January, 2008

Andrzej J. Swiech

CURRICULUM VITAE

Swiech, Andrzej J. Professor
School of Mathematics
Georgia Institute of Technology

Personal Data:

Born: 9/27/1962, Warsaw, Poland

Educational Background:

M.S., Mathematics, 1986, University of Warsaw
Ph.D., Mathematics, 1993, University of California at Santa Barbara

Employment History:

Professor, School of Mathematics, Georgia Institute of Technology, 2004-present
Associate Professor, School of Mathematics, Georgia Institute of Technology, 1999-2004
Assistant Professor, School of Mathematics, Georgia Institute of Technology, 1993-1999
Lecturer, Department of Mathematics, University of California at Santa Barbara, Spring 1993
Graduate Teaching Assistant, Department of Mathematics, University of California at Santa Barbara, 1989- Winter 1993
Assistant, Institute of Mathematics, Polish Academy of Sciences, Warsaw, Poland, 1986-1989

Visiting Positions/Research Visits:

Postdoctoral, Scuola Normale Superiore di Pisa, Italy, June and July 1995
Visiting Researcher, Scuola Normale Superiore di Pisa, Italy, July 1996
Visiting Fellow, Department of Engineering, Faculty of Engineering and Information Technology, Australian National University, Canberra, Australia, August 1996
Visiting Researcher, Scuola Normale Superiore di Pisa, Italy, July 1998
Visiting Researcher, School of Mathematics, University of New South Wales, Sydney, Australia, August 1998
University of Cologne, Germany, June 1999
Saitama University, Japan, January 2001, December 2004, June 2005, October 2007
University of Padova, Italy, July 2006
Centro di Ricerca Matematica Ennio De Giorgi, Pisa, Italy, September 2007
Institute of Mathematics, Polish Academy of Sciences, Warsaw, Poland, December 2007

Current Fields of Interest:

Nonlinear PDE, PDE in Hilbert and Banach spaces, stochastic and deterministic optimal control, stochastic PDE, differential games, control theory, nonlinear functional analysis, calculus of variations, mathematical finance.

Teaching Experience:

Georgia Institute of Technology:

Spring 2007, Math 4305, Topics in Linear Algebra
Fall 2006, Math 4581, Classical Mathematical Methods in Engineering
Fall 2006, Math 4347, Partial Differential Equations I
Spring 2006, Math 2401, Calculus III
Fall 2005, Math 2403, Differential Equations
Fall 2005, Math 4317, Analysis I
Spring 2005, Math 4348, Partial Differential Equations II
Fall 2004, Math 4347, Partial Differential Equations I
Fall 2004, Math 6580, Introduction to Hilbert Spaces
Spring 2004, Math 4348, Partial Differential Equations II
Fall 2003, Math 2401, Calculus III
Fall 2003, Math 4347, Partial Differential Equations I
Spring 2003, Math 6342, Partial Differential Equations II
Fall 2002, Math 2401, Calculus III
Fall 2002, Math 6341, Partial Differential Equations I
Spring 2002, Math 2401, Calculus III
Spring 2002, Math 2401, Calculus III
Fall 2001, Math 2403, Differential Equations
Fall 2001, Math 2403, Differential Equations
Spring 2001, Math 2413, Honors Differential Equations
Spring 2001, Math 1502, Calculus II
Fall 2000, Math 1502, Calculus II
Fall 2000, Math 1502, Calculus II
Spring 2000, Math 4581, Classical Mathematical Methods in Engineering
Spring 2000, Math 1502, Calculus II
Fall 1999, Math 6327, Real Analysis
Fall 1999, Math 1501, Calculus I
Spring 1999, Math 4348, Introduction to Partial Differential Equations II
Winter 1999, Math 4347, Introduction to Partial Differential Equations I
Winter 1999, Math 1508, Calculus II
Fall 1998, Math 4347, Introduction to Partial Differential Equations I
Fall 1998, Math 1507, Calculus I
Spring 1998, Special Topics Course: Differential Equations and Optimal Control
Winter 1998, Math 4581, Advanced Engineering Mathematics I
Winter 1998, Math 4347, Introduction to Partial Differential Equations I
Fall 1997, Math 1507, Calculus I
Fall 1997, Math 1507, Calculus I
Spring 1997, Math 4348, Introduction to Partial Differential Equations II

