Daniel Borrero Echeverry

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EDUCATION

Ph.D. in Physics with a minor in Mechanical Engineering
Georgia Institute of Technology**,** December 2014
Dissertation title: "Subcritical Transition to Turbulence in Taylor-Couette Flow"
Advisor: Michael F. Schatz, Ph.D.

M.S. in Physics
Georgia Institute of Technology, August 2006

B.S. in Physics with Honors and Special Departmental Honors in Physics
The University of Texas at Austin, May 2005
Thesis Title: "A Low Noise Current Supply for an Electron Dipole Moment Experiment"
Advisor: Daniel Heinzen, Ph.D.

TEACHING EXPERIENCE

Assistant Professor, Department of Physics, Willamette University, August 2016 -present
Courses taught:

- PHYS 221: *Intro. Physics I* (w/labs)
- PHYS 222: *Intro. Physics II* (w/labs)
- PHYS 335: *Thermal Physics*
- PHYS 360: *Research Experience in Physics*
- PHYS 396W: *Advanced Techniques in Experimental Physics*
- PHYS 470: *Advanced Topics in Physics – Nonlinear Dynamics and Chaos*
- PHYS 495/496: *Research Seminar*

Visiting Assistant Professor, Department of Physics, Reed College, August 2014 – August 2016
Courses taught:

- PHYS 101: *General Physics I* (recitation)
- PHYS 102: *General Physics II*
- PHYS 201: *Oscillations and Waves* (laboratory)
- PHYS 202: *Modern Physics* (w/ lab)
- PHYS 331: *Advanced Laboratory I*
- PHYS 411: *Nonlinear Dynamics and Chaos*
- PHYS 470: *Senior Thesis*

Head Teaching Assistant for PHYS 2211 and PHYS 2212, *Matter & Interactions I & II*, School of Physics, Georgia Tech, January 2008 – August 2011

Graduate Teaching Assistant, School of Physics, Georgia Tech, August 2005 – January 2008
Courses:

- PHYS 2021:*The Solar System*
- PHYS 2022: *Stars, Galaxies, and the Universe*
- PHYS 2211: *Matter & Interactions I: Modern Mechanics*
- PHYS 2211: *Introductory Physics I*
- PHYS 2212: *Matter & Interactions II: Electric and Magnetic Interactions*
- PHYS 2212: *Introductory Physics II*
- PHYS 2213: *Introduction to Modern Physics*
- PHYS 3021: *Stellar Astrophysics*

Co-Instructor, *Scientific Modeling and Computation for Secondary Education*, U.S. Department of Education Mathematics and Science Partnerships Program, Georgia Tech, July 2011 – May 2012

Co-Instructor, *Turbulence* and *Teaching Scientific Computation to Undergraduates Using vPython*, Hands-on Research in Complex Systems School, University of Buea, Buea, Cameroon, August 2010

Private Tutor, August 2001 – August 2014
500+ hours of one-on-one tutoring sessions with 30+ students in Physics and Physical Science, Chemistry, Mathematics, Computer Science, and Spanish at the middle school, high school, and lower and upper division collegiate levels.

Guest Lecturer, School of Physics, Georgia Tech

- PHYS 4421*: Introduction to Continuum Mechanics*, April 2010
  Lecture Title: "Transition to turbulence in shear flows"
- PHYS 7224*: Nonlinear Dynamics*, November 2008
  Lecture Topic: "The Dynamical Systems Picture of Turbulence"

MENTORING EXPERIENCE

SCRP Summer Research Adviser, Department of Physics, Willamette University: Supervised fulltime undergraduate research projects in fluid dynamics — Summer 2017, 2018

Thesis Adviser, Department of Physics, Willamette University, — August 2016 – present
Supervised yearlong undergraduate research projects in a variety of problems in nonlinear science during the academic year.

Thesis Adviser, Department of Physics, Reed College, — August 2014 – August 2016
Supervised yearlong undergraduate research projects in a variety of problems in nonlinear science during the academic year.

Advisor for the Latino Student Union, Reed College — August 2015 – August 2016

Mentor for the STEMFemmes, Reed College's student group for women in STEM, Reed College — August 2014 – August 2016

Academic Advisor, Department of Physics, Reed College, — August 2015 – August 2016

Graduate Student, Pattern Formation and Control Lab, — January 2006 – August 2014
Georgia Institute of Technology: Mentored junior graduate and undergraduate students on their research projects leading to the preparation of manuscripts for publication. Several of the undergraduate students have gone on to pursue advanced degrees in Physics and Mathematics.

