Antonio Mastroberardino

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EDUCATION

- **University at Buffalo**, Buffalo, NY
  Ph.D. in Mathematics, 2008
  Advisor: Brian Spencer
- **The College at Brockport**, Brockport, NY
  M.A. in Mathematics, 2002
- **Cornell University**, Ithaca, NY
  B.S. in Mechanical & Aerospace Engineering, Cum Laude, 1996

EMPLOYMENT

- Assistant Professor of Mathematics, Penn State Erie
  July 2008-present
- Mathematics Instructor, University at Buffalo
  July 2006-June 2008
- Research Assistant, University at Buffalo
  August 2005-August 2007
- Mathematics Instructor, SUNY Brockport
  January 2003-December 2005
- Mathematics Instructor, Monroe Community College
  July 2003-August 2005
- Teaching Assistant, University at Buffalo
  August 2003-May 2005

RESEARCH INTERESTS

Fluid mechanics, mathematical biology, differential equations, numerical analysis.

PUBLICATIONS

(1) Mastroberardino, A., Cheng, Y., Abdelrazec, A., Liu, H. Mathematical modeling of the HIV/AIDS epidemic in Cuba, submitted.
(2) Mastroberardino, A., Mixed convection in viscoelastic boundary layer flow and heat transfer over a stretching sheet, submitted.
(3) Mastroberardino, A., Comment on "Heat transfer in MHD viscoelastic boundary layer flow over a stretching sheet with thermal radiation and non-uniform heat source/sink", submitted.
(4) Mastroberardino, A., Accurate solutions for viscoelastic boundary layer flow and heat transfer over a stretching sheet, to appear in *Applied Mathematics and Mechanics (English Edition)*.
(5) Mastroberardino, A., Series solutions for annular axisymmetric stagnation flow on a moving cylinder, *Applied Mathematics and Mechanics (English Edition)*, **34**, no. 9 (2013) 1043-1054.

(6) Mastroberardino, A., Mahabaleswar, U.S., Mixed convection in viscoelastic flow due to a stretching surface in a porous medium, *Journal of Porous Media*, **16**, no. 6 (2013) 483-500.
(7) Mastroberardino, A., Homotopy analysis method applied to electrohydrodynamic flow, *Communications in Nonlinear Science and Numerical Simulation*, **16**, no. 7 (2011) 2730-2736.
(8) Mastroberardino, A., Paullet, J.E., Existence and a priori bounds for steady stagnation flow toward a stretching cylinder, *Journal of Mathematical Analysis and Applications*, **365**, no. 2 (2010), 701-710.
(9) Mastroberardino, A., Spencer, B.J., Three-dimensional equilibrium crystal shapes with corner energy regularization, *IMA Journal of Applied Mathematics*, **75**, no. 2 (2010), 190-205.

GRANTS

- Penn State Erie Chancellor's Sponsored Research Seed Grant, Summer 2012 ($2500).

INVITED PRESENTATIONS

- Mathematics Seminar, Western Kentucky University, October 2013.
- AMS Southeastern Sectional Meeting, University of Louisville, October 2013.
- SIAM Conference on Applied Dynamical Systems, Snowbird, UT, May 2013.
- Symposium on Biomathematics and Ecology: Education and Research, St. Louis, MO, November 2012.
- Applied Mathematics Seminar, University at Buffalo, October 2012.
- AMS Eastern Sectional Meeting, Rochester Institute of Technology, September 2012.
- Symposium on Biomathematics and Ecology: Education and Research, Illinois State University, September 2010.
- Mathematics Seminar, Allegheny College, February 2010.
- Mathematics Seminar, Edinboro University, October 2009.
- Mathematics Colloquium, Niagara University, February 2008.
- Mathematics Seminar, Penn State Erie, February 2008.
- Mathematics Colloquium, Alfred University, January 2008.

CONTRIBUTED PRESENTATIONS

- Mathematics Seminar, Penn State Erie, April 2013.
- Joint Mathematics Meetings, San Diego, CA, January 2013.
- Frontiers in Applied and Computational Mathematics, New Jersey Institute of Technology, May 2012.
- Joint Mathematics Meetings, Boston, MA, January 2012.
- Mathematics Seminar, Penn State Erie, November 2011.
- AMS Eastern Sectional Meeting, Cornell University, September 2011.
- New York Conference on Applied Mathematics, University at Buffalo, April 2011.
- MAA Section Meeting, Nazareth College, April 2011.
- Mathematics Seminar, Penn State Erie, March 2011.
- Joint Mathematics Meetings, New Orleans, LA, January 2011.
- Southeastern-Atlantic Regional Conference on Differential Equations, Virginia Tech, October 2010.
- Session on Open and Accessible Problems in Applied Mathematics, MathFest, Pittsburgh, PA, August 2010.
- MAA Section Meeting, SUNY Oswego, April 2010.

