

CURRICULUM VITAE

University of Idaho

NAME: Lyudmyla Barannyk

DATE: 01/10/2014

RANK OR TITLE: Assistant Professor

DEPARTMENT: Mathematics

OFFICE LOCATION AND CAMPUS ZIP:

303 Brink Hall, 44-1103

WEB: <http://www.webpages.uidaho.edu/~barannyk/>

OFFICE PHONE: (208) 885-6719

FAX: (208) 885-5843

EMAIL: barannyk@uidaho.edu

DATE OF FIRST EMPLOYMENT AT UI: July 1, 2007

DATE OF TENURE: Untenured

DATE OF PRESENT RANK OR TITLE: Assistant Professor

EDUCATION BEYOND HIGH SCHOOL:

Degrees: PhD, New Jersey Institute of Technology and Rutgers the State University of New Jersey, Newark, NJ, 2003, Mathematical Sciences

MS, New Jersey Institute of Technology, NJ, 2000, Applied Mathematics

Candidate Degree, Institute of Mathematics, National Academy of Sciences of Ukraine, Kyiv, Ukraine, 1997, Physical and Mathematical Sciences

Specialist (BS/MS) with Highest Honors, Kharkiv National University, Kharkiv, Ukraine, 1994, Mathematics, Mathematical Physics, Teaching in Mathematics and Computer Science

EXPERIENCE:

Positions held: Assistant Professor (tenure track), University of Idaho, July 2007 - Present

Assistant Professor (postdoc, non-tenure track), University of Michigan, Ann Arbor, 2003-2007

Adjunct Lecturer, New Jersey Institute of Technology, Newark, NJ, May-August, 2003

TEACHING ACCOMPLISHMENTS:

Areas of Specialization: Differential Equations, Numerical Methods, Applied Mathematics

Courses Taught:

Analytic Geometry and Calculus III, Math 275, Spring 2011, Fall 2008

Ordinary Differential Equations, Math 310, Fall 2011, Fall 2010, Fall 2009, Spring 2008, Fall 2012

Linear Optimization, Math 326, Spring 2013

Analysis of Algorithms, Math 395/CS 395, Spring 2012

Numerical Methods, Math 428/Eng 428/Phys 428, Spring 2012

Numerical Analysis, Math 433, Spring 2010, Spring 2008

Numerical Linear Algebra, Math 432, Fall 2011, Fall 2013

Introduction to Analysis I, Math 471, Fall 2008

Introduction to Analysis II, Math 472, Spring 2009

Partial Differential Equations, Math 480, Spring 2011, Spring 2013

Complex Variables, Math 531, Spring 2009

Partial Differential Equations, Math 540, Spring 2011

Functional Analysis I, Math 571, Fall 2013

Courses Taught at University of Michigan, Ann Arbor:

Applied Honors Calculus II, Math 156, Fall 2006, Fall 2003

Differential Equations, Math 216, Spring 2005, Winter 2005, Fall 2004, Winter 2004
 Boundary Value Problems for Partial Differential Equations, Math 454, Spring 2007, Spring 2006
 Introduction to Numerical Methods, Math 471, Winter 2007, Winter2006, Winter2005, Fall2005, Fall
 2004

Courses Taught at New Jersey Institute of Technology

Calculus I, Math 111, Fall 2002, Spring 2002, Fall 2001
 Differential Equations, Math 222, Summer 2003, Spring 2003

Students Advised:

Undergraduate Students: Advised 2 senior students in 2010 and 1 junior and 1 senior student in 2009 as Continuing Senior Math Advisor

Supervised *Ying Ki Yim*, Engineering/Mathematics student, Summer 2006 REU (Research Experience for Undergraduates), University of Michigan, Ann Arbor. Project Title: *Virtual Cathode Simulation in 1D Using a Grid-Free Poisson Solver*

Graduate Students:

Co-advising an ECE PhD student *Hazem A. Aboutaleb* jointly with Aicha Elshabini, ECE department. The dissertation title “Causality Verification and Enforcement for Microelectronic Package Macromodels” defended December 19, 2013. Expected graduation - May 2014.