Graduate Student Mentor, 2011 Summer Undergraduate Research in Engineering and Science (SURE) Program for students from traditionally underrepresented minorities, Georgia Tech

TEACHING AWARDS & HONORS

2011 CETL/BP Outstanding Graduate Teaching Assistant Award, Georgia Tech
Awarded by the Center for the Enhancement of Teaching and Learning and BP, it is the only Institute-wide award for Graduate Teaching Assistants at the Georgia Tech and is awarded to a single recipient per calendar year.

2010 Outstanding Teaching Assistant of the Year, School of Physics, Georgia Tech

2008 Outstanding Teaching Assistant of the Year, School of Physics, Georgia Tech

2008 Teresa Jimenez Commitment to Honor Award, Honor Advisory Council, Georgia Tech
Awarded to "highlight the individual who has embodied the ideals of the Georgia Tech Honor Code during the previous year."

ADDITIONAL TRAINING

Attended American Association of Physics Teachers' Partnership for Integration of Computation into Undergraduate Physics (PICUP) Summer Faculty Development workshop at the University of Wisconsin – River Falls. July 2018

Attended Active Learning in Introductory Physics Workshop at Vernier Science & Technology May 2018

Seminars attended at Willamette University

- Inclusive Teaching Pedagogies May 2018
- Understanding and Removing Math Barriers March 2018
- DACA Training February 2017
- Transparent Teaching October 2016
- Inclusive Teaching and Mentoring Workshop September 2016

Semester-long courses taken through Georgia Tech's Center for the Enhancement of Teaching and Learning (CETL):

- CETL 8802 TL: *Foundations of Teaching and Learning in Higher Education*
- CETL 8801: *Methods of Academic Presentation*

Additional CETL Seminars and Workshops

- *Treating Students Equally in Class While Also Honoring Diversity*
- *Gender Issues in the Classroom*
- *Using Technology in the Classroom*
- *Getting Feedback on Student Learning*
- *Get Your Students Actively Involved – Even If You Have 200 of Them!*
- *Mentoring Undergraduate Researchers: A Workshop for Faculty, Post-Docs, And Graduate Students*

Completed the Georgia Tech Graduate Communication Certificate Program, September 2012

RESEARCH INTERESTS

- **Fluid Dynamics**: direct transition to turbulence and bypass scenarios, weak turbulence, computational fluid dynamics, flow visualization, hydrodynamic stability
- **Nonlinear Dynamics and Chaos**: high-dimensional chaos, symmetry in dynamical systems, periodic orbit theory
- **Complex Systems**: synchronization, pattern formation, flocking and swarming
- **Physics Education Research**: undergraduate curriculum reform, scientific computation, recruitment and retention of traditionally underrepresented groups

RESEARCH EXPERIENCE

Principal Investigator, Department of Physics, Willamette University, August 2016 – present
Salem, OR. Led team of undergraduate researchers in a variety of fluid dynamics experiments and computational projects.

Principal Investigator, Department of Physics, Reed College, August 2014 – August 2106.
Portland, OR. Led team of undergraduate researchers in a variety of fluid dynamics experiments and computational projects.

Graduate Research Assistant, Pattern Formation and Control Laboratory, School of Physics, Georgia Tech, Atlanta, GA, January 2006 – August 2014

Undergraduate Research Assistant, Ultracold Atomic Physics Group, Department of Physics, The University of Texas at Austin, Austin, TX, May 2003 – August 2005

ADDITIONAL SKILLS & QUALIFICATIONS

Laboratory Experience: computer-aided data acquisition and processing, analog and digital electronics, image processing, particle image velocimetry, high-vacuum technology, machine tools, optics, fluorescence microscopy, hardware automation and control, flow visualization

Technical computing experience: MATLAB, JAVA, Python, C++, SQL, Maple, Mathematica, LabVIEW, AutoCAD, SolidWorks, TecPlot, OpenFOAM (computational fluid dynamics toolkit), DaVis (advanced imaging and analysis software for laser-based flow measurements), LaTeX

Languages: Native proficiency in written and oral English and Spanish, basic German

GRANTS

Jonathan F. Reichert Foundation ALPhA Immersion Equipment Grant October 2017
for DC Glow Discharge Plasma Tube. Amount: $2,344