- Mathematics Seminar, Penn State Erie, March 2010.
- Joint Mathematics Meetings, San Francisco, CA, January 2010.
- Mathematics Seminar, Penn State Erie, December 2009.
- MAA Section Meeting, SUNY Fredonia, October 2009.
- Mathematics Seminar, Penn State Erie, September 2009.
- Mathematics Seminar, Penn State Erie, April 2009.
- MAA Section Meeting, Rochester Institute of Technology, April 2009.
- Joint Mathematics Meetings, Washington, D.C., January 2009.
- Mathematics Seminar, Penn State Erie, October 2008.
- Graduate Student Math Modeling Competition, University at Buffalo, March 2008.
- Applied Mathematics Seminar, University at Buffalo, October 2007.
- Graduate Student Math Modeling Camp, Rensselaer Polytechnic Institute, June 2006.

STUDENT PRESENTATIONS

- Clayton Schuman, MAA Section Meeting, Indiana University of Pennsylvania, April 2013. *Multi-dimensional predator-prey models.*
- Clayton Schuman, PME Student Research Conference, Youngstown, OH, February 2013. *Multi-dimensional predator-prey models.*
- Clayton Schuman, Joint Mathematics Meetings, San Diego, CA, January 2013. *Multi-dimensional predator-prey models.*

CONFERENCES AND WORKSHOPS ATTENDED

- Rocky Mountain Mathematics Consortium, University of Wyoming, June 2012.
- Frontiers of Electronic Materials Workshop, Penn State Erie, May 2012.
- Joint Mathematics Meetings, San Diego, CA, January 2008.
- Graduate Student Math Modeling Camp, Rensselaer Polytechnic Institute, June 2006.
- Probabilistic and Analytical Perspectives on Contemporary Partial Differential Equations, Carnegie-Mellon University, June 2006.
- Nonlinearity and Randomness in Complex Systems, University at Buffalo, April 2006.

TEACHING EXPERIENCE

Penn State Erie

- Fourier Series, Ordinary and Partial Differential Equations, Fall 2013
- Matrices, Applied Ordinary Differential Equations, Spring 2013
- Numerical Analysis 1, Ordinary and Partial Differential Equations, Numerical Analysis 2 (independent study), Fall 2012
- Numerical Analysis 2, Calculus 2, Spring 2012
- Numerical Analysis 1, Matrices, Numerical Analysis 2 (independent study), Mathematical Epidemiology (independent study), Fall 2011
- Applied Ordinary Differential Equations, Spring 2011
- Ordinary and Partial Differential Equations, Calculus 3, Fall 2010
- Numerical Analysis 2, Honors Calculus 2, Spring 2010
- Numerical Analysis 1, Differential Equations, Matrices, Fall 2009
- Applied Ordinary Differential Equations, Honors Calculus 2, Spring 2009
- Numerical Analysis 1, Differential Equations, Fall 2008

University at Buffalo

- Linear Algebra, Summer 2008

- Calculus 3, Calculus 2 for the Social Sciences, Spring 2008
- Business Calculus, Fall 2007
- Calculus 3, Summer 2007
- Introduction to Differential Equations, Summer 2006

SUNY Brockport

- Calculus 1, Business Calculus, Fall 2005
- Discrete Math, Calculus 2, Calculus 1, Spring 2003

Monroe Community College

- Intermediate Algebra, Summer 2005
- Applied Calculus, Summer 2004
- Discrete Math, Calculus 3, Summer 2003

PROFESSIONAL DEVELOPMENT

- Engaging Students Colloquy, Schreyer Institute (PSU), May 2013.
- Exploring Hybrid & Online Learning Colloquy, Schreyer Institute (PSU), May 2012.
- Media Commons Workshop, Penn State Erie, May 2011.
- Harnessing the Power of Hybrid & Online Teaching and Learning, Schreyer Institute (PSU), May 2011.
- Rigor in the Classroom, Schreyer Institute (PSU), March 2011.
- ProjectNExT course: Applying for Grants from the National Science Foundation/Getting Your Research Off to a Good Start, MathFest, August 2010.
- Integrated Course Design for Significant Learning, Schreyer Institute (PSU), May 2010.
- Seaway Section NExT, SUNY Oswego, April 2010.
- Seaway Section NExT, Rochester Institute of Technology, April 2009.
- Teaching and Educational Technologies Workshop, Penn State Erie, March 2009.

ADVISING OF UNDERGRADUATE RESEARCH

- Brandt Ruszkiewicz, Spring 2013
  Homotopy analysis method applied to stagnation flow toward a stretching cylinder.
- Tanya Riston, Fall 2012
  The Fitzhugh-Nagumo model under periodic forcing.
- Clayton Schuman, Fall 2011-Fall 2012
  Analysis of predator-prey systems.
- Justin Carbonara, Spring 2011
  Analysis of the Falkner-Skan equation.
- Clayton Schuman and Kartik Darapuneni, Spring 2011
  Equilibrium crystal shapes with corner energy regularization.
- Terrance Watterson, Spring 2011
  Homotopy analysis method applied to the Lane-Emden equation.
- Geoffrey Sanko, Spring 2010
  Annular stagnation flow on a moving cylinder.