Advised *Hamzeh Zbib*, MS in Mathematics, who defended his thesis in July 2013.
 Thesis Title: *Deconvolution closure for continuum models of particle chains*.

Co-advised *Andrew Stevens* jointly with Sergey Lapin (WSU), MS in Mathematics, Spring 2009. Thesis Title: *Formation of Traveling Waves in a Channel in the Presence of the Electric Fields*.

I am working jointly with Fred Barlow and Aicha Elshabini, ECE department, two other ECE students: a PhD student *Dalia Elgamel* (*Passivity enforcement in DRAM Package Models*) and a MS student *Hung Tran* (*Differential s-parameters*).

In addition, I served on the Ph. D. committees of *Jodi Frost*, a graduate student at the Department of Mathematics, and *Maziar Rostamian*, a graduate student at the Department of Mechanical Engineering.

SCHOLARSHIP ACCOMPLISHMENTS:

Publications, Exhibitions, Performances, Recitals:

Refereed/Adjudicated:

1. Lyudmyla L. Barannyk, Demetrios T. Papageorgiou, Peter G. Petropoulos, Suppression of Rayleigh-Taylor instability using electric fields, *Math. Comp. Simul.*, **82** (2012) 1008-1016.
2. Alexander Panchenko, Lyudmyla L. Barannyk and Robert P. Gilbert, Closure method for spatially averaged dynamics of particle chains, *Nonlinear Analysis: Real World Applications*, **12**: 3 (2011) 1681-1697.
3. Lyudmyla L. Barannyk and Demetrios T. Papageorgiou. Fully nonlinear gravity-capillary solitary waves in a two-fluid system of finite depth. *J. Engrg. Math.* **42** (2002) 321-339.
4. Lyudmyla L. Barannyk and Leonid F. Barannyk. On the classification of subalgebras of the Poincaré algebra $AP(2,n)$. *Dopov. Nats. Akad. Nauk Ukraïny* **8** (1998) 17-20 (in Ukrainian).
5. Lyudmyla L. Barannyk. Invariant solutions of a nonlinear system of differential equations for electromagnetic field. *J. Nonlin. Math. Phys.* **4**: 3-4 (1997) 482-491.
6. Wilhem I. Fushchych and Lyudmyla L. Barannyk. Symmetry reduction on subalgebras of the Poincaré algebra of a nonlinear system of differential equations of a vector field. *Dopov. Nats. Akad.*

Nauk Ukraïny **8** (1997) 50-57 (in Ukrainian).

7. Lyudmyla L. Barannyk. Symmetry reduction for a system of nonlinear evolution equations. *J. Nonlinear Math. Phys.* **3**: 3-4 (1996) 447-452.
8. Wilhem I. Fushchych and Lyudmyla L. Barannyk. Symmetry reduction as a method for generating solutions of systems of linear differential equations. *Dopov. Nats. Akad. Nauk Ukraïny* **12** (1996) 44-49 (in Ukrainian).
9. Lyudmyla L. Barannyk. On symmetry reduction and exact solutions of the linear one-dimensional Schrödinger equation. *Dopov. Nats. Akad. Nauk Ukraïny* **9** (1996) 32-38 (in Ukrainian).

Proceedings papers:

1. Hazem Aboutaleb, Lyudmyla L. Barannyk, Aicha Elshabini, Fred Barlow, Causality Enforcement of DRAM Package Models Using Discrete Hilbert Transforms, 2013 *IEEE Workshop on Microelectronics and Electron Devices, WMED*, p. 21-24, 2013.
2. Dalia Elgamel, Lyudmyla Barannyk, A. Elshabini, F. Barlow Comparison of Passive Enforcement Techniques for DRAM Package Models, 2013 *IEEE Workshop on Microelectronics and Electron Devices, WMED*, p. 25-28, 2013.
3. Lyudmyla L. Barannyk, C.S. Bohun, M. Bolton, et al. Resistance Monitoring. *Proceedings of the Sixth PIMS Industrial Problem Solving Workshop*, University of British Columbia, (2002) 85-101.
4. Lyudmyla L. Barannyk. Symmetry reduction of the Guerra-Pusterla equation by subalgebras of the central extension of the conformal algebra. *Pr. Inst. Mat. Nats. Akad. Nauk Ukr. Mat. Zastos.* **19** (1998) 20-31. Symmetry and analytic methods in mathematical physics: Kyiv, Ukraine (in Ukrainian).
5. Lyudmyla L. Barannyk. Symmetry reduction of a generalized complex Euler equation for a vector field. Proceedings of the 2nd International Conference "Symmetry in Nonlinear Mathematical Physics", July 7-13, Kyiv, 1997. *Symmetry in Nonlin. Math. Phys.* **2** (1997) 455-462.