Winter 1997, Math 1508, Calculus II, 45 students
Winter 1997, Math 4347, Introduction to Partial Differential Equations I
Fall 1996, Math 4581, Advanced Engineering Mathematics I
Fall 1996, Math 4347, Introduction to Partial Differential Equations I
Spring 1996, Math 4581, Advanced Engineering Mathematics I (video course)
Winter 1996, Math 4581, Advanced Engineering Mathematics I
Winter 1996, Math 2507, Calculus IV
Fall 1995, Math 1508, Calculus II
Fall 1995, Math 2508, Calculus V
Spring 1995, Math 8223, Special Topics Course: Viscosity Solutions of Partial Differential Equations
Winter 1995, Math 4582, Advanced Engineering Mathematics II
Winter 1995, Math 1508, Calculus II
Fall 1994, Math 1508, Calculus II
Fall 1994, Math 1508, Calculus II
Spring 1994, Math 4320, Complex Variables
Winter 1994, Math 1508, Calculus II
Fall 1993, Math 1508, Calculus II
Fall 1993, Math 1508, Calculus II

University of California at Santa Barbara:

Spring 1993, Math. 5C, Advanced Calculus

Refereed Publications:

(a) Already published:

1. S. Koike, A. Swiech, Maximum principle for fully nonlinear equations via the iterated comparison function method, *Math. Ann.* **339** (2007), no. 2, 461–484.
2. D. Kelome and A. Swiech, Perron's method and the method of relaxed limits for "unbounded" PDE in Hilbert spaces, *Studia Math.* **176** (2006), no. 3, 249–277.
3. F. Gozzi, A. Swiech and X. Y. Zhou, A corrected proof of the stochastic verification theorem within the framework of viscosity solutions, *SIAM J. Control Optim.* **43** (2005), no. 6, 2009–2019.
4. F. Gozzi, S. S. Sritharan and A. Swiech, Bellman equations associated to the optimal feedback control of stochastic Navier-Stokes equations, *Comm. Pure Appl. Math.* **58** (2005), no. 5, 671–700.
5. R. Jensen and A. Swiech, Uniqueness and existence of maximal and minimal solutions of fully nonlinear elliptic PDE, *Comm. Pure Appl. Anal.* **4** (2005), no. 1, 199–207.
6. S. Koike and A. Swiech, Maximum principle and existence of L^p-viscosity solutions for fully nonlinear uniformly elliptic equations with measurable and quadratic terms, *NoDEA Nonlinear Differential Equations Appl.* **11** (2004), no. 4, 491–509.
7. M. G. Crandall and A. Swiech, A note on generalized maximum principles for elliptic and parabolic PDE, Evolution Equations (Goldstein, Nagel and Romanelli, eds.), 121–127, Lecture Notes in Pure and Appl. Math., vol. 234, Dekker, New York, 2003.
8. D. Kelome and A. Swiech, Viscosity solutions of an infinite-dimensional Black-Scholes-Barenblatt equation, *Appl. Math. Optim.* **47** (2003), no. 3, 253–278.