SERVICE

- Textbook Reviews:
  - *Calculus* by Taalman & Kohn, W.H. Freeman & Company
  - *Advanced Engineering Mathematics* by Turyn, CRC Press
- Journal Refereeing:

  - Acta Mechanica
  - Advances in Applied Mathematics and Mechanics
  - Applied Mathematics and Computation
  - Applied Mathematics and Mechanics
  - Applied Mathematics Letters
  - British Journal of Mathematics & Computer Science
  - Chemical Engineering Communications
  - International Journal for Computational Methods in Engineering Science & Mechanics
  - International Journal of Applied Nonlinear Science
  - International Journal of Heat and Mass Transfer
  - International Journal of Nonlinear Sciences and Numerical Simulation
  - International Journal of Physical Sciences
  - Journal of Applied Fluid Mechanics
  - Journal of Porous Media
  - Mathematical Methods in the Applied Sciences
  - Modelling and Simulation in Engineering

- College Committee on Research, Penn State Erie, 2013-present.
- College Committee on eLearning Standards, Penn State Erie, 2012-present.
- School Committee on Academic Programs, Penn State Erie, 2011-present.
- Mentor, FastStart Behrend, 2011-present.
- Organizer, Mathematics Seminar, Penn State Erie, 2009-present.
- Mathematics Lecturer Search Committee, Penn State Erie, 2012-2013.
- College Committee on Student Life, Penn State Erie, 2011-2013.
- School Committee on Research, Penn State Erie, 2009-2013.
- Workshop presenter, Math Options Career Day, Penn State Erie, May 2012, 2013.
- Chair, AMS session on Applied Mathematics and Modeling, Joint Math Meetings, 2013.
- Session Organizer, Symposium on Biomathematics and Ecology: Education and Research, St. Louis, MO, November 2012.
- Mathematics Lecturer Search Committee, Penn State Erie, 2011-2012.
- Chair, AMS session on Mechanics and Fluid Mechanics, Joint Math Meetings, 2011.
- College Committee on Athletics, Penn State Erie, 2009-2011.
- Volunteer, Math Options Career Day, Penn State Erie, May 2010, 2011.
- MAA Undergraduate Student Poster Session Judge, Joint Math Meetings, 2010.
- Mathematics Education Faculty Search Committee, Penn State Erie, 2009-2010.
- Judge, Pennsylvania Junior Academy of Sciences competition, 2009, 2010.
- President, Math Graduate Student Association, University at Buffalo, 2007-2008.

AWARDS

- Nominated for Council of Fellows Excellence in Teaching Award, Penn State Erie, 2013.
- Nominated for Council of Fellows Excellence in Teaching Award, Penn State Erie, 2011.
- Who's Who in North American Education, 2010-present.
- Who's Who Among Executives & Professionals, 2009-2010.
- Who's Who Among Students in American Universities & Colleges, 2008.
- Graduate Fellowship, University at Buffalo, August 2003-May 2007.
- Research Assistantship, University at Buffalo, June 2005-May 2007.
- Nominated for Excellence in Teaching Award, University at Buffalo, Fall 2004.
- Teaching Assistantship, University at Buffalo, August 2003-May 2005.

- Teaching Assistantship, SUNY Brockport, Fall 2002.
- Donald Henn Andrew White Scholarship, Cornell University, August 1995-May 1996.
- All-Ivy Academic, Cornell University, Fall 1994.

INDUSTRY EMPLOYMENT

- Project Engineer, Tyco Electronics, Rochester, NY
  June 2000-September 2002
- Project Engineer, Schlegel Systems, Inc., Rochester, NY
  August 1996-August 1999

MEMBERSHIPS

- Society for Industrial and Applied Mathematics
- American Mathematical Society
- Pi Mu Epsilon

SKILLS

- OS X, Windows, MATLAB, Maple, Mathematica, XPPAUT, LaTeX.

REFERENCES

- Brian Spencer, University at Buffalo, 716-645-6284 ext. 118, spencerb@buffalo.edu.
- Brian Hassard (teaching), University at Buffalo, 716-645-6284 ext. 103, hassard@buffalo.edu.
- Shijun Liao, Shanghai Jiao Tong University, 0086-21-3420 4445, sjliao@sjtu.edu.cn.
- Gino Biondini, University at Buffalo, 716-645-6284 ext. 148, biondini@buffalo.edu.
- John Ringland, University at Buffalo, 716-645-6284 ext. 147, ringland@math.buffalo.edu.