VITA

GABRIELLA A. PINTÉR

Department of Mathematical Sciences
University of Wisconsin Milwaukee
Milwaukee, WI 53201-0431

EDUCATION:

JATE, University of Szeged, Hungary, Mathematics and English M.A. 1990

University of Texas at Dallas, Mathematics, M.S. 1994

Texas Tech University, Mathematics, Ph.D. 1997

APPOINTMENTS:

Associate Professor, University of Wisconsin Milwaukee, Aug. 2005 - present

Assistant Professor, University of Wisconsin Milwaukee, Aug. 2000 - Aug. 2005.

Visiting Assistant Professor, North Carolina State University, July 1997-July 2000.

Teacher, JATE Ságvári E. Gyak. Gimnázium, Szeged, Sept. 1990 - Aug.1991.

PROFESSIONAL MEMBERSHIPS/EDITORSHIPS/SERVICE:

Association for Women in Mathematics (AWM)

Mathematical Association of America (MAA) (SIGMAA BIO, MCST)

Associate Editor of the *Electronic Journal of Qualitative Theory of Differential Equations* 2005- present

Reviewer for Mathematical Reviews, Nonlinear Analysis, Applied Mathematics Letters, Mathematical and Computer Modeling, MAA Reviews

HONORS AND AWARDS:

UWM Distinguished Undergraduate Teaching Award, October 2007.

UWM Foundation and Graduate School Research Award, October 2005.

Best paper award from the Rubber Division of the American Chemical Society for the paper 'Compression of Bonded Rubber Blocks', 2000.

Outstanding Doctoral Teaching Assistant Award, 1996, Texas Tech University

Köztársasági Ösztöndij (Hungarian National Scholarship) 1989/1990.

FUNDED RESEARCH:

co-PI on NIH-NSF R01 ES022075- Linking Limnology to Cyanotoxins in Drinking Water Using Buoy Sensors and Auto-Sampling, September 2012 - August 2017, (NIEHS approx. $173,374.00, NSF 1313936, $399,213.00), The project is cooperatively funded through separate awards from NSF and NIEHS.

PI on UWM Research Growth Initiative - Establishing a modeling framework for the investigation of nano-scale drivers of biogeochemical cycling in freshwater ecosystems, June 2012 - August 2013, ($91,950.00).

PI on NSF-1129056 UBM-Institutional: Integrated Undergraduate Research Experiences in Biological and Mathematical Sciences at the University of Wisconsin; October 2011-September 2016, ($754,546).

Co-PI on NSF-0827217 UBM-Group: Integrated Undergraduate Research Experiences in Aquatic Biology and Mathematics at UWM; October 2008- September 2012, ($239,983).

co-PI on UWM Undergraduate Research Opportunities DIN - Research Experiences in Aquatic Biology and Mathematical Sciences, September 2010 - August 2012, ($194,629.00).

PI on AFOSR - *Terahertz Electromagnetic Imaging of Dielectric Materials* funded by the Air Force Office of Scientific Research, January 2003 - December 2006, ($146,000).

EDUCATIONAL ACTIVITIES:

Faculty advisor for two teams participating in the Mathematical Contest in Modeling (COMAP), February 2014.

Faculty mentor - Math Club at UWM, October 2013 - present.

Problem editor - Wisconsin Section High School Math Contest, September 2013-present.

Presenter - Julia Robinson Mathematics Festival, University of Puerto Rico-Mayagüez, Mayagüez , March 9, 2013.

Leader of UWM Math Circle - weekly meetings and problem solving activities for high school students, September 2011-present.

Mentoring undergraduate research - contributed to conference proceedings papers and numerous talks and poster presentations at national, regional and local conferences and symposia by undergraduate students.

Local coordinator for the North American Linguistics Olympiad (NACLO) 2011- present.

Co-presented an activity at the Julia Robinson Mathematics Festival, Ripley Center at the Smithsonian Institution, Washington DC, April 14, 2012.

Public lecture in the UWM Science Bag series: Fibonacci All Around, Sequences in Math and Nature (6 times in April 2010, with I.G. Lauko)

Member of the UWM GAANN Fellowship Advisory Committee, August 2009-present.

Senior Personnel on Wisconsin Math Fellows grant, Wisconsin Department of Public Instruction WITQ 08-1231.

Directed two PhD students and twelve Master's students. Directed Capstone courses/projects for twelve undergraduate students.

Involved in the Milwaukee Mathematics Partnership: participated in the development and teaching of new courses (Problem Solving, Probability and Statistics) for elementary education majors, 2006-2012, NSF-0314898.

Organized and participated in the Individual Advising Sessions for new graduate students at UWM 2007-2009, 2011-2013 and conducted the Teaching Orientation Session in 2010.

RECENT SERVICE:

Associate Chair of the Department of Mathematical Sciences (responsible for the undergraduate program) Aug. 2012-present.

Member of the Graduate Committee of the Department of Mathematical Sciences (Admissions and Fellowships) 2008-2012.

Member of the Industrial and Interdisciplinary Mathematics Committee 2000- present.

Chair for three faculty search committees, member in two others.