9. F. Gozzi, S. S. Sritharan and A. Swiech, Viscosity solutions of dynamic-programming equations for the optimal control of the two-dimensional Navier-Stokes equations, *Arch. Ration. Mech. Anal.* **163** (2002), no. 4, 295–327.
10. A. Swiech, Risk-sensitive control and differential games in infinite dimensions, *Nonlinear Anal.* **50** (2002), no. 4, Ser. A: Theory Methods, 509–522.
11. R. Jensen, M. Kocan and A. Swiech, Good and viscosity solutions of fully nonlinear elliptic equations, *Proc. Amer. Math. Soc.* **130** (2002), no. 2, 533–542.
12. E. Barucci, F. Gozzi and A. Swiech, Incentive compatibility constraints and dynamic programming in continuous time, *J. Math. Econom.* **34** (2000), no. 4, 471–508.
13. M. G. Crandall, M. Kocan and A. Swiech, L^p-Theory for fully nonlinear parabolic equations, *Comm. Partial Differential Equations* **25** (2000), no. 11&12, 1997–2053.
14. F. Gozzi and A. Swiech, Hamilton-Jacobi-Bellman equations for the optimal control of the Duncan-Mortensen-Zakai equation, *J. Funct. Anal.* **172** (2000), no. 2, 466–510.
15. F. Gozzi, E. Rouy and A. Swiech, Second order Hamilton-Jacobi equations in Hilbert spaces and stochastic boundary control, *SIAM J. Control Optim.* **38** (2000), no. 2, 400-430.
16. D. Gatarek and A. Swiech, Optimal stopping in Hilbert spaces and pricing of American options, *Math. Methods Oper. Res.* **50** (1999), 135–147.
17. M. G. Crandall, M. Kocan, P. L. Lions and A. Swiech, Existence results for boundary problems for uniformly elliptic and parabolic fully nonlinear equations, *Electron. J. Differential Equations*, Vol. 1999 (1999), No. 24, 1–20.
18. M. G. Crandall, P. Fok, M. Kocan and A. Swiech, Remarks on nonlinear, uniformly parabolic equations, *Indiana Univ. Math. J.* **47** (1998), no. 4, 1293–1326.
19. A. Swiech, $W^{1,p}$-Interior estimates for solutions of fully nonlinear, uniformly elliptic equations, *Adv. Differential Equations* **2** (1997), no. 6, 1005–1027.
20. W. Gangbo and A. Swiech, Optimal maps for the Multidimensional Monge-Kantorovich Problem, *Comm. Pure Appl. Math.* **51** (1998), no. 1, 23–45.
21. M. Kocan, P. Soravia, and A. Swiech, On differential games for infinite dimensional systems with nonlinear, unbounded operators, *J. Math. Anal. Appl.* **211** (1997), 395–423.
22. A. Swiech, A note on the differences of the consecutive powers of operators, Linear Operators, J. Janas, F. H. Szafraniec, and J. Zemanek (eds.), Banach Center Publ. vol. 38, Institute of Mathematics, Polish Academy of Sciences, Warsaw, 1997, 381–383.
23. A. Swiech, Another approach to the existence of value functions of stochastic differential games, *J. Math. Anal. Appl.* **204** (1996), no. 3, 884–897.
24. A. Banaszuk, J. Hauser and A. Swiech, Least squares integration of one-dimensional codistributions with application to approximate feedback linearization, *Math. Control Signals Systems* **9** (1996), no. 3, 207–241.
25. M. Kocan and A. Swiech, Perturbed optimization on product spaces, *Nonlinear Anal.* **26** (1996), no. 1, 81–90.
26. M. G. Crandall, M. Kocan, P. Soravia and A. Swiech, On the equivalence of various weak notions of solutions of elliptic PDE's with measurable ingredients, Progress in Elliptic and Parabolic PDE's (A. Alvino et al. eds.), Pitman Research Notes in Math., vol. 350, 1996, 136–162.

27. A. Swiech, Sub- and superoptimality principles of dynamic programming revisited, *Nonlinear Anal.* **26** (1996), no. 8, 1429–1436.
28. L. Caffarelli, M. G. Crandall, M. Kocan and A. Swiech, On viscosity solutions of fully nonlinear equations with measurable ingredients, *Comm. Pure Appl. Math.* **49** (1996), 365–397.
29. M. Kocan and A. Swiech, Second order unbounded parabolic equations in separated form, *Studia Math.* **115** (1995), no. 3, 291–310.
30. A. Swiech, Unbounded second order partial differential equations in infinite dimensional Hilbert spaces, *Comm. Partial Differential Equations* **19** (11&12) (1994), 1999-2036.
31. M. G. Crandall, M. Kocan, and A. Swiech, On partial sup-convolutions, a lemma of P.L. Lions and viscosity solutions in Hilbert spaces, *Adv. Math. Sci. Appl.* **3** (1993/4), 1–15.
32. A. Swiech, Spectral characterization of operators with precompact orbit, *Studia Math.* **96** (1990), no. 3, 277–282.

(b) Accepted for publication:

(c) Submitted:

1. A. Swiech, A PDE approach to large deviations in Hilbert spaces, submitted to *Stochastic Process. Appl.*.
2. A. Swiech and E. V. Teixeira, Regularity for obstacle problems in infinite dimensional Hilbert spaces, submitted to *Adv. Math.*.
3. G. Fabbri, F. Gozzi and A. Swiech, Verification theorem and construction of ϵ-optimal controls for control of abstract evolution equations, submitted to *Appl. Math. Optim.*.