SERVICE

Member, Organzing Committee for American Physical Society August 2018-present
71st Annual Meeting of the Division of Fluid Dynamics in Seattle, Washington

Member, Executive Board for Advanced Laboratory Physics Association March 2018-present

Chief Adjudicator, Spanish Division of Mark O. Hatfield Debate Tournament April 2018

Member, Admissions Committee, Willamette University August 2017 - May 2018

Reviewer for *Chaos*, the *American Journal of Physics*, the *European Journal of Physics*, and *Physical Review E*

Instituted and currently maintain "Willamette Women in Physics" and "Careers in Physics" poster boards August 2017 – present

Represented Physics department at Bearcat Days Spring 2017, Spring 2018

Coordinated Physics department email outreach campaign to admitted students Spring 2017

Staffed Resume Helpdesk at APS-DFD Meeting in Portland November 2016

Sat on Faculty Forum for new OFFRR hire October 2016

Collaborated with S. Dwyer in the Chemistry department to develop a 3D printing module for CHEM 345W: Experimental Biochemistry to help students visualize tRNA and other complex molecules. September 2016

Panelist, Impostor Syndrome and Stereotype Threat, Department of Physics, Willamette University September 2016

Website Czar, Department of Physics, Reed College, Portland, OR, August 2015 – August 2016

Co-organizer for Welcome Barbeque for Students of Color, Reed College, August 2015. Worked with members of the Latino Student Union to organize a welcome event for students of color.

Organizer for Career Panel for Physics Majors, Department of Physics, Reed College, March 2015

Organizer for Divisional Public Lecture, Division of Mathematics and Natural Sciences, Reed College, Portland, OR, February 2015

Seminar Czar, Department of Physics, Reed College, Portland, OR, January - May 2015

Graduate Student Representative, Laboratory Safety Committee, School of Physics, Georgia Tech, January 2008 – August 2014

Graduate Student Reviewer, Review Board for *The Tower: Undergraduate Research Journal at Georgia* Tech, Georgia Tech, January 2008 – August 2014

Graduate Student Grant Reviewer, President's Undergraduate Research Awards Program, Georgia Tech, July 2011 to 2014

Poster Session Judge, Undergraduate Research Opportunities Program (UROP) Symposium, Georgia Tech, April 2009 – 2013

COMMUNITY OUTREACH

Tour Guide for tours of Willamette Physics laboratory to IB Physics Students from South Salem High School

Head Judge for Junior (Middle School) Division in the Physics category, 33rd, 34th, and 35th Annual Gwinnett Regional Science and Engineering Fair, Georgia Gwinnett College, February 2011, 2012, and 2013

Speaker and Leadership Ambassador, Hispanic Leadership Conference for High School Females, Georgia Tech, January 2008, Talk Title: "You're Halfway There!" (with Katalina Keilhauer)

Instructor, Kids Interested in Discovering Science (K.I.D.S) Club, Georgia Tech, January 2008 and October 2007, Class Title: "Slime, Liquid Magnets, and Leaping Shampoo"

Speaker and Leadership Ambassador, Hispanic Leadership Conference for High School Males, Georgia Tech, October 2007, Talk Title: "You're Halfway There!"

PROFESSIONAL SOCIETY MEMBERSHIPS

American Physical Society, 2003 – present
- Forum on Education
- Forum on Physics and Society
- Division of Fluid Dynamics
- Topical Group on Statistical and Nonlinear Physics

American Association of Physics Teachers, 2008 – present
Society for Industrial and Applied Mathematics, 2009 – present
National Society of Hispanic Physicists, 2013 – present

PUBLICATIONS

Peer Reviewed Journal Articles (undergraduate co-authors underlined)

D. Borrero-Echverry, C.J. Crowley, and T.P. Riddick, "Rheoscopic Fluids in a Post-Kalliroscope World." *Phys. Fluids* (2018). Selected as an **Editor's Pick** by *Physics of Fluids*'s editorial board.

D. Borrero-Echeverry and B.C.A. Morrison, "Aqueous ammonium thiocyanate solutions as refractive index-matching fluids with low density and viscosity." *Exp. Fluids* **57**, 123 (2016).

N.B. Budanur, D. Borrero-Echeverry, and P. Cvitanović, "Periodic orbit analysis of a system with continuous symmetry - a tutorial," *Chaos* **25**, 073112 (2015).

