

RACHEL KUSKE
Professor
School of Mathematics
Georgia Institute of Technology

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CONTACT INFORMATION

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I. EARNED DEGREES

B.S. Mathematics 1987 University of Wisconsin, Green Bay, WI

Ph.D. Applied Mathematics 1992 Northwestern University, Evanston, IL

Ph.D. Thesis Advisor: Professor B.J. Matkowsky

Ph.D. Thesis Title: Asymptotic Analysis of Random Wave Equations

II. EMPLOYMENT HISTORY

2017- Professor, School of Mathematics, Georgia Institute of Technology

2017-2021 Chair, School of Mathematics, Georgia Institute of Technology

2006-2016 Professor, University of British Columbia, Vancouver, BC

2011-2015 Senior Advisor to the Provost on Women Faculty, University of British Columbia, Vancouver, BC

2007-2011 Department Head, University of British Columbia, Vancouver, BC

2002-2006 Associate Professor, University of British Columbia, Vancouver, BC

2000-2002 Associate Professor, University of Minnesota, Minneapolis, Minnesota

2001-2002 Associate Director, Minnesota Center for Industrial Math, University of Minnesota, Minneapolis, Minnesota

1997-2000 Assistant Professor, University of Minnesota, Minneapolis, Minnesota

1996-1997 Assistant Professor, Tufts University, Medford, Massachusetts

1994-1996 NSF Postdoc, Stanford University, Stanford, California

1992-1993 NSF Postdoc, Stanford University, Stanford, California

III. HONORS AND AWARDS

1. Harold M. Bacon Teaching Award, Stanford University, 1995

2. Sloan Dissertation Fellowship, 1991

3. Tufts University Faculty Research Summer Award, 1996

4. Tufts University Mellon Research Semester Fellowship, 1997

5. McKnight Land Grant Professorship, 1998

6. Canadian Research Chair II, Applied Math, UBC, 2002

7. Krieger-Nelson Prize, CMS, 2011

8. SIAM Fellow, 2015

9. Simons Fellowship, 2016

10. Association for Women in Mathematics Service Award, 2013

IV. RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITIES

A. PUBLISHED BOOKS, BOOK CHAPTERS AND EDITED VOLUMES

- A1. Books No data.
- A2. Refereed Book Chapters No data.
- A3. Edited Volumes No data.

