010): *Electro-optical and all-optical switching in multimode interference waveguides incorporating semiconductor nanostructures*
- Gero Nootz, Physics (2010): *Experimental and theoretical study of the optical properties of semiconductor quantum dots*
- Xiaoxu Li, Optics (2009): *Wavelength-division-multiplexed transmission using semiconductor optical amplifiers and electronic impairment compensation*
- Ramy El-Ganainy, Optics (2009): *Nonlinear optical interactions in nano-particle suspensions*
- Yonghui Yu, Physics (2007): *Model Studies of Time-Dependent Ducting for High-Frequency Gravity Waves and Associated Airglow Responses in the Upper Atmosphere* (co-chair with Michael Hickey from Embry-Riddle Aeronautical University)
- Rumyana Petrova, Physics (2006): *Quantitative High-Angle Annular Dark Field Scanning Transmission Electron Microscopy for Materials Science*
- Maxim Dolguikh, Physics (2005): *Monte Carlo Simulation of Hole Dynamics and Terahertz Amplification in Multilayer Delta Doped Semiconductor Structures*
- Philip Metzger, Physics (2005): *Deriving the density of states for granular contact forces*
- Angela Albert, Ed.D. Education (2004): *Assessment methods for student learning outcomes in general education at urban and metropolitan universities*
- Guangyu Chai, Physics (2003): *Individual carbon nanotube probes and field emitters fabrication and their properties*
- Eric Nelson, Physics (2003): *Gain improvements in p-Ge lasers by neutron transmutation doping*
- Vladislav Dubikovsky, Physics (2003): *Optical limiting: numerical modeling and experiment*
- Susan Hallman, Physics (2003): *Modeling spontaneous undulator emissions using Liénard-Wiechert fields*
- Christopher Depriest, Physics (2002): *An investigation of noise properties in actively-modelocked semiconductor diode lasers for application in next-generation optoelectronic analog-to-digital converters*
- Gabriel Popescu, Optics (2002): *Propagation of low-coherence fields in inhomogeneous media*
- Qiang Li, Electrical Engineering (2001): *CMOS rf front-end ic design and reliability for bluetooth wireless receiver*

- Roman Malendevich, Physics (2001): *Spatial solitons and instabilities in nonlinear optical media*
- Anna Tabirian, Physics (2000): *New, efficient, room temperature mid-infrared laser at 3.9 μ M IN HO BAY2 F8 AND visible PR:LIF4 laser for holography*
- Rita Peterson, Physics (2000): *Optimization of rare-earth-doped fluorides for infrared lasers*
- Hui Fang, Physics (2000): *Second order cascading effect in LiNbO3 waveguide devices and applications*
- Cheolhwan Kim, Physics (2000): *Multiple quantum well integrated optic switches*
- Xiaodong Duan, Physics (2000): *Dynamic properties of ferrofluids*
- Jinlong Zhang, Electrical Engineering (2000): *Gate oxide integrity for deep submicron CMOS device/circuit reliability*
- Maxim Bolshtyansky, Physics (1999): *Image acquisition through a single multimode fiber*
- Arthur Savchenko, Physics (1999): *Asymptotic theory of wave propagation*
- Daniel-Marian Baboiu, Physics (1998): *Spatial optical solitons in second-order nonlinear materials*
- Jayashree Shivamoggi, Physics (1996): *Carrier transport in GaAs annealed multiple quantum wells*
- Hai-Sheng Wang, Physics (1995): *Transient electro-optical nonlinearities in strained multiple quantum well InGaAs/GaAs (AIAs) modulators*

M.S. thesis committee

- Mikhail Klimov, Physics (1998): *Isoperibol calorimetry and its applications in organic molecules and binary systems*

SERVICE

University

- University Budget Committee, 2016-.
- University Budget Realignment Committee, 2015-.
- University IT Strategic Governance Committee, 2015-.
- University Strategic Planning Commission, 2015-2016.
- University Budget Advisory Scenario Group, 2012-2013.
- Search committee for UCF Foundation CEO, 2015.
- Chair, search committee for UCFIT Chief Operating Officer, 2016.
- Chair, search committee for dean, College of Education & Human Performance, 2015.
- Chair, search committee for dean, College of Graduate Studies, 2012.
- Chair, five-year review committees for deans of College of Medicine (2013) and Education & Human Performance (2012).
- University Assessment Committee (2002-2011, Chair 2005-2007, 2010-2011)
- Research Council (2000-2003, Chair 2002-2003)
- General Education Oversight Committee (2002-2004)
- Faculty Senate (1997-1999)
- Sick Leave Pool Committee (1997-1999)

- Strategic Plan Subcommittee on Organization (1998-1999)
- I4 Corridor Committee on Microelectronics (1996-1997)

College of Arts & Sciences

- TIP Criteria Committee (1997-1998, 1999-2002)
- TIP Award Selection Committee (1997-1998, 1999-2001)
- In-house Research Awards Committee (1994-1995)

Department of Physics

- Graduate Program Coordinator (1997-2000)
- Undergraduate Committee (1993-1994, 2003-2007)
- Graduate Committee (1991-2002)
- Executive Committee (1998-2000)
- Qualifier/Candidacy Exam Committee (Chair, 1997-2001)
- Tenure and Promotion Committee (1997-1999, 2001-2002, chair once)
- Search Committees (1995-1996, 1999-2000; chair 1997-1998)
- Chair Search Committee (1997-1998)
- Strategic Plan Committee (Chair, 1997-1998)
- Computer Support (1990-2002)
- Department web pages – developed first web pages (1995-1996)
- Seminar/Colloquium Committee (chair, 1991-1993)

Professional

- Council of Colleges of Arts & Sciences, Standing Committee on Research Institutions, 2015-
- Director, *New Chairs Workshop*, Council of Colleges of Arts & Sciences, 2014.
- American Physical Society, Committee on Careers and Professional Development, 2006-2008 (Chair 2007).
- Consultant on university-wide assessment, Florida International University, 2007
- Referee for Physical Review B, Physical Review Letters, Journal of Physics
- Referee for grant proposals to National Science Foundation, Research Corporation, etc.