P. Cvitanović, D. Borrero-Echeverry, K. M. Carroll, B. Robbins, and E. Siminos, "Cartography of high-dimensional flows: A visual guide to sections and slices," *Chaos* **22**, 047506 (2012).

K. Wiesenfeld and D. Borrero-Echeverry, "Huygens (and Others) Revisited," *Chaos* **21**, 047515 (2011).

D. Borrero-Echeverry, R. Tagg, and M.F. Schatz, "Transient turbulence in Taylor-Couette Flow," *Physical Review E* **81**, 025301(R) (2010). Won **Best Student Paper** at the 16th International Couette-Taylor Workshop, Princeton University, Princeton, NJ.

Non-Refereed Publications
D. Borrero-Echeverry and K. Wiesenfeld, "A Study of Synchronization in Coupled Nonlinear Oscillators Using Iterated Maps," 22nd Georgia Tech/SAIC Student Paper Competition (2011).

UNDERGRADUATE THESES SUPERVISED

T. Jones, *Hydrodynamic Tunneling as Quantum Analog Experiment*, Senior Thesis, Department of Physics, Willamette University (2018).

B. Sier, *Effects of Perturbation Amplitude on the Subcritical Transition to Turbulence in Taylor-Couette Flows*, Senior Thesis, Departments of Mathematics and Physics, Willamette University (2018).

A. Lum, *The Radius Ratio Dependence of the Primary Instability in the Taylor-Couette System*, Senior Thesis, Department of Physics, Willamette University (2017).

R. Kondratyev, *Experimental Investigation of the Stability of Keplerian Disks*, Senior Thesis, Departments of Mathematics and Physics, Willamette University (2017).

A.A. Abidi, *Quantifying Cellular Mechanotransduction in Morphogenesis and* Cancer, Senior Thesis, Department of Physics, Reed College (2016).

J. Joe, *256 Shades of Grey: Topological Analysis of the Gray-Scott Model Using Persistence Landscapes*, Senior Thesis, Departments of Mathematics and Physics, Reed College (2016).

N.P. Showell, *The Synchronization of Coupled Oscillators*, Senior Thesis, Department of Physics, Reed College (2016).

M.B. Conner, *Tunneling in a Quantum Analog: An Experimental Investigation of a Bouncing Oil Drop System*, Senior Thesis, Department of Physics, Reed College (2015).

V. Gopalaswamy, *Exact Coherent Structures with Broken Symmetry in Plane Couette Flow*, Senior Thesis, Department of Physics, Reed College (2015).

J.E. Hawkins, *Looking at Pictures: Topological Analysis of Complex Reaction-Diffusion Patterns*, Senior Thesis, Department of Physics, Reed College (2015).

D. Kesseli, *An Experimental and Numerical Analysis of 2-Dimensional Kolmogorov Fluid Flows*, Senior Thesis, Department of Physics, Reed College (2015).

INVITED TALKS AND SEMINARS

D. Borrero-Echeverry, "Subcritical Transition to Turbulence in Taylor-Couette Flow," Departmental Seminar, Portland State University, Portland, Oregon, June 2018.

D. Borrero-Echeverry, "Subcritical Transition to Turbulence in Taylor-Couette Flow," Pacific Northwest Association for College Physics (PNACP) Meeting, Bothell, Washington, May 2018.

D. Borrero-Echeverry, "Subcritical Transition to Turbulence in Taylor-Couette Flow," Departmental Seminar (Mech. Eng.), University of Rochester, Rochester, New York, July 2017.

D. Borrero-Echeverry, "Understanding the Transition to Turbulence from the Perspective of Dynamical Systems Theory," Departmental Seminar, James Madison University, Harrisonburg, Virginia, February 2016.

D. Borrero-Echeverry, "Understanding the Transition to Turbulence from the Perspective of Dynamical Systems Theory," Departmental Seminar, Willamette University, Salem, Oregon, January 2016.

D. Borrero-Echeverry, "Understanding the Transition to Turbulence from the Perspective of Dynamical Systems Theory," Departmental Seminar, Illinois State University, Normal, Illinois, January 2016.

D. Borrero-Echeverry, "Understanding the Transition to Turbulence from the Perspective of Dynamical Systems Theory," Departmental Seminar, Hamilton College, Clinton, New York, December 2016.

D. Borrero-Echeverry, "Understanding the Transition to Turbulence from the Perspective of Dynamical Systems Theory," Departmental Seminar, Saint Lawrence University, Canton, New York, December 2016.