B. REFEREED PUBLICATIONS AND SUBMITTED ARTICLES

B1. Published and Accepted Journal Articles

1. “Qualitative changes in bifurcation structure for soft vs. hard impact models of a vibro-impact energy harvester”, D. Costa, R. Kuske, D. Yurchenko, *Chaos*, 32,103120, 2022, <https://doi.org/10.1063/5.0101050>.
2. Maps unlock the full dynamics of targeted energy transfer via a vibro-impact nonlinear energy sink, R.Liu, R. Kuske, D. Yurchenko, *Mechanical Systems and Signal Processing*, to appear.
3. Serdukova, L., Kuske, R. & Yurchenko, D. Fundamental competition of smooth and non-smooth bifurcations and their ghosts in vibro-impact pairs. *Nonlinear Dyn* (2022). <https://doi.org/10.1007/s11071-022-08152-5>
4. Henrik T Sykora, Rachel Kuske, Daniil Yurchenko, Systematic matrix formulation for efficient computational path integration, *Computers & Structures*, Volume 273, 2022, 106896, ISSN 0045-7949, <https://doi.org/10.1016/j.compstruc.2022.106896>.
5. Defining the benefits of Antibiotic Resistance in Commensals and the Scope for Resistance Optimization, K.W. Waldetoft, S. Sundius, R. Kuske, S. Brown, *mbio*, (online), 2022, <https://doi.org/10.1128.mbio01349-22>.
6. “Beyond the Bristol book, Advances and perspective in non-smooth dynamics and applications”, *Chaos* 33,010402 (2023), <https://doi.org/10.1063/5.0138169>.
7. “Dynamic tipping in the non-smooth Stommel-box model, with fast oscillatory forcing”, Chris Budd, Cody Griffith, Rachel Kuske, *Physica D*, 432, 2022,132948, ISSN 0167-2789, <https://doi.org/10.1016/j.physd.2021.132948>.
8. “Improving the performance of a two-sided vibro-impact energy harvester with asymmetric restitution coefficients”, S. Dulin, K. Lin, L. Serdukova, R. Kuske, D. Yurchenko, *Int. J. Mech. Sci.*, 217, 2022, 106983.
9. “Post-grazing dynamics of a vibro-impacting energy generator”, L. Serdukova, Larissa and R. Kuske, and D. Yurchenko, *J. Sound and Vibration*, 492. 2021.
10. “Twenty years of the AWM Mentor Network”, Anna Ghazaryan, Rachel Kuske, and Emille Lawrence, *Association for Women Mathematics: The First Fifty Years*, Springer; 2022, p. 501-506.
11. “Accelerating Sparse Recovery by Reducing Chatter”, E. Daskalakis, F. Herrmann, R. Kuske, *SIAM Imaging Sciences*, *SIAM J. Imaging Sci.*, 13(3), 1211-1239, 2020.
12. “Experimental Observations on Unsafe Zones in Milling Processes”, Z. Dombovari, A. Iglesias, T. G. Molnar, G. Habib, J. Munoa, R. Kuske, and G. Stepan, *Phil. Trans. Roy. Soc. A*, 377, 2019, DOI 10.1098/rsta.2018.0125 .
13. L. Serdukova, R. Kuske, D. Yurchenko, Stability and bifurcation analysis of the period-T motion of a vibro-impacting energy generator, *Nonlinear Dynamics*, 98, 1807-1819. 2019.
14. “Uncertainty quantification for inverse problems with weak PDE-constraints”, Z. Fang, C. Da Silva, R. Kuske, and F. J. Herrmann, *Geophysics* 83, R629-R647 (2018).

15. "The influence of parametric and external noise in act-and-wait control with delayed feedback", Jiaying Wang and Rachel Kuske, *Chaos* 27, 114319, (2017).
16. "Reduced alpha-stable dynamics for multiple time scale systems forced with correlated additive and multiplicative Gaussian white noise", W. F. Thompson, R. Kuske, A. Monahan, *Chaos*, 27, 111102, (2017).