(d) In preparation:

(e) Papers in Conference Proceedings:

1. A. Swiech, A PDE approach to large deviations in Hilbert spaces, Proceedings of the International Conference for the 25th Anniversary of Viscosity Solution, University of Tokyo, June 4-6, 2007.
2. A. Swiech, HJB equations in Hilbert spaces related to optimal control of stochastic Navier-Stokes equations, Proceedings of RIMS Conference on Viscosity Solution Theory of Differential Equations and Its Developments, Kyoto University, June 29-July 1, 2005, Research Institute for Mathematical Sciences, Kyoto University, Kyoto, Japan, 43-55.
3. A. Swiech, The existence of value functions of stochastic differential games for unbounded stochastic evolution, Proceedings of the 34th IEEE Conference on Decision and Control, New Orleans, Louisiana, December 13-15, 1995, 2289–2294.

Other Publications:

1. "Viscosity solutions of fully nonlinear partial differential equations with unbounded terms in infinite dimensions", Ph.D. thesis, University of California at Santa Barbara.

Research Grants and Contracts:

1. "Nonlinear Second-Order PDE in Infinite Dimensional Spaces and Optimal Control of Stochastic PDE", Analysis Program, Div. of Math. Sci, NSF, $78,000, 7/2005-7/2008.

2. "Viscosity Solution Methods in Partial Differential Equations", Analysis Program, Div. of Math. Sci, NSF, $84,000, 7/2001-7/2004.
3. "Viscosity Solutions and Applications", Analysis Program, Div. of Math. Sci, NSF, $50,000, 8/1997-8/2000.

Meetings and Symposia:

Invited participation:

1. AMS-PTM First Joint International Meeting, Warsaw, Poland, July 31-August 3, 2007, Special Session on Control and Optimization of Non-linear PDE Systems.
2. 4th International Conference of Applied Mathematics and Computing, Plovdiv, Bulgaria, August 12-18, 2007, Member of the Scientific Committee
3. 23rd IFIP Conference on System Modeling and Optimization, Cracow, Poland, July 23-27, 2007, Special Session on Control and Optimization of Nonlinear Evolutionary PDE Systems, and Special Session on Stochastic Control and Mathematics of Finance.
4. 6th International Congress on Industrial and Applied Mathematics, Zurich, Switzerland, July 16-20, 2007, Special Session on Viscosity Solutions of Partial Differential Equations: Recent Advances and Applications.
5. International Conference for the 25th Anniversary of Viscosity Solution, University of Tokyo, June 4-6, 2007, plenary talk.
6. Minisymposium on the Occasion of the Retirement of M. G. Crandall, University of California, Santa Barbara, May 29, 2007.
7. 1020 AMS Meeting, University of Cincinnati, Ohio, October 21-22, 2006, Special Session on Optimal Controls and Stochastic Differential Games.
8. 6th AIMS International Conference on Dynamical Systems, Differential Equations and Applications, Poitiers, France, June 25-28, 2006, Special Session on New Developments in Nonlinear Partial Differential Equations and Control Theory.
9. Italian-Japanese Conference on Nonlinear Partial Differential Equations and Applications, Cortona, Italy, June 19-24, 2006.
10. 22nd IFIP Conference on System Modeling and Optimization Turin, Italy, July 18-22, 2005, Invited Session on Stochastic Systems and Control.
11. RIMS Conference on Viscosity Solution Theory of Differential Equations and Its Developments, Kyoto University, June 29-July 1, 2005.
12. 1004th AMS Meeting, Bowling Green, Kentucky, March 18-19, 2005, Special Session on Partial Differential Equations and Their Applications.
13. Symposium on Stochastic Control, Filtering, and Mathematical Finance, Osaka University, Osaka, Japan, December 18-19, 2004.
14. 54th Midwest PDE Seminar, Wayne State University, November 19-21, 2004.
15. Workshop on Stochastic Analysis and White Noise Calculus, Mini-course "Regularity of solutions of Hamilton-Jacobi-Bellman Equations" (3 lectures), University of Wyoming, Laramie, June 7-11, 2004, .
16. WCNA-2004 World Congress of Nonlinear Analysts, Orlando, Florida, June 30-July 7, 2004, Special Session on Variational Analysis and Its Application.
17. IFIP'2003 21st Conference on System Modeling and Optimization, Special Session on Analysis and Control of Systems Governed by Partial Differential Equations: Hamilton-