Preprints:

- Aboutaleb H., Barannyk L.L., Elshabini A. and Barlow F., Spectrally accurate causality enforcement using SVD-based Fourier continuations, to be submitted to *IEEE Trans. Adv. Packag.*, Jan. 2014.
- Barannyk L.L., Papageorgiou D.T., J.-M. Vanden-Broeck and Petropoulos P.G., Singularity formation during Rayleigh-Taylor instability in dielectric fluids in a channel, to be submitted to *SIAM Appl. Math.*, Jan. 2014.
- Peter Basarab-Horwath, Lyudmyla L. Barannyk and Wilhem I. Fushchych. Some exact solutions of a conformally invariant nonlinear Schrödinger equation. - Linköping, 1997. - 12p. - Preprint Linköping University, LiTH-MAT-R-97-11.

Submitted papers:

- Lyudmyla L. Barannyk and Alexander Panchenko, Optimizing performance of the deconvolution model reduction for large ODE systems, submitted to *IMA J. Appl. Math.*, preprint at arXiv: 1303.0102.
- Alexander Panchenko, Lyudmyla L. Barannyk, Kevin Cooper, Deconvolution closure for mesoscopic continuum models of particle systems, submitted to *SIAM Multiscale, Modeling and Simulation*, preprint at arXiv:1109.5984.
- Alexander Panchenko, Kevin Cooper, Andrei Kouznetsov and Lyudmyla L. Barannyk, Kinetic equation for spatially averaged molecular dynamics, submitted to *Phys. Rev. Lett.*, preprint at arXiv: submit/0886274.

Papers in preparation:

- Hazem Aboutaleb, Lyudmyla L. Barannyk, Aicha Elshabini, Fred Barlow, Causality verification using polynomial periodic continuations, to be submitted to *IMAPS Journal of Microelectronics and Electronic Packaging*.
- Lyudmyla L. Barannyk, Robert Krasny and Wooyoung Choi. Evolution of solitary waves in a channel

(in preparation).

Invention Disclosures & Patents:

Aboutaleb H.A., Barannyk L.L., and Barlow F., Causality verification and enforcement of microelectronic packages macromodels using discrete Hilbert transform on periodically continued data, an invention disclosure and provisional patent, 10/30/2013.

Invited and Contributed Talks/Seminars: (i.e. slide sets, web pages, video productions, etc., provide date and location)