17. "Patterns and coherence resonance in the stochastic Swift-Hohenberg equation with Pyragas control: the Turing bifurcation case", R. Kuske, C.Y. Lee, V. Rottschäfer, *Physica D*, 365, 2018.
18. "Chevron folding patterns and heteroclinic orbits", C.J. Budd, A.N. Chakhchoukh, T.J. Dodwell, R. Kuske, *Physica D: Nonlinear Phenomena*, Volume 330, p. 32-46, 2016.
19. "The influence of localized randomness on regular grazing bifurcation with applications to impacting dynamics", DJW Simpson and R. Kuske, *J. Vibration and Control.*, 24, 2018.
<https://doi.org/10.1177/1077546316642054>
20. "Tipping points near a delayed saddle node bifurcation with periodic forcing", J. Zhu, R. Kuske, T. Erneux, *SIAM J. Appl. Dyn. Syst.* 14, pp. 2030-2068, 2015.
21. "Stochastic averaging of dynamical systems with multiple time scales forced with α -stable noise", W.F. Thompson, R. Kuske, A. Monahan, *Multiscale Modeling and Simulation (SIAM)*, *Multiscale Model. Simul.*, 1194-1223, 2015.
22. "Stochastic Perturbations of Periodic Orbits with Sliding", D. J.W. Simpson and R. Kuske, *J. Nonl. Sci.* 25, 967-1014, 2015.
23. D.J.W. Simpson, R. Kuske, The Positive Occupation Time of Brownian Motion with Two-Valued Drift and Asymptotic Dynamics of Sliding Motion with Noise, *Stochastics and Dynamics*, 14(4), 2014.
24. "Stochastically Perturbed Sliding Motion in Piecewise-Smooth Systems", D. J.W. Simpson and R. Kuske, *DCDS-B*, 19 (9), 2889-2913, 2014.
25. N. Yu, Y.-X. Li, R. Kuske, A Computational Study of Spike Time Reliability in Two Cases of Threshold Dynamics, *J. Mathematical Neuroscience*, 3, 2013. doi:10.1186/2190-8567-3-11.
26. D.J.W. Simpson, S. J. Hogan, R. Kuske, Stochastic Regular Grazing Bifurcations, *SIAM Applied Dynamical Systems*, 12(2) 533-559, 2013.
27. D.J.W. Simpson, R. Kuske, Y-X. Li, Dynamics of Simple Balancing Models with Time-Delayed Switching Feedback Control, *J. Nonlinear Science*, 22(2), 135-167, 2012.
28. W. F. Thompson, R. Kuske, and Y.X. Li, Stochastic phase dynamics of noise driven synchronization of two conditional coherent oscillators, *Discrete and Continuous Dynamical Systems A*, 32, 2012 2971-2995.
29. D.J. W. Simpson, R. Kuske, Mixed-mode oscillations in a stochastic, piecewise-linear system *Physica D* 240, pp. 1189-1198, 2011.
30. J. Chaffee and R. Kuske The Effect of Loss of Immunity on Noise-Induced Sustained Oscillations in Epidemics, *Bull. Math Bio.*, Volume: 73 Issue: 11 Pages: 2552-2574 2011
31. Bull. Math Bio., Volume: 73 Issue: 11 Pages: 2552-2574 2011
32. P. Borowski, R. Kuske, Y.X. Li, and J.-L. Cabrera, Characterizing Noisy Mixed Mode Oscillations in Neuronal Models, *Chaos*, 20, 2010, 043117.
33. R. Kuske, Competition of noise sources in systems with delay: the role of multiple time scales, *J. Vibration and Control*, 7, 2010.
34. R. Kuske and P. Borowski, Survival of subthreshold oscillations: the interplay of noise, bifurcation structure, and return mechanism, *Discrete and Continuous Dynamical Systems S*, 2, 873-896, 2009.
35. Y. Cao, R. Kuske, H. Li, Direct Observation of Markovian Behavior of the Mechanical Unfolding of Individual Proteins, *Biophysical Journal*, 95, 782-788, 2008.
36. E. Buckwar, R. Kuske, S. Mohammed, and T. Shardlow, Weak convergence of the Euler Scheme for stochastic differential delay equations, *LMS Journal of Computational Mathematics*, 11, 60-99, 2008.

