

M. CRISTINA MARCHETTI
William R. Kenan, Jr. Professor of Physics

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EDUCATION

Ph.D. in Physics from the University of Florida, Gainesville, Florida, August 1982.

Dissertation: *Fluctuations in Systems Far from Equilibrium*.

Laurea in Physics cum laude from the University of Pavia, Italy, July, 1978.

Dissertation: *Dynamics of a Heisenberg Spin Chain*.

FIELD OF RESEARCH: Nonequilibrium statistical physics, condensed matter theory, biological physics

ACADEMIC POSITIONS

1/2005-present	Syracuse University	William R. Kenan, Jr. Professor of Physics
1/2007-7/2007	Institut Curie, Paris	Rotschild-Mayent Sabbatical Fellow
9/1997-12/2004	Syracuse University	Professor of Physics
9/1992-9/1997	Syracuse University	Associate Professor of Physics
9/1987-8/1992	Syracuse University	Assistant Professor of Physics
9/1986-8/1987	University of Illinois-Chicago	Assistant Professor of Physics
9/1998-6/1999	Harvard University	Visiting Professor
9/1994-12/1994	University of California, Santa Barbara	Member of the Institute for Theoretical Physics
5/1990-8/1990	University of California, Santa Barbara	Member of the Institute for Theoretical Physics
1/1989-6/1989	Harvard University	Visiting Scholar
1985-1986	City College of the City University of New York	Postdoctoral Research Associate
1984-1985	The Rockefeller University	Postdoctoral Research Associate
1982-1984	University of Maryland	Postdoctoral Research Associate

ACADEMIC AND PROFESSIONAL HONORS

Fellow of the American Association for the Advancement of Science (2013)

Simons Fellowship in Theoretical Physics (2013)

Member of the External Advisory Board of the The Center for Theoretical Biological Physics (CTBP) of Rice University

Rotschild-Mayent Sabbatical Fellowship, Institut Curie, Paris (2007)

Fellow of the American Physical Society (2000)

William R. Kenan, Jr. Professorship

Chancellor's Citation for Academic Achievement, Syracuse University

2003 Lower Division Teaching Award

Fulbright-Hays Exchange Award

Phi Kappa Phi Scholarship Award

Rotary Foundation Educational Award

University of Florida Graduate Council Fellowship

Sigma Xi Graduate Research Award

CONFERENCE ORGANIZATION

- Co-organizer (with Iain Couzin, Princeton, Sriram Ramaswamy, TIFR-Hyderabad, Christoph Schmidt, Goettingen) of the long program at KITP of UC Santa Barbara on “Active Matter: cytoskeleton, cells, tissues and flocks”, Jan 6-May 16, 2014.
- Co-organizer of the 2012 Aspen Winter Conference “Growth and Form: Pattern Formation in Biology” (with Susan Coppersmith and Clare Yu).
- Co-Chair of the 2011 Soft Condensed Matter Physics Gordon Conference, Aug. 14-19, 2011, Colby-Sawyer College, NH.
- Co-Vice Chair of the 2009 Soft Condensed Matter Physics Gordon Conference, Aug. 9-14, 2009, Colby-Sawyer College, NH.
- Lead organizer of SAM09, an I2CAM Workshop on Soft Active Materials: from Granular Rods to Flocks, Cells and Tissues, Syracuse University, May 17-21, 2009. <http://icamconferences.org/sam09/>
- Co-Organizer (with Mark Bowick, Itai Cohen, Jennifer Schwarz, Abe Stroock and George Thurston) of the bi-annual New York Condensed Matter Workshop since 2005.
- Co-organizer (with E. Bodenschatz and A. Middleton) of the Boulder 2001 Summer School in Condensed Matter Physics, held in Boulder, CO, July 2001.
- Co-organizer (with G. Vidali) of the 8th Conference of the series Statistical Physics at the 45th Parallel, October 14-15, 1994, Syracuse University.