- Fast algorithms for mesoscale evolution of large particle systems, SIAM Conference on Mathematical Aspects of Materials Science, (MS13), June 9-12, 2013, Philadelphia, Pennsylvania **(Invited)**.
- *Efficient algorithms for mesoscale dynamics of interacting particle systems*, SIAM Annual Meeting, July 9-13, 2012, Minneapolis, Minnesota **(Invited)**.
- *Regularized deconvolution method for modeling mesoscale continuum equations for particle systems*, Department of Mathematics Colloquium, University of Idaho, September 29, 2011 **(Invited)**.
- *Deconvolution closure for mesoscopic continuum models of particle systems*, the Second Annual CAES Workshop on Modeling, Simulation and Visualization, Boise, Idaho, September 8-9, 2011 **(Invited)**.
- *Regularized deconvolution closure method for spatially averaged dynamics of particle chains*, the Eighth Annual Conference on Frontiers in Applied and Computational Mathematics (FACM '11), June 9-11, 2011 **(Invited)**.
- *Fast algorithms for exploratory analysis of the dynamics of large systems of ODEs*, L.L.Barannyk, A. Panchenko, Center for Advanced Energy Studies, February 8, 2011, Idaho Falls, ID **(Invited)**.
- *Spatially averaged dynamics, closure method and dimension reduction for discrete models of heterogeneous continua*, L.L. Barannyk, A. Panchenko, Boise State University, Department of Mathematics Colloquium, February 7, 2011, Boise, ID **(Invited)**.
- *Suppression of Rayleigh-Taylor instability in the presence of horizontal electric fields*, University of Idaho, Department of Mathematics Colloquium, November 4, 2010, Moscow, ID **(Invited)**.
- *Nonlinear Dynamics of Electrified Sheets in a Channel*, L.L. Barannyk, D.T. Papageorgiou, and P.G. Petropoulos, 23rd Pacific Northwest Numerical Analysis Seminar, Washington State University, October 2, 2010, Pullman, WA **(Invited)**.
- *Suppression of Rayleigh-Taylor instability using electric fields*, D.T. Papageorgiou, and P.G.~Petropoulos, 63th Annual Meeting of the Division of Fluid Dynamics, American Physical Society, November 21--23, 2010, Long Beach, CA (Contributed).
- *Gravity Capillary Interfacial Waves in a Channel in the Presence of Electric Fields*, L.L.~Barannyk, D.T.~Papageorgiou, and P.G.~Petropoulos, the Sixth IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, March 22--26, 2009, Athens, GA **(Invited)**.
- *Dynamics of a two-fluid interface in a channel in the presence of electric fields*, L.L.~Barannyk, D.T.~Papageorgiou, and P.G.~Petropoulos, 61st Annual Meeting of the Division of Fluid Dynamics, American Physical Society, November 23 - 25, 2008, San Antonio, TX (Contributed).
- *Gravity-Capillary Traveling Waves under the Presence of the Electric Field*, L.L.~Barannyk, Analysis Seminar, University of Idaho, Department of Mathematics, September 11, 2008 **(Invited)**.
- *Numerical Simulations of Density-Stratified Kelvin-Helmholtz Instability in a Channel*, L.L.~Barannyk, Mathematics Colloquium, Washington State University, Department of Mathematics, February 7, 2008 **(Invited)**.
- *Evolution of Density Stratified Vortex Sheets in a Channel*, L.L.~Barannyk, Applied Mathematics Seminar, University of Victoria, Department of Mathematics and Statistics, November 27, 2007 **(Invited)**.
- *Evolution of Vortex Sheets in a Channel*, L.L.~Barannyk, AMS Annual Meeting, January 5--8, 2007, New Orleans, LA (Contributed).
- *Evolution of Strongly Nonlinear Solitary Waves in a Channel*, L.L.~Barannyk, W.~Choi and R.~Krasny, 59th Annual Meeting of the Division of Fluid Dynamics, American Physical Society, November 19--21, 2006, Tampa, FL (Contributed).
- *Dynamics of Density Stratified Vortex Sheets in an Channel*, L.L.~Barannyk and R.~Krasny, 2006