37. N. Yu, R. Kuske, Y.X. Li, Stochastic Phase Dynamics and Noise-induced Mixed-mode Oscillations in Coupled Oscillators, *Chaos*, 18, 015112, 2008.
38. R. Kuske, P. Greenwood, L. Gordilla, Sustained oscillations via coherence resonance in SIR, *J. Theoretical Biology*, 245 2007,459-469.
39. S. Mitchell, R. Kuske, and A. Peirce, An asymptotic framework for finite hydraulic fractures including leakoff, *SIAM J. Appl. Math.* 67 364-386, 2007.
40. N. Yu, R. Kuske and Y.X. Li, Stochastic phase dynamics: multiscale behavior and coherence measures, *Physical Review E*, 73 (2006)
41. S. L. Mitchell, R. Kuske, A.P. Peirce, An asymptotic framework for the analysis of hydraulic fractures: the impermeable case, *J. Appl. Mechanics*, 74, 2007 365-372.
42. H. Rotstein and R. Kuske, Localized and asynchronous patterns via canards in coupled calcium oscillators, *Physica D*. 215, 2006 46-61.
43. S. Reinker, Y.X. Li, and R. Kuske, Noise-induced coherence and network oscillations in a reduced bursting model, *Bull. Math. Bio*, 68, 2006, 1401-1427.
44. R. Kuske, Multiple-scales approximation for a coherence resonance route to chatter, *Computing in Science and Engineering*, 8, 2006, 2-88.
45. E. Buckwar, R. Kuske, B. L'Esperance, and T. Soo, Noise sensitivity in machine tool vibrations, *International Journal of Bifurcation and Chaos*, 16, 2006, 2407-2416.
46. C.J. Budd and R. Kuske, Localized periodic patterns for the non-symmetric generalized Swift-Hohenberg equation away from criticality, *Physica D*, 208 (2005) 73-95.
47. R. Kuske L. Peletier, A singular perturbation problem for patterns in a fourth order differential equation, *Nonlinearity*, Vol 18, no.3 p. 1189-1223,2005
48. M. Klosek and R. Kuske Multi-scale analysis for stochastic differential delay equations, *SIAM Multiscale modeling and simulation*, 3, 706-729, 2005.
49. R. Kuske and S. Baer, Asymptotic analysis of noise sensitivity in a neuronal burster, *Bull. Math. Bio.*, 64 (2002), 447-481.
50. R. Kuske, Asymptotic analysis of noise-amplified oscillations for subcritical delays, *Differential Equations and Dynamical Systems*, Special issue on neural modeling, Oct. 2001.
51. C.J. Budd, G.W. Hunt, R. Kuske, Asymptotics of cellular buckling close to the Maxwell load, *Proc. R. Soc. Lond.* 457, (2001) 2935-2964.
52. J.D. Evans, R. Kuske, and J.B. Keller, American options on assets with dividends near expiry, *Math. Finance* 12 (2002) 219-237.
53. R. Kuske and J.B. Keller, Rate of convergence to a stable law, *SIAM J. Appl. Math* 61 (2000), 1308-1323.
54. R. Kuske, Gradient particle solutions of Fokker-Planck equations for noisy delay bifurcations, *SIAM J. Sci. Comp.*, 2 (2000), 351-367.
55. R. Kuske, Probability densities for noisy delay bifurcations, *J. Stat. Phys.* 96 (1999), 797-816.
56. R. Kuske and P. Milewski, Modulated two-dimensional patterns in reaction-diffusion systems, *Euro. J. Appl. Math.* 10 (1999), 157-184.
57. R. Kuske and J. B. Keller, Optimal exercise boundary for an American put option, *Applied Mathematical Finance* 5 (1998), 107-116.
58. R. Kuske and G. Papanicolaou, The invariant density of a chaotic dynamical system with small noise, *Physica D* 120 (1998), 255-272.
59. R. Kuske and T. Erneux, Bifurcations of localized oscillations, *Euro. J. Appl. Math* 8 (1997), 389-402.
60. R. Kuske and T. Erneux, Localized synchronization of two coupled solid state lasers, *Optics Communications*, 139 (1997), 125-131.
61. R. Kuske and J.B. Keller, Large deviation theory for stochastic difference equations, *Euro. J. Appl. Math.*98 (1997),567-580
62. W. Eckhaus and R. Kuske, Pattern formation in systems with slowly varying geometry, *SIAM J. Appl. Math.* 57(1997), 112-152