Jacobi-Bellman and Stochastic Problems, Sophia Antipolis, France, July 21-25, 2003.
18. 2003 SIAM Annual Meeting, Minisymposium on Control of Fluid Dynamical Systems: Theory and Numerics, Montreal, Canada, June 16-20, 2003.
19. MCT'03 Louisiana Conference on Mathematical Control Theory, Louisiana State University, Baton Rouge, Louisiana, April 10-13 2003.
20. AMS-UMI First Joint International Meeting, Pisa, Italy, June 12-16, 2002, Special Session on Viscosity Methods in PDE's and Applications.
21. Conference on Stochastic Control and its Applications, Mathematical Research and Conference Center, Bedlewo, Poland, June 3-8, 2002, "Viscosity solutions of a class of infinite dimensional PDE coming from mathematical finance".
22. 5th SIAM Conference on Control and Its Applications, San Diego, California, July 11-14, 2001, Special Session on Control of Fluids: Theory and Numerics, "Viscosity Solutions of Bellman Equations Associated with Optimal Control of the Navier-Stokes Equations".
23. Thematic Programme on Nonlinear Partial Differential Equations, Pacific Institute for the Mathematical Sciences, Vancouver, BC, Canada, Workshop on Viscosity methods in partial differential equations, July 2-10, 2001, Mini-course "Viscosity solutions in infinite dimensional spaces and optimal control of PDEs", 3 plenary lectures.
24. AMS Meeting, University of Kansas, Lawrence, Kansas, March 30-31, 2001, Special Session on Optimal Control, Calculus of Variations, and Nonsmooth Analysis, "Viscosity solutions of Hamilton-Jacobi-Bellman equations for the optimal control of Navier-Stokes equations".
25. 11th Tokyo Conference on Nonlinear PDE, Tokyo Metropolitan University, January 26-27, 2001, "Viscosity and good solutions of fully nonlinear elliptic and parabolic PDE".
26. The Third World Congress of Nonlinear Analysts (WCNA 2000), Catania, Sicily, Italy, July 19-26, 2000, Session on Random Processes and Applications, "Recent results on equations of dynamic programming for optimal control of stochastic PDE".
27. International Conference on Analysis and Control of Deterministic and Stochastic Evolution Equations, Bressanone-Brixen, Italy, July 6-7, 2000, "Hamilton-Jacobi-Bellman equations for the optimal control of the Duncan-Mortensen-Zakai equation", plenary talk.
28. 2000 International Conference on Dynamical Systems and Differential Equations, Kennesaw University, Georgia, May 18-21, 2000, Special Session on Nonlinear Elliptic and Earabolic Equations, "Viscosity and good solutions of fully nonlinear elliptic and parabolic equations", and Special Session on Control and Optimization of Systems Governed by Partial Differential Equations, "Hamilton-Jacobi-Bellman equations for the optimal control of the Duncan-Mortensen-Zakai equation".
29. AMS Meeting, Charlotte, North Carolina, October 15-17, 1999, Special Session on Stochastic PDEs and Turbulence, "Infinite dimensional Hamilton-Jacobi-Bellman equations and control of stochastic PDE".
30. Miniconference on Partial Differential Equations, Canberra, Australia, September 3, 1998, "Existence, uniqueness and regularity of viscosity solutions of fully nonlinear parabolic equations".
31. Banach Center Symposium on Stochastic Systems, Warsaw, Poland, June 1-13, 1998, "Viscosity solutions of second order PDE's in infinite dimensions".
32. 4th SIAM Conference on Control & its Applications, Jacksonville, Florida, May 7-9,