D. Borrero-Echeverry, "On the Importance of Visualization in Nonlinear Dynamics," Science Colloquium, Linfield College, McMinnville, Oregon, March 2015

D. Borrero-Echeverry, "From Huygens's Clocks to Hurricanes," Departmental Seminar, University of Portland, Portland, Oregon, October 2014

D. Borrero-Echeverry, "From Huygens's Clocks to Hurricanes," Departmental Seminar, Reed College, Portland, Oregon, March 2014

D. Borrero-Echeverry, "From Huygens's Clocks to Hurricanes," Departmental Seminar, Hendrix College, Conway, Arkansas, December 2013

D. Borrero-Echeverry, “From Huygens's Clocks to Hurricanes,” Departmental Seminar, Agnes Scott College, Decatur, Georgia, December 2012

D. Borrero-Echeverry and M.F. Schatz, “Turbulence from the Dynamical Systems Perspective: Results from theory and experiment,” Emerging and Diverging Trends in Physics Seminar Series, Georgia Tech, March 2011

D. Borrero-Echeverry and M.F. Schatz, “A Dynamical Systems View of Turbulence,” Southeast Section of the American Mathematical Society Workshop, University of Central Florida, November 2009

D. Borrero-Echeverry, R. Tagg, M.F. Schatz, “Transient Turbulence in Taylor-Couette Flow,” Max Plank Institute for Dynamics and Self-Organization, Göttingen, Germany, August 2009

D. Borrero-Echeverry, “The decay of turbulence in the flow between independently rotating cylinders,” Center for Nonlinear Science Seminar, Georgia Tech, October 2008

CONTRIBUTED TALKS AND POSTERS

Talks (undergraduate co-authors underlined)

D. Borrero-Echeverry, “Investigating Hydrodynamic Instabilities Using Table-Top Experiments.” 3rd American Association of Physics Teachers Conference on Lab Instruction Beyond the First Year of College, Baltimore, Maryland, July 2018

D. Borrero-Echeverry, “Fluid Mechanics Experiments as a Unifying Theme in the Physics Instrumentation Laboratory Course.” 70th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, Denver, Colorado, November 2017

D. Borrero-Echeverry and C.J. Crowley, “A Rheoscopic Fluid for a Post-Kalliroscope World.” 69th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, Portland, Oregon, November 2016

C.J. Crowley, M. Krygier, D. Borrero-Echeverry, R.O. Grigoriev, and M.F. Schatz, “Experimental and numerical study of direct laminar-turbulent transition in Taylor-Couette flow.” 69th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, Portland, Oregon, November 2016

D. Borrero-Echeverry, B.C.A. Morrison, and E. Peairs, “System Size Dependence of Finite-Amplitude Thresholds for Transition to Turbulence in Taylor-Couette Flow,” 68th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, Boston, November 2015

B.C.A. Morrison and D. Borrero-Echeverry, “Aqueous ammonium thiocyanate solutions as refractive index-matching fluids with low density and viscosity,” 68th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, Boston, November 2015

V. Gopalaswamy and D. Borrero-Echeverry, “Symmetry Broken Exact Coherent Structures in Plane Couette Flow,” 68th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, Boston, November 2015

C.J. Crowley, M. Krygier, D. Borrero-Echeverry, R.O. Grigoriev, and M.F. Schatz, “Experimental observations of direct laminar-turbulent transition in counter-rotating Taylor-Couette flow,” 68th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, Boston, November 2015

C.J. Crowley, M. Krygier, D. Borrero-Echeverry, R.O. Grigoriev, and M.F. Schatz, “Experimental observations of direct laminar-turbulent transition in counter-rotating Taylor-Couette flow,” 19th International Couette-Taylor Workshop, Brandenburg University of Technology, Cottbus, Germany, June 2015

C.J. Crowley, M. Krygier, S.G. Raben, D. Borrero-Echeverry, R.O. Grigoriev, and M.F. Schatz, “Direct laminar-turbulent transition in Taylor-Couette flow: Experiments and simulations,” 67th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, San Francisco, California, November 2014

D. Borrero-Echeverry, S. Raben, and M.F. Schatz, “Finite-amplitude thresholds for transition in Taylor-Couette flow,” 33rd Dynamics Days US, Atlanta, Georgia, January 2014