63. R. Kuske, Z. Schuss, I. Goldhirsch, S.H. Noskowitz, Schrödinger's equation on a one dimensional lattice with weak disorder, *SIAM J. Appl. Math.*, 53 (1993), 1210-1252.
64. R. Kuske and B.J. Matkowsky, On roll, square, and hexagonal cellular flames, *Euro. J. Appl. Math.*, 5 (1994), 65-93.
65. R. Kuske and B.J. Matkowsky, Two dimensional cellular burner-stabilized flames, *Quarterly of Appl. Math.*, 52 (1994), 665-688.
66. A.J. Bernoff, R. Kuske, B.J. Matkowsky, and V. Volpert, Mean field effects for traveling wave solutions of reaction-diffusion equations, *SIAM J. Appl. Math.* 55 (1995), 485-519.
67. R. Kuske, Wave localization in a one dimensional random medium, *Random and Computational Dynamics* 1 (1992), 147-196.
68. A. Bayliss, R. Kuske, and B.J. Matkowsky, A two-dimensional adaptive pseudo-spectral method, *Journal of Computational Physics* 91 (1990), 174-196.

B2. Conference Presentation with Proceedings (Refereed)

1. Z. Dombovari, J. Munoa, R. Kuske, G. Stepan Milling stability for slowly varying parameters, 8th CIRP Conference on High Performance Cutting, (HPC 2018).
2. Z. Dombovari, J. Munoa, R. Kuske, G. Stepan. The effect of slowly varying dynamics on milling stability. UTIS 8th International Symposium on Machining, Nov 2017, Antalya, Turkey.
3. E. Daskalakis, F. Herrmann, and R. Kuske, Developments in the direction of solving extremely large problems in geophysics. *SEG Technical Program Expanded Abstracts* 4375-4378, (2017).
4. Uncertainty quantification for wavefield reconstruction inversion Z. Fang, C.Y. Lee, C. Da Silva, F. Herrmann, R. Kuske, EAGE Conference, extended abstract, June 2015.
5. Noise sensitivity of balance with delayed on-off control (FS09-004) Jiaying Wang, Rachel Kuske, David Simpson, ICTAM 2012, Beijing, Aug 19-24, 2012.
6. R. Kuske, P. Greenwood, L. Gordillo, Autonomous Stochastic Resonance in SIR, *Prague Stochastics* 2006.
7. R. Kuske, E. Buckwar, B. L'Esperance, and T. Soo, Coherence resonance in noisy machine tool vibrations, Fifth Euromech Nonlinear Dynamics Conference, 2005, 10 pages.
8. R. Kuske, Multi-scale dynamics in stochastic delay differential equations with multiplicative noise, *Proceedings: Stochastic systems with delay and memory, Stochastics and Dynamics*, 5, 2005, Special Issue. 10 pages
9. Multi-scale analysis of noise-sensitivity near a bifurcation, R. Kuske, in *IUTAM Symposium on Nonlinear Stochastic Dynamics*, Namachchivaya and Lin, eds, Kluwer, 2003, 10 pages.
10. T. Erneux, R. Kuske, T. W. Carr, "Mathematical studies of coupled lasers", in *Laser Optics'95: Nonlinear Dynamics in Lasers*, N.B. Abraham, Y.I. Khanin, eds., *Proc. SPIE* 2792, 1996, 8 pages.
11. Product Driven Data Mining, R. Aggarwala, S. Bohun, R. Kuske, G. LaBute, W. Lu, N. Nigam, F. Youbissi, in *Proceedings of the Seventh PIMS-IMA Industrial Problem Solving Workshop*, S. Bohun, editor, 2004.
12. IMA-PIMS, *Proceedings of 6th Graduate Industrial Math Modeling Camp*, R. Kuske, editor, 2004
13. R. Kuske and T. Erneux, "Localization in systems of non-identical oscillators" in *ICIAM95 Proceedings*, K. Kirchgaessner, O. Mahrenholtz and R Mennicken, eds., *Mathematical Research*, Akademie Verlag Berlin, 1996.

14. A. Doelman, W. Eckhaus, R. Kuske, R. Schielen, "Pattern formation in systems on spatially periodic domains", in {Nonlinear Dynamics and Pattern Formation in the Natural Environment}, A Doelman and A. van Harten, eds., Longman, 1995. ICPF '94 Proceedings.
15. R. Kuske and T. Erneux, "Localization in systems of non-identical oscillators" in ICIAM95 Proceedings, K. Kirchgassner, O. Mahrenholtz and R Mennicken, eds., Mathematical Research, Akademie Verlag Berlin, 1996.
16. R. Kuske, N. Constanzino, B. Rout, C. Anton, C. Popescu, L. Mocofan, A. Apasi, N. Krislock, Z. Xue, "Optimal Policies for Disk Controllers", PIMS Graduate Industrial Math Modeling Camp, (2000).
17. R. Kuske, D. Lyder, J. Samuel, C. Soteros, D. Wolfe, "VisionSmart: The Egg Candling Problem", Proceedings for PIMS Industrial Workshop, Calgary, Alberta, Canada, 1998.
18. R. Kuske, B. Bart, M. Titcombe, Y. Lucet, S. Kavousian, S. Jensen, A. Sheshnev, K. El-Yassini, M. Neagu, "Optimal Policies for Queueing Systems", PIMS Graduate Industrial Math Modeling Camp, (1998).