OTHER SELECTED PROFESSIONAL ACTIVITIES

- Member of the selection committee for the 2013 Lars Onsager Prize of the APS.
- Member-at-Large of the Executive Committee of the Division of Condensed Matter Physics (DCMP) of the APS (03/2012-03/2015).
- Co-organizer (with Chandra Varma) of the online Journal Club for Condensed Matter Physics: <http://www.condmatjournalclub.org/>
- Judge for the 2012 Blavatnik Awards of the New York Academy of Sciences.
- “Rapporteur” (External reviewer) on the Habilitation Committee of Yaouen Fily at the University of Tours, France, October 2009.
- “Rapporteur” (External reviewer) on the Abilitation Committee of Enrik Olive at the University of Tours, France, June 2007. This is essentially an external tenure review committee.

- Chair of the Committee for the selection of the winner of the 2008 Oliver Buckley Prize of the APS (member of the committee for the 2007 Prize).
- Editor of the Statistical Physics Section of the Encyclopedia of Complexity and System Science, Springer, 2008 (<http://refworks.springer.com/mrw/index.php?id=259>)
- Member of the APS committee for the review of Gary Grest, Editor of Physical Review E.
- Divisional Associate Editor of Physical Review Letters, August 2005-September 2008 (resigned in October 2007 to cut down on administrative duties).
- Member (2001-05) and Chair (2003-04) of the Advisory Board and of the Steering Committee of the Institute for Theoretical Physics of the University of California, Santa Barbara.
- Referee for the E.W.R. Steacie Memorial Fellowships administered by the Natural Sciences and Engineering Research Council of Canada (NSERC).
- Served as referee for the NSF, DOE, the Research Corporations, the U.S. Department of State, the City University of New York Research Award Program, Academic Press, as well as numerous research journals.

RESEARCH GRANT SUPPORT

NSF-DMR-8717337, *Fluctuations and Transport in Dense Liquids*, from 8-15-1988 to 8-15-91 in the amount of \$104,000 for three years.

NSF-DMR-9112330, *Theoretical Studies of Flux Arrays and Complex Liquids*, from 8-15-1991 to 1-31-94 in the amount of \$162,000 for three years.

NSF-DMR-9217284, *Nonequilibrium Dynamics and Mode-Locking in Charge Density Waves and Flux Lattices*, with Ofer Biham from 9-1992 to 9-1995 in the amount of \$221,300 for three years.

NSF-DMR-9419257, *Theoretical Studies of Flux-Line Arrays in Superconductors and Transport in Random Media*, from 2-1-94 to 2-1-97 in the amount of \$162,000 for three years.

NSF-DMR-9805818, *Visiting Professorship at Harvard: theoretical studies in statistical physics*, from 7-15-98 to 12-31-98 in the amount of \$135,143 for eighteen months.

NSF-DMR-9730678, *Nonequilibrium Dynamics of Disordered Condensed Matter Systems*, from 3-15-98 to 2-28-2001 in the amount of \$204,000 for three years. In March 2001 this award was extended through a creativity extension (3/1/01-2/28/03) in the amount of \$176,000 for two years.

NSF-DMR-0305735 *Dynamics, Disorder and Drive in Condensed Matter and Biological Systems*, from 6-1-2003 to 5-31-2006, in the amount of \$360,000 for three years

NSF-DMR-0219292 *ITR - Statistical Physics and Computational Complexity*, with M. J. Bowick (PI) and A. A. Middleton (coPI), from 8-1-02 to 7-31-05, in the amount of \$470,000 for three years.

NSF-DMR-0705105 *Driven Soft Matter: from Superconducting Vortices to Living Cells*, 6/1/2007-5/31/2010, \$433,399.

NSF-DMR- 1004789 *Active and Driven Soft Matter*, 9/2/2010-9/1/2013, \$504,265 for three years.

NSF *Materials World Network: Microscopic Models of Cross-Linked Active Gels*, 9/1/2008-10/31/201, \$300,000.