D. Borrero-Echeverry and M.F. Schatz, “Tomographic PIV Observations of the Growth of Localized Perturbations in Transitional Taylor-Couette Flow,” 66th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, Pittsburgh, Pennsylvania, November 2013

D. Borrero-Echeverry, D.W. Webster, and M.F. Schatz, **“**Applying Tomographic PIV to turbulent Taylor-Couette Flows,” 64th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, San Diego, CA, November 2012

D. Borrero-Echeverry and M.F. Schatz, “Tomographic PIV Observations of Turbulent Structures in Transitional Taylor-Couette Flow,” 64th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, Baltimore, MD, November 2011

D. Borrero-Echeverry, D.R. Webster, R. Tagg, M.F. Schatz, ”A Search for Exact Coherent Structures in Transitional Taylor-Couette Flow,” 63rd Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, Long Beach, CA, November 2010

D. Borrero-Echeverry, R. Tagg, M.F. Schatz, “Transient Turbulence in Taylor-Couette Flow: Co/Counter Rotation and Aspect Ratio Effects,” 62nd Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, San Antonio, TX, November 2009

D. Borrero-Echeverry, R. Tagg, M.F. Schatz, “Transient Turbulence in Taylor-Couette Flow,” 16th International Couette-Taylor Workshop, Princeton University, Princeton, NJ, September 2009

D. Borrero-Echeverry, R. Tagg, M.F. Schatz, “Transient Turbulence in Taylor-Couette Flow,” Danish Technical University Summer School on Complex Motion in Fluids, Krogerup Højskole, Humlebaek, Denmark, August 2009

D. Borrero-Echeverry, R. Tagg, and M. F. Schatz, "Transient Turbulence in Taylor-Couette Flow" (mini-symposium), Society for Industrial and Applied Mathematics (SIAM) Conference on Applications of Dynamical Systems, Snowbird, UT, May 2009

D. Borrero-Echeverry and M. F. Schatz, "Is turbulence a transient? An update," 2nd Southeast Workshop on Soft Materials and Interfaces, Emory University, Atlanta, GA, October 2008

D. Borrero-Echeverry and M. F. Schatz, "Is turbulence a transient?" 1st Southeast Workshop on Soft Materials and Interfaces, Georgia Tech, May 2008

D. Borrero-Echeverry, E.F. Greco, J.E. Widloski, D.L. Vainchtein, R.O. Grigoriev, M.F. Schatz, "Optically-controlled thermocapillary actuation of microdroplets at a fluid interface," 60th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, Salt Lake City, UT, November 2007

D. Borrero-Echeverry, E.F. Greco, J.E. Widloski, D.L. Vainchtein, R.O. Grigoriev, M.F. Schatz, "Optically-controlled thermocapillary actuation of microdroplets," Danish Technical University Summer School on Complex Motion in Fluids, Krogerup Højskole, Humlebaek, Denmark, August 2007

Posters (undergraduate co-authors underlined)

D. Borrero-Echeverry, "When Will I Ever Use This? Providing a Unifying Theme in the Instrumentation Laboratory through Fluid Mechanics Experiments." 18th Annual Meeting of the American Physical Society's Northwest Section, Forest Grove, OR, June 2017

M. Kleinert and D. Borrero-Echeverry, "Arduino-based Electronics in a Junior-level Advanced Laboratory Course." 18th Annual Meeting of the American Physical Society's Northwest Section, Forest Grove, OR, June 2017

E. Peairs, B.C.A. Morrison, and D. Borrero Echeverry, "Finite-Amplitude Thresholds for Transition to Turbulence in Taylor-Couette Flow," Reed College Summer Research Symposium, Reed College, Portland, OR, September 2015

D. Borrero-Echeverry and K. Wiesenfeld, "Huygens (and Others) Revisited," Dynamics Days 2012, Baltimore, MD, January 2012

D. Borrero-Echeverry, "The collapse of turbulence in Taylor-Couette flow," Southeastern Section of the American Mathematical Society Workshop, University of North Carolina, Chapel Hill, NC, October 2008

D. Borrero-Echeverry, "Optically actuated microfluidics: Towards a reprogrammable chaotic mixer," 75th Annual Meeting of the Southeastern Section of the American Physical Society, North Carolina State University, Raleigh, NC, October 2008

E.F. Greco, D. Borrero-Echeverry, M.D. Caballero, R.O. Grigoriev, and M.F. Schatz, "Microdrop Dynamics," Georgia Tech School of Physics Retreat, Lake Lanier, GA, October 2006