B3. Other refereed material: Extended abstracts:

1. Dynamic non-smooth fold bifurcations influenced by oscillations and noise, R. Kuske, C. Budd, C. Griffith, ENOC2022, to appear.
2. Dynamical analysis of TET in a non-smooth vibro-impact system, R. Liu, D. Yurchenko, R. Kuske, ENOC2022, to appear.
3. An efficient method to obtain the response PDF of nonlinear stochastic dynamical, H. Sykora, R. Kuske, D. Yurchenko, ENOC2022, submitted.
4. Stochastic sensitivity in dynamic bifurcations with delayed feedback revealed through multiple scales analysis, R. Kuske, A. Dombóvári, T. Erneux, ENOC2017, June 2017, Budapest, Hungary.
5. Non-smooth torus to identify domain of attraction of stable milling processes Zoltan Dombóvári, Jokin Munoa, Rachel Kuske, Gabor Stepan, ENOC 2017, June 2017, Budapest, Hungary.

B4. Submitted Journal Articles (with date of submission).

C. OTHER PUBLICATIONS AND CREATIVE PRODUCTS

D. PRESENTATIONS

1. 1993 UC-Berkeley - Physics Seminar UC-Davis - PDE Seminar
University of Utrecht - Physics Seminar
2. 1994 University of Utrecht - Mathematics Colloquium
3. 1995 UC-Davis - Applied Mathematics Seminar
AWM-SIAM Mini-symposium at ICIAM '95
Northwestern University - Applied Mathematics Seminar
UW- Milwaukee - Applied Mathematics Seminar
UW-Madison - Applied Mathematics Seminar
U of IL- Chicago - Applied Mathematics Seminar
ICIAM '95, mini-symposium
4. 1996 University of Washington - Applied Mathematics Seminar

- New Jersey Institute of Technology - Applied Mathematics Seminar
U of Mich. Math Colloquium
Georgia Tech, Math Colloquium
MIT, Applied Math Seminar
U of Arizona, Math Colloquium
Arizona State Math Colloquium
U of British Columbia, Math Colloquium
Tufts Univ. Math Colloquium
AWM Conference in honor of Julia Robinson
5. 1997 Colorado School of Mines - Mathematics Colloquium
Dynamical Systems and Their Applications, Snowbird, Utah
6. 1998 Probability Seminar, Math Department, UMN
Applied Math Seminar, Math Department, Univ. British Columbia (UBC)
Probability Seminar, Math Department, UBC
Critical Points Seminar, Math/Physics Depts, UBC
Applied Math Seminar, Math Dept, Simon Fraser University
Applied Math Colloquium, Applied Math Dept, Univ. of Washington,
Applied Math Seminar, ICIAM, Oxford University, UK
Industrial and Applied Math Seminar, University of Southampton, UK
Nonlinear Mechanics Brooke Session , University of Bath,UK
Physics Seminar, University of Science and Technology, Lille, FR
Applied Math Seminar, University of Utrecht, NL
7. 1999 Nonlinear Mechanics Brooke Session , University of Bath,UK
Probability Seminar, University of Warwick, UK
Applied Math Seminar, University of Bristol, UK
Applied Math Seminar - University of Wisconsin, Milwaukee
University of Lincoln - Summer Math Camp
Inaugural Conference: Centre for Nonlinear Mechanics, (U Bath, UK)
Stochastic Functional Differential Equations Workshop (U Warwick, UK)
Memory, Delays, and Instabilities, CRM, University of Montreal
8. 2001 Computational Stochastic Differential Equations (University of Warwick)
Distinguished Lecturer Series, Arizona State University
Nonlinear Mechanics Seminar, University of Bath
Applied Analysis Seminar, University of Leiden
Nonlinearity Seminar, University of Amsterdam
Math Colloquium, Southern Illinois University
Math Colloquium, U. of Pittsburgh
Applied Math Seminar, U. of Pittsburgh
Fields Institute, Computational Challenges in Dynamical Systems
9. 2002 Math Colloquium Rice University
Applied Math Seminar, University of Houston
Math Colloquium, UC-Irvine
Math Colloquium, Southern Illinois University
Applied Math Seminar, UBC
Math Colloquium, UBC
Math Colloquium, McGill University