I2CAM funds to organize a *Workshop on Active soft materials: From Granular Rods to Flocks, Cells and Tissues*, Syracuse, May 18-21, 2009, \$28,000.

ONR grant (with co-PI Heinrich Jaeger) to support the *2011 Soft Condensed Matter Physics Gordon Research Conference* to be held at Colby-Sawyer College, NH, Aug. 14-19, 2011, \$15,000.

NSF grant (with co-PI Heinrich Jaeger) to support the *2011 Soft Condensed Matter Physics Gordon Research Conference* to be held at Colby-Sawyer College, NH, Aug. 14-19, 2011, \$12,000.

ARO grant (with co-PI Heinrich Jaeger) to support the *2011 Soft Condensed Matter Physics Gordon Research Conference* to be held at Colby-Sawyer College, NH, Aug. 14-19, 2011, \$10,000.

ICAM funds (with co-PIs Alexandra Zidovska and Heinrich Jaeger) to support the *2011 Soft Condensed Matter Physics Gordon-Kenan Research Seminar* to be held at Colby-Sawyer College, NH, Aug. 13-14, 2011, \$7,000.

ICAM funds (with co-PIs Susan Coppersmith and Clare Yu) to support the 2012 Aspen Winter Conference *Growth and Form: Pattern Formation in Biology* to be held at the Aspen Center for Physics, Aspen, CO, Jan 2-9, 2012, \$10,000.

NSF-DGE-1068780 *IGERT Soft Interfaces: Bridging the Divide in Graduate Education* (with coPIs Pat Mather, Alan Middleton, Karin Ruhlandt-Senge and Dacheng Ren), 9/1/2011-8/31/2016, \$2,956,679.

NSF-DMR-1305184 *Self-organization of dense active matter*, 9/15/13-9/14/16, \$405,000

PH.D. STUDENTS SUPERVISED:

- Supurna Sinha, Ph.D. 1992; Associate Professor, Raman Institute, Bangalore, India.
- Lee-Wen Chen, Ph.D. 1996; Senior Scientist, Peregrine Semiconductor, San Diego, CA.
- Panayotis Benetatos, Ph.D. 2000; Assistant Professor, Kyungpook National University, Daegu, Korea.
- Michael Faleski, Ph.D. 2001; Associate Professor of Physics, Delta College, MI.
- Aphrodite Ahmadi, Ph.D. 2008; Assistant Professor of Physics, SUNY Cortland.
- Sitichoke Amnuanpol, Ph.D. 2009.
- David Quint (principal advisor Jennifer Schwarz), Ph.D. 2011, Research Associate at UC-Merced
- Shiladitya Banerjee, Ph.D. 2013.
- Xingbo Yang, Ph.D. expected 2015.
- Kazage Utuje, Ph.D. expected 2016.
- Prashant Mishra, Ph.D. expected 2017
- Kyle Lawlor, Ph.D. expected 2018

POSTDOCTORAL RESEARCH ASSOCIATES MENTORED:

- Alan Middleton, Ph.D. Princeton 1990; Professor of Physics, Syracuse University.
- Ki Ho Lee, Ph.D. Ohio State; Assistant Professor of Applied Physics, Dankuk University, Korea.
- Mariapia Riva, Ph.D. Milan 1998.
- Chen Zeng, Ph.D. Cornell 1993; Associate Professor of Physics, George Washington University.
- Thomas Prellberg, Ph.D. Virginia Tech. 1991; Reader in Applied Mathematics, Queen Mary College, University of London, UK.
- Karl Saunders, Ph.D. University of Oregon, 2001; Associate Professor of Physics, California Polytechnic State University.
- Jennifer Schwarz, Ph.D. Harvard, 2002; Assistant Professor of Physics, Syracuse University.
- Jan Meinke, Ph.D. University of Michigan, 2002; Research Scientist, Forschungszentrum, Jülich, Germany.
- William Kung, Ph.D. University of Pennsylvania, 2004; Materials Science & Engineering, Northwestern University.
- Aparna Baskaran, Ph.D. University of Florida Gainesville, 2006; Assistant Professor of Physics, Brandeis University.
- Shradha Mishra, Ph.D. Indian Institute of Science, Bangalore, 2008; Research Associate at Kansas State University.
- Yaouen Fily, Ph.D. Universite Francois Rabelais, Tours, France, 2009; Research associate at Brandeis University.
- Silke Henkes, Ph.D. Brandeis University, 2007.
- Pragya Srivastava, Ph.D. Bangalore, 2014