- SIAM Annual Meeting, July 10--14, 2006, Boston, MA (Contributed).
- *A Study of Vortex Sheet Motion with Density Stratification in an Inclined Channel*, L.L.~Barannyk and R.~Krasny, Fluid Dynamics Seminar, New Jersey Institute of Technology, February 13, 2006 **(Invited)**.
 - *Simulations of Density-Stratified Kelvin-Helmholtz Instability in the Inclined Channel*, L.L.~Barannyk and R.~Krasny, 58th Annual Meeting of the Division of Fluid Dynamics, American Physical Society, November 20--22, 2005, Chicago, IL (Contributed).
 - *Numerical Simulations of Kelvin-Helmholtz Instability in Slightly Stratified Fluid in the Channel*, L.L.~Barannyk and R.~Krasny, The Second Conference on Frontiers in Applied and Computational Mathematics May 13--15, 2005, New Jersey Institute of Technology, Newark, NJ (Poster).
 - *Simulations of Density-Stratified Kelvin-Helmholtz Instability*, L.L.~Barannyk and R.~Krasny, 2005 SIAM Annual Meeting, July 11--15, 2005, New Orleans, LA (Contributed).
 - *Numerical Simulations of Kelvin-Helmholtz Instability in Slightly Stratified Fluid in the Channel*, L.L.~Barannyk and R.~Krasny, The First Conference on Frontiers in Applied and Computational Mathematics, May 21--22, 2004, New Jersey Institute of Technology, Newark, NJ (Poster).
 - *Singularity Formation in Vortex Sheets in a Channel*, L.L.~Barannyk, R.~Krasny and D.T.~Papageorgiou, 57th Annual Meeting of the Division of Fluid Dynamics, American Physical Society, November 21--23, 2004, Seattle, WA (Contributed).
 - *Study of the Singularity Formation in Vortex Sheets in a Channel*, L.L.~Barannyk and R.~Krasny, 2004 SIAM Annual Meeting, July 12--16, 2004, Portland, OR (Contributed).
 - *Fully Nonlinear Gravity-Capillary Interfacial Waves in a Two-Fluid System of Finite Depth*, L.L.~Barannyk, University of Michigan, Ann Arbor, Differential Equations Seminar, Ann Arbor, Michigan, USA, October 1, 2003 **(Invited)**.
 - *Evolution of Vortex Sheets in a Channel*, L.L.~Barannyk and R.~Krasny, 56th Annual Meeting of the Division of Fluid Dynamics, American Physical Society, November 23--25, 2003, East Rutherford, NJ (Contributed).
 - *Fully Nonlinear Interfacial Waves in a Channel*, L.L.~Barannyk and D.T.~Papageorgiou, Association for Women in Mathematics Minisymposium on Applications in Biology and Fluids at the First Joint Meeting of CAIMS & SIAM, 24th Annual Meeting of CAIMS/SCMAI, June 16--20, 2003, Montreal, Quebec, Canada **(Invited)**.
 - *Fully Nonlinear Interfacial Waves in a Bounded Two-Fluid System*, L.L.~Barannyk, Graduate Research Seminar Series, Center for Applied Mathematics and Statistics, New Jersey Institute of Technology, Newark, NJ, June 6, 2003 **(Invited)**.
 - *Three-Dimensional Fully Nonlinear Interfacial Long Waves in a Bounded Two-Fluid System*, L.L.~Barannyk and D.T.~Papageorgiou, 55th Annual Meeting of the Division of Fluid Dynamics, American Physical Society, November 24-26, 2002, Dallas, TX (Contributed).
 - *Effect of the Surface Tension on the Fully Nonlinear Capillary-Gravity Waves of Bounded Two-Fluid Systems*, L.L.~Barannyk, The Mathematics-Physics-Technical Section of the Shevchenko Scientific Society, November 9, 2002, New York, NY **(Invited/Outreach)**.
 - *The Flow of an Evaporating Thin Film Liquid*, L.L.~Barannyk, Graduate Research Seminar Series, Center for Applied Mathematics and Statistics, New Jersey Institute of Technology, June 16, 2002 **(Invited)**.
 - *The Flow of an Evaporating Thin Film Liquid*, L.L.~Barannyk, The MITACS Third Annual General Meeting, May 23--25, University of British Columbia, Vancouver. Results are obtained during the "The Fifth PIMS Graduate Mathematics Modelling Camp", May 27--31, University of British Columbia, Vancouver, BC, Canada and presented at the Poster Session.
 - *Strongly Nonlinear Interfacial Waves of Two-Fluid System with the Surface Tension: Solitary and Traveling Waves*, L.L.~Barannyk and D.T.~Papageorgiou, 54th Annual Meeting of the Division of Fluid Dynamics, American Physical Society, November 18--20, 2001, San Diego, CA (Contributed).
 - *Some New Solitary Waves in Two-Fluid Flows and Their Connection to Elliptic Integrals*, L.L.~Barannyk, Graduate Research Seminar Series, Center for Applied Mathematics and Statistics, New Jersey Institute of Technology, NJ, July 10, 2001 **(Invited)**.
 - *The Effect of Surface Tension on Strongly Nonlinear Interfacial Waves in a Channel*, L.L.~Barannyk and D.T.~Papageorgiou, 53rd Annual Meeting of the Division of Fluid Dynamics, American Physical Society, Washington, DC, November 18--21, 2000 (Contributed).
 - *On an Algorithm for Classifying Subalgebras of the Poincaré Algebra $AP(2,n)$* , L.L.~Barannyk and