- Math Colloquium, U. of Connecticut
 Lorentz Center, Nonlinear Phenomena in Science
 Stochastic nonlinear dynamics, IUTAM Symposium
10. 2003 Simon Fraser University, Applied Math seminar
 U of Washington, Applied Math Colloquium
 SIAM Applied Dynamical Systems,.Snowbird: invited minisymposium
 SIAM-CAIMS: invited minisymposium
 NIH, Math Modeling seminar
 BIRS Workshop, Localization Behavior in Reaction-Diffusion Systems
 and Applications to the Natural Sciences
 U of Maryland, Women in Applied Math: Research and Leadership
 Humboldt University, Berlin, Applied Stochastic Processes Seminar
11. 2004 AMS Meeting: Special Session:
 Mathematical Modeling in Neuroscience, Biomedicine, Genetics and
 Epidemiology
 Stochastic Systems with Delay and Memory (conference), Berlin
 IAM Colloquium, UBC
 University of Leeds, Applied Math Seminar
 Boston University, Centre for Biodynamics Seminar
12. 2005 AAAS Annual Meeting: Symposium and Speaker
 CRM Workshop: Integrative Multi-scale Modeling
 ENOC 05: Minisymposium
 WHOI Geophysical Fluid Dynamics Seminar
 Arizona State, Math Biology Seminar
13. 2006 CMS-SMM Joint Meeting, Special Session: Localization and PDE's
 BICS Summer School: Multiscale Modeling
14. 2007 MSRI Semester on Dynamics (2)
 MBI Opportunities in Math Biology
 CAIMS Minisymposium on Patterns coupled with mean flow
 SIAM Dynamical Systems: Minisymposium on Mixed-Mode Oscillations
 Stanford Applied Math Seminar
 Colloquium: UW Madison Math Department
 Virginia Chatelaine Memorial Lecture
15. 2008 Foundations of Applied and Computational Math, NJIT
 AIMS Dynamics Meeting: Session on Neuronal Networks
 Canada-France Math Congress
 Math Bio Institute, OSU
 Math Bio Seminar, ASU
16. 2009 CWI- Amsterdam: Applied and Computational Math Seminar
 Math Institute, Leiden University,
 PNW Conference on Comprehensive Math Modeling in Natural/Eng
 Sciences
 Reflections on Nonlinear Mechanics, University of Bath, UK
 ICMS Workshop: Numerical Analysis of Stochastic PDE's
 Making it Real Seminar, Engineering Mathematics, Univ of Bristol, UK

- Oxford Centre for Industrial and Applied Math
 Mathematics Applications Consortium for Science and Industry, Limerick,
 Ireland
 SAMSI Stochastics Theme Year opening workshop
 BIRS: Noise, Delay and Balance
17. 2010 BIRS: Multi-scale cell modeling
 Foundations of Applied/Comp Math: NJIT
 CAIMS Annual meeting: Special session on Dynamical Systems
 McMaster University: Mathematics Colloquium
18. 2011 MBI: New Developments in Dynamical Systems -Biosciences
 BIRS: Stochastic Multiscale Methods
 Oberwolfach: Stochastic Dynamics
 Nanjing: Stochastic Dynamical Systems
 ICIAM Minisymposium: Network Dynamics, Information and Biology
19. 2012 ICMS, Edinburgh: Neurodynamics: heterogeneity, noise, delays, and
 plasticity in neural systems,
 ICMS, Edinburgh: Tutorial for Neurodynamics: heterogeneity, noise,
 delays, and plasticity in neural systems,
 ICMS, Edinburgh: Scale transitions in chemistry and biology
 ASME-IDETC2012: Conference on Mechanical Vibration and Noise
 ICAND 2012, Seattle: Theory and applications in Nonlinear Dynamics
 Washington State University: NSF ADVANCE Distinguished Women in
 Quantitative Sciences
20. 2013 Gordon Research Conference: Stochastic Physics in biology
 Boeing Distinguished Colloquium: Applied Mathematics, University of
 Washington
 SIAM Applied Dynamical Systems: Invited session on delayed
 oscillations
 SIAM Annual conference: Minisymposium on tipping points in climate
 dynamics
 ICMS, Edinburgh: Advances in Tipping Point Theory
 Pacific Northwest Numerical Analysis Seminar
 SFU Biophysics seminar
 New Zealand Mathematical Society, Annual Meeting (plenary
 colloquium)
21. 2014 Biophysical Annual Meeting, invited chair and session
 IDEAS, Engineering/Applied Science, Budapest
 IEEE – Analysis and Applications of Nonsmooth Systems, Como, Italy
22. 2015 Brown University, Probability colloquium
 Brown University, AWM-Chapter Guest Speaker
 Fields Institute Workshop: Delay Differential Equations in Physical
 Sciences and
 Engineering
 SIAM Applied Dynamical Systems, Featured Minisymposium
 ICIAM 2015, Minisymposium: Recent Advances in Computational
 Biology