INVITED CONFERENCE PRESENTATIONS

1986-1993

- Meeting for the formation of a thrust for Supercomputing and Simulation of Solid State Devices, Urbana, IL, December 1986.
- Fifth International Conference on Hot Carriers in Semiconductors, July 20-24, 1987, Boston, MA.
- Workshop on Femtosecond Physics in Semiconductors, Tempe, AZ, December 9-11, 1987.
- March Meeting of the American Physical Society, New Orleans, LA, March 1988.
- 35th Annual Conference on Magnetism and Magnetic Materials, MMM'90, San Diego, CA, October 1990.
- March Meeting of the American Physical Society, Cincinnati, OH, March 1991.
- XXIV Institut d'Eté de l'Ecole Normale Supérieure, Statistical Physics and Disordered Systems, Université de Paris Sud, Paris, France, August 10-21, 1992.
- Workshop on Superconductors in Magnetic Fields, Argonne National Laboratory, Argonne, IL, August 24-28, 1992.
- Workshop on Interacting Electrons in Superconductors and Materials of Reduced Geometry, Sept.-Oct. 1993, Institute for Scientific Interchange, Torino, Italy.

1994

- AT&T Bell Laboratories Workshop on Vortices in Superconductors, 1/24/94, Murray Hill, NJ.
- Workshop on Fundamental Aspects of Flux Dynamics in High-T_c Superconductors, Ecole Polytechnique Palaiseau, June 30-July 3, 1994 (invited participant).
- ITP Workshop on Vortex Phases, University of California at Santa Barbara, August 15 - December 17, 1994 (invited participant).

1995

- Gordon Research Conference on Nonequilibrium Aspects of Type-II Superconductors and Related Systems, July 10-14, 1995.

1996

- International Workshop on Vortex Dynamics in High-Temperature Superconductors, June 23-27, 1996, Shohesh, Israel.

1997

- Workshop on Flux, Quantum and Mesoscopic Effects in Superconducting Materials and Devices, Santa Fe, NM, August 4-8, 1997.
- Twenty-Fifth Midwest Solid State Theory Symposium, Argonne National Laboratory, October 18-19, 1997, Argonne, IL.

1998

- 1998 Aspen Winter Conference on Condensed Matter Physics, Aspen, CO, January 18-25, 1998.

1999

- Centennial Meeting of the American Physical Society, Atlanta, GA, March 1999.

2000

- 6th International Conference on Materials and Mechanisms for Superconductivity and High Temperature Superconductors (M2S-HTSC-VI), Houston, TX, February 20-25, 2000.
- International Workshop on Vortex Matter, Leiden, The Netherlands, August 19-25, 2000.

2001

- ITP Workshop on Statistical Physics of Biological Information, University of California at Santa Barbara, April 2001 (invited participant).
- Understanding Complex Systems Symposium, May 15, 2001, University of Illinois at Urbana-Champaign.
- 8th Workshop on Vortex Physics, San Carlo de Bariloche, Argentina, Nov. 26 - Dec. 1, 2001.

2002

- ESF Workshop on Vortices in Josephson systems and nanostructures, Acquafredda di Maratea, Italy, September 20-25, 2002.

2003

- 9th International Workshop on Vortex Matter, Oleron Island, France, July 2003.
- International workshop on Quantum Phase Transitions, Max-Planck Institute, Dresden, Germany, July 2003.
- BA Festival of Science, Salford University, UK, September 2003. This is the annual meeting of the British Association for the Advancement of Science (BA).