1998; minisymposium on Hamilton-Jacobi Equations and Applications, "Boundary value problems for Hamilton-Jacobi-Bellman equations in Hilbert spaces and exit time problems for infinite dimensional stochastic systems", and minisymposium on Dynamic Programming Methods for Optimal Control of Nonlinear Distributed Parameter Systems, "Fully nonlinear second order equations in infinite dimensions and optimal control of stochastic PDE's".
33. 18th IFPI Conference on Modelling and Optimization, Detroit, Michigan, July 22-25, 1997, session on Stochastic Analysis, Processes, and Systems, "Second order Hamilton-Jacobi-Bellman equations in Hilbert spaces and stochastic boundary control".
34. Workshop on Deterministic and Stochastic Evolutionary Systems, Scuola Normale Superiore di Pisa, Pisa, Italy, July 16-17, 1996, "Infinite dimensional systems and risk sensitive control".
35. Workshop on Dynamical Systems and Applications of Stochastic Differential Equations, Scuola Normale Superiore di Pisa, Pisa, Italy, June 29-30, 1995, "Hamilton-Jacobi-Bellman equations in Hilbert spaces".
36. International Joint Mathematics Meeting, Merida, Jucatan, Mexico, Dec. 1-4, 1993, "Second order Hamilton-Jacobi-Bellman equations in infinite dimensional Hilbert spaces".

Contributed participation:

1. The Fourteenth Annual Southeastern - Atlantic Regional Conference on Differential Equations, University of Tennessee, Knoxville, Oct. 21-22, 1994, "On solving fully nonlinear uniformly elliptic PDE's".
2. The Fifteenth Annual Meeting of the Southeastern - Atlantic Regional Conference on Differential Equations, North Carolina State University, Raleigh, North Carolina, Oct. 13-15, 1995, "Stochastic differential games and representation formulas for solutions of second order elliptic PDE's".
3. 34th IEEE Conference on Decision and Control, New Orleans, Louisiana, December 13-15, 1995, "The existence of value functions of stochastic differential games for unbounded stochastic evolution".
4. International Conference on Dynamical Systems and Differential Equations, Southwest Missouri State University, Springfield, Missouri, May 29 - June 1, 1996, "L^p-Gradient estimates for viscosity solutions of fully nonlinear, uniformly elliptic equations".
5. The Sixteenth Annual Southeastern - Atlantic Regional Conference on Differential Equations, Emory University, Atlanta, Georgia, Oct. 18-19, 1996, "$W^{1,p}-$Interior estimates for solutions of fully nonlinear, uniformly elliptic equations".

Seminar/Colloquium Talks:

University of Tennessee at Chattanooga (1994, Analysis Seminar)
Scuola Normale Superiore di Pisa, Pisa, Italy (1995, Analysis Seminar)
University of Trieste, Italy (1995, Analysis Seminar)
Institute of Mathematics, Polish Academy of Sciences, Warsaw, Poland (1995, Analysis Seminar)
University of Padova, Italy (1996, Analysis Seminar)
Australian National University, Canberra, Australia, (1996, PDE Seminar)

Emory University (1998, Analysis Seminar)
Scuola Normale Superiore di Pisa, Pisa, Italy (1998, Analysis Seminar)
University of Tennessee at Chattanooga (1999, Colloquium)
University of Kansas, Lawrence (1999, Colloquium)
University of Cologne, Germany (1999, Analysis Seminar)
University of Wisconsin, Madison (2000, PDE and Applied Analysis Seminar)
University of Virginia, Charlottesville (2000, Colloquium)
North Carolina State University, Raleigh (2000, Stochastic Seminar)
University of Texas, Austin (2000, Analysis Seminar)
University of California, Santa Barbara (2000, PDE Seminar)
Scuola Normale Superiore di Pisa, Pisa, Italy (2000, Analysis Seminar)
University of Padova, Italy (2002, Analysis Seminar)
University of Nevada, Reno (2002, Colloquium)
University of Massachusetts, Amherst (2003, Applied Analysis and Computations Seminar)
University of Wyoming, Laramie (2003, Colloquium)
University of Nevada, Reno (2004, Colloquium)
University of Tokyo, Japan (2004, PDE and Real Analysis Seminar)
Waseda University, Japan (2004, PDE Seminar)
University of California, Santa Barbara (2005, PDE Seminar)
Iowa State University, Ames (2005, Computational and Applied Mathematics Seminar)
University of Wyoming, Laramie (2006, Colloquium)
Emory University (2006, Differential Geometry and Analysis Seminar)
University of Padova, Italy (2006, Analysis Seminar)
Wright State University (2006, Colloquium)
University of Rome "La Sapienza", Italy (2007, PDE Seminar)
Institute of Mathematics, Polish Academy of Sciences, Warsaw, Poland (2007, Stochastic Processes Seminar)
University of Kansas, Lawrence (2007, Colloquium)

