

## **Curriculum Vitae**

**Barbara Brawn-Cinani**

**February 2013**

### **1. Personal Information**

#### **Education:**

B.S., Physics, University of Maryland, College Park, with High Honors (2006)

B.S., Astronomy, University of Maryland, College Park, with High Honors (2006)

M.S., Physics, University of Maryland, College Park (2009)

Thesis: Single-Molecule Studies of Human Telomeric G-Quadruplex  
Dynamics (A. LaPorta, advisor)

#### **Positions:**

Undergraduate Research Assistant, Institute for Research in Electronics and Applied  
Physics, University of Maryland, College Park (2003-2006)

Graduate Research Assistant, Institute for Research in Electronics and Applied  
Physics, University of Maryland, College Park (2006-2007)

Graduate Research Assistant, Institute for Physical Science and Technology (IPST),  
University of Maryland, College Park (2007-2009)

Faculty Research Assistant, Institute for Physical Science and Technology (IPST),  
University of Maryland, College Park (2009-2010)

Faculty Research Assistant, Institute for Research in Electronics and Applied Physics  
(IREAP), University of Maryland, College Park (2010-present)

Writing Coach, Graduate School of Management and Technology, University of  
Maryland University College (2011-present)

### **2. Research, Scholarly and Creative Activities**

#### **a. Articles in Refereed Publications:**

- 1) Michel de Messieres, Barbara Brawn-Cinani, Arthur La Porta, "Measuring the Folding Landscape of a Harmonically Constrained Biopolymer," Biophysical Journal, Vol. 100, Issue 11, pp. 2736-2744 (2011)

- 2) Michel de Messieres, Jen-Chien Chang, Barbara Brawn-Cinani, and Arthur La Porta, "Single-Molecule Study of *G*-Quadruplex Disruption Using Dynamic Force Spectroscopy," *Phys. Rev. Lett.* 109, 058101 (2012)

**b. Other Articles**

- 1) Barbara E. Brawn, Kaveri Joshi, Daniel P. Lathrop, Nicolas Mujica, and Daniel R. Sisan, "Visualizing the invisible: Ultrasound velocimetry in liquid sodium," *Chaos* 15, 041104 (2005)
- 2) Douglas H. Kelley, Santiago Andres Triana, Daniel S. Zimmerman, Barbara Brawn, Daniel P. Lathrop, and Donald H. Martin, "Driven inertial waves in spherical Couette flow," *Chaos* 16, 041105 (2006)

**c. Talks, Abstracts and Other Papers Presented**

- 1) "Power input measurements in Lorentz force-driven turbulent flows," Annual Meeting of the American Physical Society's Division of Fluid Dynamics, Seattle, Washington (2004)
- 2) "Power input measurements in Lorentz force-driven turbulent flow," Barbara E. Brawn, Nicolas Mujica, Daniel P. Lathrop, 2004 Meeting of the American Physical Society's Division of Fluid Dynamics, Abstract EE004 (2004)
- 3) "Experimental studies of magnetorotational instability in differentially rotating cylindrical flows," Barbara E. Brawn, Daniel P. Lathrop, 2006 Meeting of the American Physical Society's Division of Fluid Dynamics, Abstract ON00003 (2006)

**d. Contracts and Grants**

- 1) National Institute of Standards and Technology's American Recovery and Reinvestment Act Measurement Science and Engineering Fellowship Program (NIST-ARRA) grant, to promote training and practical experience in science and engineering, and to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve quality of life
  - \$15M, 3 years and 9 months (January 2010 to September 2013), awarded January 2010
  - Led search for, selection of fellows

**Contracts and Grants, co-authored:**

- 2) National Institute for Standards and Technology's Center for Nanoscale Science and Technology (NIST-CNST) and Maryland Nanocenter Cooperative Research Agreement program "Nanoscience and Technology Research for Nano-Metrology in Materials, Electrical and Mechanical Engineering, Physics, Chemistry and NanoBiology and NanoMedicine," implemented to realize the technical benefits of nanotechnology by supporting post-doctoral and visiting researchers in carrying out fundamental research
  - \$15M, 5 years (September 2010-September 2015), awarded September 2010
  - supplement, \$5M, 4 years (September 2011-September 2015), awarded September 2011
  - co-authored proposal
- 3) National Science Foundation Research Experiences for Undergraduates (REU) grant for "Training and Research Experiences in Nonlinear Dynamics (TREND)" program, to introduce undergraduates to team-based, cross-disciplinary research, and to help them prepare for graduate school, research and teaching positions throughout industry and academia
  - \$375K, 3 years (March 2012-March 2014), awarded January 2012
  - co-authored proposal
- 4) National Science Foundation Integrative Graduate Education and Research Traineeship (IGERT) program proposal "Dynamics of Living Systems – From Molecules to Organisms," a new model for graduate education that prepares students for scientific research at the convergence of the physical, engineering, and life sciences
  - \$3.5M, 5 years (January 2013-January 2017), decision pending;
  - co-authored proposal

**e. Fellowships, Prizes and Awards**

- 1) First Prize, 2<sup>nd</sup> Annual Gallery of Nonlinear Images, for "Visualizing the invisible: Ultrasound velocimetry in liquid sodium," Barbara E. Brawn, Kaveri

Joshi, Daniel P. Lathrop, Nicolas Mujica, and Daniel R. Sisan, American Physical Society, 2005

- 2) J. Robert Dorfman Prize for Outstanding Undergraduate Research, conferred by the College of Computer, Mathematical and Physical Sciences, University of Maryland, 2005
- 3) Dean's Award for Outstanding Scholastic Achievement, conferred by the College of Computer, Mathematical and Physical Sciences, University of Maryland, 2006
- 4) Monroe Martin Award for Undergraduate Research, conferred by the Institute for Physical Science and Technology, University of Maryland, 2006