2004

- International Workshop on Depinning transitions in disordered media: theory and applications, April 22-24, 2004, Nordita, Copenhagen (DK).
- 91st Statistical Mechanics Meeting, May 16-18, 2004, Rutgers University.
- XIX Sitges Conference on Statistical Mechanics: Jamming, Yielding, and Irreversible Deformation in Condensed Matter, Sitges, Spain, June 2004.
- 22nd IUPAP International Conference in Statistical Physics, Bangalore, India, July 2004.
- The Future of Physics Conference, Kavli Institute for Theoretical Physics, University of California at Santa Barbara, October 7-9, 2004.

2005

- 10th International Workshop on Vortex Matter, Mumbai, India, January 9-14, 2005.
- DuftyFest, University of Florida, Gainesville, September 22-24, 2005, keynote speaker.

2006

- Workshop on Driven States in Soft and Biological Matter, 18-28 April, 2006, ICTP, Trieste, Italy.
- Second New York Complex Matter Workshop, July 21, 2006, Cornell University.

2007

- GRANFL07 Granular fluids - a proving ground for nonequilibrium statistical mechanics, September 26-29, 2007, Sevilla, Spain.

2008

- 2008 March meeting of the APS, New Orleans, March 10-14, 2008.
- Workshop on Soft Condensed Matter and Physics of Biological Systems Stellenbosch, South Africa, February 2008.

2009

- Henry Poincaré Workshop on "Self-organization and dynamics of active matter", January 26-30, 2009, Paris.
- 2009 Boulder School on Nonequilibrium Statistical Physics, July 2009
- Annual Meeting of the AIChE (American Institute of Chemical Engineers), Nashville, TN, November 2009.

2010

- SIAM Conference on Mathematical Aspects of Materials Science MS10, May 23,26, 2010, Philadelphia, PA.
- 10th New York Complex Matter Workshop, June 25, 2010, Cornell University.
- STATPHYS 24, the XXIV International Conference on Statistical Physics of the International Union for Pure and Applied Physics (IUPAP), Cairns, Australia, 19-23 July, 2010.
- COLMOT 2010, International Workshop on the Statistical Physics and Biology of Collective Motion, November 8 - 12, 2010, Dresden, Germany.
- Workshop on Active Materials, 17-19 November, 2010, Stellenbosch, South Africa: Plenary Public Lecture.
- 104th Statistical Mechanics Conference, Rutgers University, December 19-21, 2010.

2011

- Aspen Winter Conference "Materials and the Imagination", Aspen, CO, January 3-8, 2011.
- Invited lecturer at the International Center for Theoretical Physics (ICTP) School and Conference on Mathematics and Physics of Soft and Biological Matter, May 1-6, 2011, Trieste, Italy (presented five lectures).
- Keynote speaker at the 5th Southeast Meeting on Soft Materials, May 25, 2011, Georgia Tech, Atlanta, GA.
- Invited lecturer at UMass Summer School on Soft Solids and Complex Fluids, May 29-June 2, 2011, Amherst, MA. (presented four lectures).
- Invited Speaker at the 47th New England Complex Fluids Workshop, June 3, 2011, University of Massachusetts Amherst, Amherst, MA.
- Invited participant and speaker at the Lorentz Center Workshop on "Fluctuations and Response in Active Materials: From Driven Granular Systems to Swarming Bacteria", Leiden, The Netherlands, June 20-24, 2011.

2012

- JA Krumhansl School & Symposium 2012 on 'Unifying Concepts in Materials', 30 January, 2012 - 08 February, 2012, Bangalore, India.
- March Meeting of the American Physical Society, February 27- March 2, Boston, MA.
- Active Jammed Systems, May 26-28 2012, New York Academy of Sciences and New York University, New York, USA
- Institute of Physics Topical Research Meeting on 'Swimming and Complexity at low Reynolds number', London, UK, June 7th - 8th, 2012.
- Workshop on 'Tissue Growth and Morphogenesis: from Genetics to Mechanics and Back', Sunday, July 22 to Friday, July 27, 2012, Banff International Research Station for Mathematical Innovation and Discovery (BIRS), Canada.
- Plenary talk at Dynamics Days Asia Pacific 7 (DDAP7), Academia Sinica, Taipei, Taiwan, 6-9 August 2012.
- 24th International Liquid Crystal Conference ILCC 2012, August 19th - 24th 2012, Mainz, Germany.

