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EDUCATION

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

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

University of Delaware, Newark, DE **1996-2000**

- B.A., Physics Education. Minor: Mathematics
- Eugene DuPont Distinguished Scholar (Full merit-based scholarship)

EMPLOYMENT

NRC Postdoctoral Research Associate **2009-Present**

National Institute of Standards and Technology, Gaithersburg, MD

- Theoretical and computational studies of non-equilibrium dynamics in ultracold atoms
- Supervisor: Charles W. Clark

Research Associate **2007-2009**

University of Massachusetts Boston, Boston, MA

- Dissertation research on the relationship between chaos and thermalization
- Facilitated Study Group Leader for introductory physics, run through the Institute for Maximizing Student Diversity.

Teaching Assistant **2003-2007**

University of Southern California, Los Angeles, CA

- Lab instructor for general education physics and astronomy classes

High School Teacher **2000-2003**

International School of Luxembourg, Luxembourg, Luxembourg

- Taught International Baccalaureate (IB) Physics, IB Mathematics, 9/10 Integrated Science
- Created and presented classroom lessons
- Collaboratively developed, documented, and evaluated curriculum
- Wrote and implemented a site specific laboratory program
- Responsible for inventory, orders and repair of laboratory equipment
- Ran staff training workshops – Excel, laboratory computer interfacing system

Peer Instructor **1999**

University of Delaware, Newark, DE

- Facilitated peer-instruction group for introductory honors physics class

PUBLICATIONS

Peer-reviewed journals:

- **Generalized Thermalization in an Integrable Lattice Systems.** Amy C. Cassidy, Charles W. Clark, Marcos Rigol. *Phys. Rev. Lett.* **106**, 140405 (2011) arXiv:1008.4794 .
- **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)

GRANTS

- National Research Council Research Associateship Program: Relaxation in Integrable Systems: Atom interferometry and fundamental questions in 1D bosonic systems (2009)
- National Science Foundation grant for the 2nd Annual Conference for Undergraduate Women in Physics. Joint with Katie Mussack and PI Gene Bickers (2006)
- USC College of Letters, Arts & Sciences Graduate Professionalism Initiative for Conferences for Undergraduate Women in Physics (2006, 2007, 2008)

INVITED TALKS

- *Return to Equilibrium: Quantum quenches in Cold Atoms*, Bates College, Lewiston, ME (December 2010).
- *Cold Atoms out-of-Equilibrium*, Georgia Southern University Physics Colloquium, Statesboro, GA (October 2010).
- *Chaos, Thermalization and (Near-) Integrability*, Bucknell University Physics Seminar, Lewisburg, PA (February 2010).
- *Thermalization near Integrability in the 1D Bose-Hubbard model*, University of Maryland Informal Statistical Physics Seminar, College Park, MD (October 2009).
- *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

- *Eigenstate distribution of observables in an integrable quantum system after a quench.* American Physical Society, DAMOP, Houston, TX (May 2010).
- *Thermalization near Integrability in the 1D Bose-Hubbard Model.* American Physical Society, March Meeting, Portland, OR (March 2010).
- *Chaos Threshold and Failure of Chirikov's Criteria in Mean Field Bose-Hubbard Model*, American Physical Society, DAMOP, Charlottesville, VA (May 2009).

CONTRIBUTED TALKS (cont.)

- *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).

COMPUTING SKILLS

- High Performance Scientific Computing: MPI, code parallelization
- Programming in C, Fortran
- Data analysis and graphing: Python, MATLAB, gnuplot
- Linux, Unix, shell scripting
- Web Design
- Word processing, spreadsheets

PROFESSIONAL SERVICE

STEM Postdoc Conference

2010

- Member of planning committee
- Conference awarded 2010 Federal Laboratory Consortium National STEM award

Conference for Undergraduate Women in Physics

2005-2009

- Co-founder of Conference for Undergraduate Women in Physics at the University of Southern California
- Conceived, planned, and implemented first conference (2006)
- Organized and led planning committee for second conference (2007)
- Raised funds for first and second conferences, including successful NSF grant.
- Instrumental in establishing ongoing parallel conferences in the Northeast and Midwest

IUPAP 3rd International Conference on Women in Physics, Seoul, Korea

2008

- Member of US Delegation
- Prepared and presented talk on collaborative funding opportunities

Graduate Association of Students in Physics

2004-2006

- President (2005-2006) and Treasurer (2004-2005)
- Advocated for graduate students. Organized faculty-graduate student meetings

AWARDS

- USC Mellon Award for Excellence in Mentoring (2007)
- Outstanding TA Award, University of Southern California (2004)
- Phi Beta Kappa (2000)