PUBLICATIONS:

1. **Books and Monographs: (chapters, refereed)**
   - Modeling and imaging techniques with potential for application in bioterrorism', in *Bioterrorism, Mathematical Modeling Applications in Homeland Security*, (H.T. Banks and C. Castillo-Chavez eds.), Frontiers in Applied Mathematics, Vol.28, SIAM, Philadelphia, 2003, 129-154. (with H.T. Banks, D. Bortz and L.K. Potter)
   - Modeling of Quasi-static and Dynamic Load Responses of Filled Viscoelastic Materials, *Modeling: Case Studies from Industry*, E. Cumberbatch and A. Fitt, eds., Cambridge University Press, 2001. (with H. T. Banks, L.K. Potter, M.J. Gaitens and L.C. Yanyo)
   - Damping: Hysteretic Damping and Models, *Encyclopedia of Vibration*, Academic Press, London, 2001, 658-664. (with H.T.Banks)

2. **Papers in refereed journals:**

- Mathematical modeling of bacteria-virus interactions in Lake Michigan incorporating Phosphorus content, *Journal of Great Lakes Research,* 39, 2013, 646-654. (with A. Bechette*, T. Stojsavljevic*, M. Tessmer*, J.A. Berges, E. Young) *undergraduate students; This paper won the JGLR/Elsevier Student Award for the most notable paper by a student in 2013.
- Complex facilitation and competition in a temperate grassland: loss of plant diversity and elevated CO_2 have divergent and opposite effect on oak establishment, *Oecologia,* 171, 2013, 449-458. DOI: 10.1007/s00442-012-2420-y. (A.J. Wright, S.A. Schnitzer, I., Dickie, A. Gunderson,G.A. Pinter, S. Mangan, P. Reich)
- Dynamics of a virus-host model with an intrinsic quota. *Mathematical and Computer Modeling* 53, 716-730, 2011 (with K.M. Fuhrman, and J.A. Berges)
- Modeling of viscoelastic shear: A nonlinear stick-slip formulation, *Dynamic Systems and Applications,* 17, 2008, 383-406. (with H.T. Banks and N.G. Medhin)
- Multiscale considerations in modeling of nonlinear elastomers, *International Journal of Computational Methods in Engineering Science and Mechanics* 8, 2007, 53-62. (with H.T. Banks and N.G. Medhin)
- Almost-periodic Solutions to Quasilinear Evolution Equations with a Nonlocal Nonlinearity, *Mathematical Methods in the Applied Sciences,* 29, 2006, no.12, 1411-1422. (with A. Milani)
- Another Step Further ... (On a Problem of the 1988 IMO), *Mathematics Magazine,* Febr. 2006, 45-53. (with I.G. Lauko and L. Pinter)
- A probabilistic multiscale approach to hysteresis in shear wave propagation in biotissue, *Multiscale Modeling and Simulation,* 2, 2005, no.2, 395-412. (with H.T. Banks)
- Asymptotic behavior of an SI epidemic model with pulse removal, *Mathematical and Computer Modeling,* 40, 2004, 371-386. (with K.M. Fuhrman and I.G. Lauko)
- High frequency pulse propagation in nonlinear materials, *Nonlinear Analysis: Real World Applications*, 5, 2004, 597-612. (with H.T. Banks)
- Nonlinear reptation in molecular based hysteresis models for polymers, *Quarterly of Applied Mathematics,* 62, 2004, no.4, 767-779. (with H.T. Banks and N.G. Medhin)
- Maxwell-systems with nonlinear polarization, *Nonlinear Analysis: Real World Applications*, 4, 2003, 483-501. (with H.T. Banks)
- A computational model for sound field absorption by acoustic arrays, *J. Intelligent Material Systems and Structures*, 13, 2002, 231-240. (with H.T. Banks, D.G. Cole, K.M. Furat, and K. Ito)
- Analysis of bonded elastic blocks, *Mathematical and Computer Modeling*, 36, 2002, 875-888. (with H.T. Banks and O.H. Yeoh)
- Compression of bonded rubber blocks, *Rubber Chemistry and Technology* 75, 2002, 549-561. (with H.T. Banks and O.H. Yeoh)

- Well-posedness results for models of elastomers, *J. Math. Anal. and Applic.*, 268, 2002, 440-456. (with A. Ackleh and H.T. Banks)
- On a Nonlinear Beam Equation, *Applied Math. Letters,* 15, 2002, 381-387. (with A. Ackleh and H.T. Banks)
- Modeling of Nonlinear Hysteresis in Elastomers Under Uniaxial Tension, *J. Intelligent Material Systems and Structures* 10, 1999, 116-134. (with H. T. Banks, L.K. Potter, M.J. Gaitens and L.C. Yanyo)
- Existence of Unique Weak Solutions to a Dynamical System for Nonlinear Elastomers with Hysteresis, *Differential and Integral Equations* 13, 2000, 1001-1024.(with H. T. Banks and L. K. Potter)
- Global attractor for damped abstract nonlinear hyperbolic systems, *Nonlinear Analysis*, 53, 2003, 653-668.
- Weak Attractor for Damped Abstract Nonlinear Hyperbolic Systems, *Journal of Mathematical Systems, Estimation, & Control* Vol. 8, No. 2, 1998, pp.221-224.
- Approximation Results for Parameter Estimation is a Class of Abstract Nonlinear Hyperbolic Systems, *Applied Mathematical Letters*, 12, 1999, 129-133. (with H. T. Banks)