2013

- Workshop on "Nonlinear Analysis of Continuum Theories: Statics and Dynamics", University of Oxford, UK, 8-12 April 2013.
- Gordon research Conference on "Self-Assembly and Supramolecular Chemistry", Les Diablerets, Switzerland, May 5-10, 2013.
- 2013 SIAM Conference on "Mathematical aspects of Materials Science", Philadelphia, PA, June 9-12,2013.
- International Focus Workshop on "Connecting Theory and Experiments in Active Matter", Dresden, Germany, June 5 - 7, 2013.
- 15th annual Greater Boston Area Statistical Mechanics Meeting, Saturday, October 12, 2013, Brandeis University.
- NSF- Workshop on "Future Directions in Theory and Simulations of Polymeric and Soft Materials", UC Santa Barbara, October 20-22, 2013.

- Winter Conference on "Active Fluids: Bridging Complex Fluids and Biofluids" at the Aspen Center for Physics Jan 27-Feb 1, 2014.
- 2014 March Meeting of the APS, Denver, CO, March 3-7, 2014.

ADMINISTRATIVE POSITIONS

Chair of Physics Department, Syracuse University, July 2007-June 2010

Responsible for all aspects of administration and strategic planning for a department with about 30 faculty members, 70 graduate students, 22 postdoctoral research associates and 14 staff members. Managed a departmental expenditures budget of over \$6.5M (excluding sponsored expenditures) and two "recharge centers": the Physics Machine Shop and the Syracuse Surface Imaging Laboratory.

Associate Director of the Syracuse Biomaterials Institute, (SBI) August 2007-present

The SBI (<http://biomaterials.syr.edu/>) brings together a group of about 25 faculty members from five departments in the College of Arts and Science and the College of Engineering at Syracuse University, as well the SUNY School of Environmental Science and Forestry and The Upstate Medical School to conduct interdisciplinary research in the area of biomaterials. The SBI faculty conducts research in the area of biological materials using the Institute's shared laboratory facilities and public spaces, which are key in promoting collaborative research within faculty from diverse fields. As Associate Director of the SBI, Marchetti has led an effort to design a novel model of graduate studies where science and engineering students working alongside each other will learn to communicate and to appreciate each other's skills and goals. This effort led to the award in 2011 of a \$3M IGERT (Integrative Graduate Education and Research Traineeship) proposal from the National Science Foundation.

Member (2001-05) and Chair (2003-04) of the Advisory Board and of the Steering Committee of the Kavli Institute for Theoretical Physics (KITP) of the University of California, Santa Barbara.

The Kavli Institute for Theoretical Physics (<http://www.itp.ucsb.edu/>) is an institute of the University of California, Santa Barbara, supported by funding from the National Science Foundation and the Kavli Foundation. It is one of the most renowned institutes for theoretical physics in the world. The Institute's Advisory Board selects the scientific programs to be held at the KITP each year and provides scientific advice to the Institute Director.

Chair-Elect, Vice-Chair and Chair of the Topical Group for Nonlinear and Statistical Physics (GNSP) of the American Physical Society, 2004-2007.

This is an elected position. GNSP (<http://www.aps.org/units/gnsnp/index.cfm>) has about 900 members. Its objective is to encourage and advance research and applications in the interdisciplinary area of nonequilibrium statistical physics and to promote international cooperation. During the three-year term the Chair-Elect/Vice-Chair/Chair is responsible for all aspects of the group leadership and management, including: solicitation and selection of invited symposia for the annual Society meeting, solicitation of nominations for election to Fellow of the American Physical Society and selection and recommendation of elected Fellows, budget management, advertising, fundraising. One of the focus of GNSP during my tenure was on graduate education: the Group sponsored invited sessions in this area at the March Meeting of the American Physical Society and expanded its "Student Speaker Award" and "Gallery of Nonlinear Images" programs at the same meeting.