L.F.~Barannyk, The International Congress of Mathematicians (ICM'98), Berlin, Germany, August 18-27, 1998 (Contributed).

- *On Symmetry Reduction and Exact Solutions of a System of Nonlinear Differential Equations for Electromagnetic Field*, L.L.~Barannyk, The Fifth All-Ukrainian Scientific Conference "New Approaches to Solving Differential Equations", Drohobych, Sept. 15--19, 1997 (Contributed).
- *Symmetry Reduction of a Generalized Complex Euler Equation for a Vector Field*, L.L.~Barannyk, The Second International Conference "Symmetry in Nonlinear Mathematical Physics", Institute of Mathematics, National Shevchenko University, Kyiv, Ukraine, July 7--13, 1997 (Contributed).
- *Generation of Solutions to the Heat Equation by Using the Symmetry Reduction Method*, L.L.~Barannyk, Acad. M. Kravchuk Fifth International Conference, Kyiv Polytechnic University, Kyiv, Ukraine, May 16--18, 1996 (Poster).
- *Symmetry Reduction for a System of Nonlinear Evolution Equations*, L.L.~Barannyk, The First International Conference "Symmetry in Nonlinear Mathematical Physics", Kyiv, Ukraine, July 3--8, 1995 (Poster).
- *Symmetry Analysis of a System of Nonlinear Evolution Equations*, L.L.~Barannyk, Acad. M. Kravchuk Fourth International Conference, Kyiv, Ukraine, May 11-12, 1995 (Poster).

Grants and Contracts Awarded:

1. IGEM Grant, *High Speed Digital Package Measurement and Modeling for Next Generation Memory Modules*, PI: Fred Barlow, Co-PIs: Aicha Elshabini, Lyudmyla Barannyk, Gabriel Potirniche, \$150,000; 06/2013--12/2013.
2. Research Fellowship, University of Idaho Foundation, *Micron Mechanics Modeling*, \$3,524.72, 06/2013--10/2013.
3. NSF Grant CNS-1229766, *Acquisition of an Adaptive Computation Server for Support of STEM Research at the University of Idaho*, PI: J. Alves-Foss, Co-PIs: L. Barannyk, G. Potirniche, T. Xing, F. Ytreberg, \$300,000; 09/2012-08/2015 (status current)
4. Research Fellowship, University of Idaho Foundation, *Micron Mechanics Modeling*, \$3,524.72, 03/2012--08/2012.
5. USGS, *Dynamic modeling of rule curve reservoir operations under stochastic climate conditions*, PI: Elbakidze, L., Co-PIs: G Taylor, L. Barannyk, RD Schmidt, T Soltaninejad, \$13,933, 02/2013-02/2014 (status: project was selected for funding. Funding for this project is contingent upon congressional funding of the FY 2013 USGS Section 104 B program)
6. Milos Manich, Lyudmyla L. Barannyk, Battelle CAES Modeling & Simulation, Battelle Energy Alliance LLC, 10/01/2010 - 09/30/2011, \$50,581.
7. Lyudmyla L. Barannyk, Propagation of Solitary Waves in a Channel, University of Idaho SEED Grant, 07/01/2008-06/30/2009, \$10,000.
8. Lyudmyla L. Barannyk, Evolution of Vortex Sheets in a Channel, Rackham Faculty Research Fellowship, University of Michigan, 06/01/04-08/31/04, \$7,000.