Professional Service:

NSERC Pure and Applied Mathematics - B Grant Selection Committee, 2005-06.
NSF Panel.
School of Mathematics Hiring Committee, 2005-07.
School of Mathematics Senior Promotion and Tenure Committee, 2005-07.
School of Mathematics Faculty Advisory Committee, 2003-05.
School of Mathematics Graduate Committee, 2001-04.
Search Committee for the Chair of the School of Mathematics, 2000-2001.
School of Mathematics Junior Promotion and Tenure Committee, 2000-2001.
School of Mathematics Salary and Awards Committee, 1999-2002.
School of Mathematics Elections and Nominations Committee, 1998-2000.
School of Mathematics Graduate Committee, 1998-2000, Chairman, 1999-2000.
School of Mathematics Undergraduate Committee, 1995-97.
Graduate Comprehensive Examination Committee, Spring 1996, Fall 1996, Fall 2001, Fall

2004, Spring 2005.

Seminar and Conference Organization:

School of Mathematics Colloquium Chairman and Member of the University Center Interdepartmental Group in Mathematics, 1996/97.
Center for Dynamical Systems and Nonlinear Studies Colloquium Chairman, 1998/99.
Coorganizer (with R. Pan) of the School of Mathematics PDE Seminar, 2004-2005.
Coorganizer (with M. Lacey, J. Metcalfe, G. Mockenhaupt, and R. Pan) of the AMS-SIAM Special Session on Analysis and Applications in Nonlinear Partial Differential Equations, AMS/MAA Joint Mathematics Meeting, Atlanta, GA, January 5-8, 2005.

Refereeing/Reviewing:

Abstract and Applied Analysis
Applied Mathematics and Optimization
Arch. Rational Mech. Anal.
Communications in Mathematical Sciences
Communications in Partial Differential Equations
Computational and Applied Mathematics
Czechoslovak Mathematical Journal
Discrete and Continuous Dynamical Systems
Duke Mathematical Journal
Indiana University Mathematics Journal
International Journal of Mathematics and Mathematical Sciences
Journal of Differential Equations
Journal of Mathematical Analysis and Applications
Journal of Physics
Mathematical Methods in the Applied Sciences
Nonlinearity
Proceedings of the American Mathematical Society
SIAM Journal on Control and Optimization
SIAM Journal on Mathematical Analysis
SIAM Journal on Optimization
Stochastic Processes and Their Applications
Stochastics
Studia Mathematica
Transactions of the American Mathematical Society
Refereeing for NSF, ARO, NSERC, conference proceedings, book articles, book reviews.

Reviewer for Mathematical Reviews, 1994-2006.

Ph.D. Students:

D. Kelome, Ph.D. 2002

Thesis Committees:

T. Gedeon, 1994 (Ph.D., Reading Committee)
A. Banaszuk, 1995 (Ph.D., Reading Committee)
J. Rehacek, 1996 (Ph.D., Reading Committee)
K. A. Simon, 1996 (Masters Oral Exam Committee)
X. F. Yang, 1998 (Ph.D., Reading Committee)
A. Leonessa, 1999 (Masters Oral Exam Committee)
A. Proietti, 1999 (Masters Oral Exam Committee)
M. Weederman, 2000 (Ph.D., Reading Committee)
J. Quinn, 2000 (Masters Oral Exam Committee)
T. Hayakawa, 2001 (Masters Oral Exam Committee)
X. Zhang, 2002 (Masters Oral Exam Committee)
M. Agueh, 2002 (Ph.D., Reading Committee)
H. Maroofi, 2002 (Ph.D., Reading Committee)
E. Boczko, 2002 (Ph.D., Reading Committee)
X. Wang, 2002 (Ph.D., Reading Committee)
S. Day, 2003 (Ph.D., Reading Committee)
B. M. Kim, 2005 (Masters Oral Exam Committee)
S. Ulusoy, 2007 (Ph.D., Reading Committee)

Editorial Boards:

SIAM Journal on Control and Optimization
International Journal of Pure and Applied Mathematics
Modern Mechanics and Mathematics, Chapman & Hall/CRC/Taylor & Francis Book Series

Membership in Professional Organizations:

American Mathematical Society.