Co-PI on the NSF grant that supports and runs the Boulder Summer School in Condensed Matter Physics, 2005-present; Member of the Board of Directors of the School, 2000-present.

The Boulder School (<http://www.indiana.edu/uscmpsc/>) provides education for advanced graduate students and postdoctoral fellows working in condensed matter physics, materials science and related fields. The School, which is supported by the National Science Foundation and the University of Colorado, meets annually during July in Boulder Colorado. The School is managed by four co-PIs that share the responsibility for all aspects of the school, from organization to administration and fundraising. My specific focus has been on soliciting ideas for school topics from the community and developing school programs with each year's organizers, interacting with the Board of Directors.

Served on various review/advisory committees and panels, including most recently:

Member of a review panel for NSF-DMR Condensed Matter Physics Program, 2011.

Member of a reverse Site Visit Panel for the NSF EPSCoR Program, September 13-15, 2010.

Member of the reverse-site review panel for the 2008 MRSEC awards at the National Science Foundation, May 2008.

Member of the NSF panel for the site review of I2CAM (International Institute for Complex Adaptive Matter), Santa Fe, Jan. 14-16, 2008.

Member of the 2005 Committee of Visitor (COV) to the Division of Materials Research (DMR) of the NSF.

Invited participant in the workshop Theoretical Science in the Mathematical and Physical Sciences Directorate at the National Science Foundation, October 28-29, 2004. This workshop was charged with identifying to the National Science Foundation's Mathematical and Physical Sciences Directorate (NSF/MPS) approaches on how best to support and nurture theoretical research in the 21st Century.

External Evaluator of the Physics Department and Graduate Program at Lehigh University, April 2011

Member of Women in Science and Engineering (WISE) at Syracuse University

WISE runs a variety of activities and programs for the support and professional development of women in science and engineering at all levels. My activities have included serving on award committees, running professional development activities, taking part in panels and mentoring workshops, and participating in the preparation of a recently awarded \$3.4M proposal to the ADVANCE Institutional Transformation program of the NSF.

College or University-level committees at Syracuse University:

College Promotion and Tenure Committee; College Research and Scholarship Committee; Faculty search committees in a variety of departments; College of A&S Associate Dean search committee; University Senate; ADVANCE Internal Advisory Council Chair; Senate Budget Committee; Vice-Chancellor Task Force on Faculty Salary Disparities.

PUBLICATIONS

1. F^{19} NMR Study of Disordered Paramagnet $KMg_{1-x}Mn_xF_3$, G. D'Ariano, R.L. Lecander, M.C. Marchetti, and F. Borsa, Journal of Magnetism and Magnetic Materials 15-18, 681-682 (1980).

2. Memory Function for the Velocity Autocorrelation Function at Moderate Density, M.C. Marchetti and J.W. Dufty, Chem. Phys. Lett. 70, 539-543 (1980).