3. **Conference proceedings and abstracts:**

- Estimation and Control Related Issues in Smart Material Structures and Fluids, *Proc. 4th International Conference on Optimization: Techniques and Applications* (Perth, Australia, July, 1998) (with H. T. Banks, L.K. Potter, M.J. Gaitens, B.C. Munoz and L.C. Yanyo)
- Theoretical and Numerical Results for Parameter Estimation in Nonlinear Elastomers, *Proc. 36th IEEE Conf. on Decision and Control*, (San Diego, CA, 1997) pp. 3733-3738. (with H. T. Banks and D. S. Gilliam)
- Approximation Results for Parameter Estimation in Nonlinear Elastomers, in *Control and Estimation of Distributed Parameter Systems* (F.Kappel, et.al.,eds.), International Series of Numerical Mathematics, Vol. 126, 1998, Birkhäuser, (with H. T. Banks)

4. **Non-refereed publications:**

- Impact of climate change on Combined Sewage Overflows (CSOs) and Separated Sewage Overflows (SSOs) in Milwaukee Watersheds, September 2011, technical report (with McLellan, S., Hahn, M., Lorenz, D., Pinter, G. A., Lauko, I. G., Sauer, E., Bennett, D., Perry, D., McMullin, J.)
- Modeling the Chimera Domain Decomposition Approach to Solving Conservation Laws, *Report for the Industrial Mathematics Modeling Workshop for Graduate Students 1995, CRSC-TR96-7* (with H.V. Ly, K.A. Rogers, R.C.del Rosario, D.E. Vaughan)
- Design Problems of Laminated Composite Structures, *Report for the Industrial Mathematics Modeling Workshop for Graduate Students 1996, CRSC-TR97-8* (with J.Cuneaz, K. Hyman, H.V. Ly, L. Mather, Y. Zhang)

PRESENTATIONS:

1. Workshop presentation: "Favorite Problems from the UWM Math Circle," Circle on the Road Workshop, University of Puerto Rico-Mayagüez, Mayagüez , March 8-10, 2013.
2. **Contributed talk:** "Analysis and Simulation of Bacterial Pollution on an Urban Beach," MathFest, Madison, WI, August 2-4, 2012 (with I.G. Lauko and S. McLellan).
3. **Contributed talk:** "From modeling projects to original research", MathFest, Lexington, KY, August 2011 (with I.G. Lauko).
4. **Contributed talk:** "A close-knit group at a large urban university - long term involvement in undergraduate research", MathFest, Lexington, KY, August 2011 (with I.G. Lauko).
5. **Public lecture:** UWM Science Bag series: "Fibonacci All Around, Sequences in Math and Nature", 6 presentations during the month of April 2010, Milwaukee, WI (with I.G. Lauko).
6. **Workshop presentation:** "Mathematical Problem Solving for Teachers", Mathematical Preparation for Middle School Teachers of Mathematics: A Wisconsin Concern, October 2007, Wisconsin Dells, WI.
7. **Workshop presentation:** "Mathematics and Cryptography", Special Workshop for Teachers of Mathematics, Engaging Mathematics: Connecting Your Students to Learning Mathematics, May, 2006, Milwaukee, WI.
8. **Invited talk:** "High frequency pulse propagation in nonlinear dielectric materials", Computation, Control and Biological Systems VIII, July 29-Aug. 1, 2003, Bozeman, MT.
9. **Invited talk:** "Maxwell-systems with Nonlinear Polarization", SIAM Conference on Computational Science and Engineering, San Diego, February 10-13. 2003.
10. **Invited talk:** "Modeling of Nonlinear Hysteresis in Elastomers" MAFELAP 1999, The Mathematics of Finite Elements and Applications, London, Great Britain, June 22-25 1999.
11. **Invited talk:** "Theoretical and Approximation Results for Nonlinear Elastomers with Hysteretic Memory", 4^{th} SIAM Conference on Control and its Applications, Jacksonville, FL, May 7-9, 1998.
12. **Invited talk:** "Theoretical and Numerical Results for Parameter Estimation in Nonlinear Elastomers", 36^{th} IEEE Conference on Decision and Control, San Diego, CA, Dec. 10-12, 1997.
13. **Invited talk:** "Global Attractors for Damped Abstract Nonlinear Hyperbolic Systems" SIAM Annual Meeting, Stanford, CA, July, 1997.
14. **Invited talk:** "Attractors for Damped Abstract Nonlinear Hyperbolic Systems," Computation and Control V, Montana State U., Bozeman, MT, July 30-Aug 2, 1996.
15. "Regularity Properties of Damped Abstract Nonlinear Hyperbolic Systems," Regional AMS Meeting, Texas Tech U., Lubbock, TX, March 1996.