

AMY C. CASSIDY

Contact Information:

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Education:

University of Southern California, Los Angeles, CA 2003-2009

- Ph.D., Physics.
- Dissertation: Chaos and thermalization in the one-dimensional Bose-Hubbard model in the classical field approximation.
- Advisor: Maxim Olshanii

University of Delaware, Newark, DE 1996-2000

- B.A., Physics Education. Minor: Mathematics. *Cum Laude*.
- Eugene DuPont Distinguished Scholar (Full merit-based scholarship)
- Phi Beta Kappa

Employment:

National Institute of Standards and Technology, Gaithersburg, MD 2009-Present

- NRC Postdoctoral Research Associate
- Supervisor: Charles Clark

University of Massachusetts Boston, Boston, MA 2007-2009

- Research Associate
- Completed dissertation research and worked as a study group facilitator.

High School Teacher, International School of Luxembourg, Luxembourg 2000-2003

- Taught International Baccalaureate (IB) Physics, IB Mathematics, 9/10 Integrated Science.

Publications:

Peer-reviewed journals:

- **Threshold for Chaos and Thermalization in One-Dimensional Mean-Field Bose-Hubbard Model.** Amy C. Cassidy, Douglas Mason, Vanja Dunjko, Maxim Olshanii . Phys. Rev. Lett. **102**, 025302 (2009) arXiv:0805.3388.
- **Formation of collective excitations in quasi-one dimensional metallic nanostructures: size and density dependence.** Amy Cassidy, Ilya Grigorenko, Stephan Haas. Phys. Rev. B **77**, 245404 (2008), arXiv:0804.2625.

Conference Proceedings:

- **Successful Proposals, Fund Raising and Project Leadership.** Elizabeth A. Ainsbury, Amy Cassidy, Frances Downey, Beverly K. Hartline, J. Grace Lin, Christophe McCray and Silvina Ponce Dawson. In *Conference Proceedings of Third IUPAP International Conference on Women in Physics, Seoul, South Korea, 8-10 October 2008*, edited by B. K. Hartline, *et al.* AIP Conference Proceedings Vol 1119 (2009).

Invited Talks:

- *Chaos Threshold in 1D Mean-Field Bose-Hubbard Model*, National Institute of Standard and Technology QIBEC Colloquium, Gaithersburg, MD (December 2008).
- *Chaos Threshold in 1D Mean-Field Bose-Hubbard Model*, University of Massachusetts Boston Physics Seminar, Boston, MA (December 2008).

Contributed Talks:

- *Chaos Threshold and Failure of Chirikov's Criteria in Mean Field Bose-Hubbard Model*, American Physical Society, DAMOP, Charlottesville, VA (May 2009).
- *Chaos Criterion in Bose-Hubbard Model*, American Physical Society, DAMOP, State College, PA (May 2008).
- *Chaos Threshold in Bose-Hubbard Model*, American Physical Society March Meeting, New Orleans, LA (March 2008).
- *Onset of Chaos and Thermalization in a One-Dimensional Bose-Hubbard Lattice in the Mean-Field Regime*, American Physical Society March Meeting, Denver, CO (March 2007).
- *Adaptive Design of Metallic Nanoscale Chains*, Canadian-American-Mexican Physics Graduate Student Conference (August 2005).
- *Dielectric Response of Metallic Nanoclusters (Poster)*, American Physical Society March Meeting, Los Angeles, CA (March 2005).

Women in Physics Presentations:

- *Funding Opportunities: Sources from the United States for International Researchers and Collaborators*, IUPAP 3rd International Conference on Women in Physics, Seoul, Korea (October 2008).
- *Conference for Undergraduate Women in Physics at USC: For Students, by Students (Poster)*, IUPAP 3rd International Conference on Women in Physics, Seoul, Korea (October 2008).
- *Women in Physics: It's a Good Time to be a Woman*, Conference for Undergraduate Women in Physics, Los Angeles, CA (January 2008).

Outreach and Student Advocacy:

Conference for Undergraduate Women in Physics

2005-2009

- Conceived, planned, and implemented USC's First Annual Conference for Undergraduate Women in Physics (CUWIP) (Jan. 2006).
- Co-led planning committee for the 2nd CUWIP (Jan. 2007)
- Planning committee member 3rd (Jan. 2008) and 4th CUWIPs (Jan. 2009).
- Raised funds for CUWIP including a successful NSF grant for the second conference.
- Instrumental in establishing parallel conferences at Yale University and the University of Michigan, held January 2008.
- Over 300 students have participated in one of the CUWIPs.

USC Mellon Award for Excellence in Mentoring

2007

- Recognized in the category of "Graduate Students Mentoring Undergraduate Students" for work on the Conference for Undergraduate Women in Physics at USC.

Women in Physics at USC 2005-2008

- Co-founded the Women in Physics group at USC.

Graduate Association of Students in Physics 2004-2007

- President (2005-2006) and Treasurer (2004-2005)
- Advocated for and coordinated graduate student meetings with perspective faculty hires.
- Organized faculty-graduate student meetings.

Grants:

- National Science Foundation grant for the 2nd Annual Conference for Undergraduate Women in Physics (Joint with Katie Mussack and PI Gene Bickers). Awarded September 2006.
- USC College of Letters, Arts & Sciences Graduate Professionalism Initiative for 2nd, 3rd and 4th Annual Conferences for Undergraduate Women in Physics. Awarded Summer 2006, 2007, 2008.

Teaching Experience:

Facilitated Study Group Leader, University of Massachusetts Boston 2008-2009

- Study-group facilitator for introductory physics. Facilitator training lead by Prof. Arthur Eisenkraft of the Center of Science and Math in Context.

Teaching Assistant, University of Southern California 2003-2007

- Lab instructor for general education physics and astronomy classes.

Outstanding TA Award, USC Fall 2004

High School Teacher, International School of Luxembourg 2000-2003

Teaching Duties:

- Creation and presentation of classroom lessons.
- Supervision of extended assessment tasks/projects.
- Collaborative development, documentation, and evaluation of curriculum.
- Staff Training workshops – Excel, laboratory computer interfacing system.
- Inventory, orders and repair of equipment, care of facilities.
- Writing and implementation of a site specific laboratory program.
- Assessment of students, reporting to parents.

Peer Instructor, University of Delaware Fall 1999

- Peer instructor for problem-based-learning honors physics class.

Skills:

Computing Skills

- C, Fortran, Python, MATLAB, Web Design