3. *Viscometric Functions for a Simple Fluid*, J.W. Dufty and M.C. Marchetti, J. Chem. Phys. 70, 442-426 (1981).
4. *Bound State and Finite Collision Time Effects in the Binary Collision Approximation*, M.C. Marchetti and J.W. Dufty, Phys. Rev. A 24, 2116-2134 (1981).
5. *Comment on 'Collective Modes and Neutron Scattering in Fluids'*, M.C. Marchetti, G.E. Garland, and J.W. Dufty, Phys. Rev. A 25, 1218-1221 (1982).
6. *Nonlinear Irreversible Fluxes in a Fluid with Large Shear Rate*, M.C. Marchetti and J.W. Dufty, Int. J. Quant. Chem. 16, 83-89 (1982).
7. *Kinetic and Hydrodynamic Theories of Nonequilibrium Fluctuations*, M.C. Marchetti and J.W. Dufty, Physica 118A, 205-216 (1983).
8. *Tagged Particle Fluctuations in Uniform Shear Flow*, M.C. Marchetti and J.W. Dufty, J. Stat. Phys. 32, 255-277 (1983).
9. *Anomalous Diffusion of Charged Particles in a Strong Magnetic Field*, M.C. Marchetti, T.R. Kirkpatrick, and J.R. Dorfman, Phys. Rev. A 29, 2960-2962 (1984).
10. *Diffusion in a Two-Dimensional Periodic Potential*, B. Bagchi, R. Zwanzig, and M.C. Marchetti, Phys. Rev. A 31, 892-896 (1985).
11. *Kinetic Equation for a Weakly Interacting Electron Gas*, M.C. Marchetti, T.R. Kirkpatrick, J.R. Dorfman, and E.G.D. Cohen, J. Stat. Phys. 41, 37-74 (1985).
12. *Initial State Dependence of Nonlinear Kinetic Equations: The Classical Electron Gas*, M.C. Marchetti, E.G.D. Cohen, J.R. Dorfman, and T.R. Kirkpatrick, J. Stat. Phys. 41, 75-93 (1985).
13. *Kinetic Theory of Long Time Tails in Velocity Correlation Functions in a Moderately Dense Electron Gas*, M.C. Marchetti and T.R. Kirkpatrick, J. Stat. Phys. 41, 621-660 (1985).
14. *Mode Coupling Theory of Long Time Tails in a Classical Electron Gas*, M.C. Marchetti and T.R. Kirkpatrick, Phys. Rev. A 32, 2981-2989 (1985).
15. *Mode Coupling Theory of Shear and Sound Relaxation in Viscous Supercooled Fluids*, M.C. Marchetti, Phys. Rev. A 33, 3363-3370 (1986).
16. *Relationship of Fluctuations and Transport for Nonlinear Markoff Processes*, J.W. Dufty, J.J. Brey, and M.C. Marchetti, Phys. Rev. A 33, 4307-4311 (1986).
17. *Nonequilibrium Electron-Phonon Scattering in Semiconductor Heterojunctions*, W. Cai, M.C. Marchetti, and M. Lax, Phys. Rev. B 34, 8573-8580 (1986).
18. *Non-Exponential Relaxation in Viscous Supercooled Liquids*, M.C. Marchetti, Annals of the New York Academy of Science v. 484, C.A. Angell and M. Goldstein, eds. 313-315 (1986).
19. *Hydrodynamic Theory of Electron Transport in a Strong Magnetic Field*, M.C. Marchetti, T.R. Kirkpatrick, and J.R. Dorfman, J. Stat. Phys. 46, 679-708 (1987).

20. *Nonequilibrium Phonon Effect on Time-Dependent Relaxation of Hot Electrons in Semiconductor Heterojunctions*, W. Cai, M.C. Marchetti, and M. Lax, Phys. Rev. B 35, 1369-1372 (1987).
21. *Hot-Electron Relaxation in Quantum-Well Structures: Multi-Subband Occupation*, M.C. Marchetti and W. Cai, Phys. Rev. B 35, 7725-7728 (1987).
22. *Equivalence of Lei and Ting Transport Equations for Nonlinear Electronic Transport and the Boltzmann Approach*, M.C. Marchetti and W. Cai, Phys. Rev. B 36, 8159-8161 (1987).
23. *Nonequilibrium Phonon Effects on Hot-Electron Transport in Semiconductor Heterojunctions*, W. Cai, M.C. Marchetti, and M. Lax, Phys. Rev. B 37, 2636-2644 (1988).
24. *Nonequilibrium Carrier-Phonon Coupling in a Semiconductor Quantum Well*, M.C. Marchetti, W. Cai, and M. Lax, Solid State Electronics 31, 677-681 (1988).
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