SERVICE:

Major Committee Assignments: (National, State, District, County, University, College, Departmental and dates)

Department of Mathematics Committees:

Colloquium Committee 2010 – 2013 (Chair 2011-2014)

Curriculum Committee 2010 – 2011

Travel Committee 2007 – 2010

Foreign Language Committee 2008 – 2011 (Chair 2008 – 2012)

Math Club Adviser 2008 – 2010

Scholarship Committee 2009 – 2010

Professional and Scholarly Organizations:

Organized jointly with Yuliya Gorb (University of Houston) and Silvia Jimenez (Worcester Polytechnic Institute) a *Minisymposium* “Multiscale Modeling, Microstructure, and Local Field Properties of Heterogeneous Media at 2013 SIAM Conference on Mathematical Aspects of Materials Science, June 9-12, 2013, Philadelphia, PA.

Submitted a proposal to SIAM to organize a minisymposium at the SIAM Annual Meeting 2014 in Chicago, IL, July 7-11, 2014. This is joint effort for Yuliya Gorb (University of Houston), Alexander Panchenko (WSU) and Alexandre Tartakovsky (PNNL). The proposal has been approved for 4 sessions. We currently have 17 speakers to participate.

Reviewer for journals:

- Proceedings of The Royal Society of London Series A - Mathematical and Physical Sciences
- International Journal of Differential Equations
- IMA Journal of Applied Mathematics
- Archive of Applied Mechanics
- International Journal of Computer Mathematics
- Applicable Analysis

Member of Society for Industrial and Applied Mathematics (active), American Physical Society, American Mathematical Society, Association for Women in Mathematics (former member)

Honors and Awards:

- Outstanding Alumni Award, New Jersey Institute of Technology, December 1, 2010
- Department of Mathematical Sciences TA Fellowship (5 years of tuition and stipend), New Jersey Institute of Technology, 1998-2003
- Travel grant, Association for Women in Mathematics towards participation in a minisymposium on Applications in Biology and Fluids at the First Joint Meeting of CAIMS & SIAM 24th Annual Meeting, June 2003, Montreal, Quebec, Canada
- Exceptional Graduate Student Award from the College of Science and Liberal Arts, New Jersey Institute of Technology, May 2003
- Graduate Student Association Honorary Award New Jersey Institute of Technology, December 2002
- Graduate Student Association Student Achievement Awards (Travel grants) Fall 2000, Fall 2001, Fall 2002 towards participation in the American Physical Society Annual Meetings of the Division of Fluid Dynamics of 2000, 2001 and 2002
- Dean of Students Leadership Award For Outstanding Leadership by a Graduate Student, May 2002 - New Jersey Institute of Technology
- Membership in Who's Who Among Students in American Universities & Colleges, May 2002
- Award of Excellence for Outstanding Leadership during the summer 2001 from the Department of Mathematical Sciences, Sept. 2001, New Jersey Institute of Technology
- Honor stipend, Kharkiv State University - Kharkiv, Ukraine, 1990 - 1994

Other:

- Graduate Student Association President Emeritus, New Jersey Institute of Technology, 10/02-Present
- President of the Graduate Student Association, New Jersey Institute of Technology, 04/01-10/02
- President and Vice President of the Mathematical Sciences Group, Graduate Student Mathematics Club, Department of Mathematics, New Jersey Institute of Technology, 09/00-08/01

PROFESSIONAL DEVELOPMENT: (workshops and seminars attended)

Workshops attended:

1. The Eleventh Annual IEEE Workshop on Microelectronics and Electron Devices, April 12, 2013, Boise, ID.

2. The Fifth PIMS Graduate Mathematics Modelling Camp, May 18-23, 2002, Simon Fraser University, Burnaby, BC, Canada.
3. The Sixth PIMS Industrial Problem Solving Workshop, May 27-31, 2002, University of British Columbia, Vancouver, BC, Canada.
4. The Seventeenth Annual Workshop on Mathematical Problems in Industry, June 4-8, 2001, Rensselaer Polytechnic Institute, Troy, NY.