- Math Biology Seminar, U Alberta
Math Climate Research Network, Colloquium
23. 2016 Imperial College, London, Stochastic Analysis Seminar
Oxford University, Industrial and Applied Math Seminar
Cambridge University, Dept. Applied Math and Theoretical Physics Seminar
Georgia Tech, Mathematics Colloquium
Imperial College London, Mathematics of Planet Earth Seminar
University of Utrecht, Mathematics Colloquium
Climate Modeling workshop, Adv. Nonsmooth Dynamics, CRM, Barcelona
24. 2017 International Conference on Mathematical NeuroScience, Nice
ENOC 2017, Budapest, Mini-symposium on Systems with Time Delay
Scientific Computation/Differential Equations Conf., Bath UK, (Plenary)
Frontiers of Theory and Applications of Nonlinear PDE's, HKUST
(Plenary)
Nonlinear Stochastic Dynamics PIMS U Alberta
SAMSI: Math in Radiative-convective balance of the Atmosphere
Conference on Dynamical Systems (GT-SoM)
Research Horizons (GT-SoM)
25. 2018 6th G. J. Butler Int'l Conf. on Differential Equations and Population Biology, U Alberta, (Plenary).
Modeling, Stochastic Control, Optimization, IMA, (Plenary).
Ohio State Univ., Math Colloquium.
Advances in Non-smooth Dynamics, UK, 2018.
Stochastics Seminar (SoM),
Undergraduate Seminar (SoM)
26. 2019 Workshop on non-smooth dynamics in climate, energy, and sleep
Colloquium, Morgan State University
Colloquium, IIT Mumbai
Mini-symposium on Non-smooth nodes to networks
6th International Random Dynamical Systems (plenary)
Equadiff, Leiden University(plenary)
ASME – Minisymposium on nonlinear dynamics in energy
IPW 2019 Heriot Watt University
27. 2020 Chris Budd 60: innovation in mathematics
2020 Rising Stars in Computational and Data Science
28. 2021 SIAM Applied Dyn. Sys., Mini-symposium: Conceptual Climate Mode
CDT seminar, Mathematics of Planet Earth University of Reading
29. 2022 ICMC summer meeting, differential equations, Multiscale dynamics
ENOC, Euro -Nonlinear Dynamics: Special session: Non-smooth dynamics
ENOC, Euro -Nonlinear Dynamics: Special session: Energy transfer
BIRS Workshop: Multiple scale dynamics

E. GRANTS AND CONTRACTS

E1. As Principal Investigator

1. PI, *Applied Mathematics*, National Science Foundation, 1997-2000. Funded amount: \$135,000
2. PI, *Applied Mathematics*, National Science Foundation, 2000-2003. Funded amount: \$180,000 (annual)
3. PI, *Applied Mathematics*, McKnight UMN, 1998-2000. Funded amount: \$80,000
4. PI, *Research Experience for Undergraduates*, National Science Foundation, 1999-2003. Funded amount: \$60,000 (6 REUs over 4 years)
5. PI, *AWM Mentor Network*, Office of University Women, 2001. Funded amount: 2,000
6. PI, *Applied Mathematics*, NSERC, 2003-2009. Funded amount: 150,000
7. PI, *Applied Mathematics*, CRC, 2002-2007. Funded amount: \$500,000
8. PI, *Applied Mathematics*, CRC-CFI, 2003. Funded amount: \$186,355
9. PI, *Applied Mathematics*, CRC, 2007-2012. Funded amount: \$500,000
10. PI, *Applied Mathematics*, NSERC, 2009-2015. Funded amount: 150,000
11. PI, *Distinguished Visiting Professor*, PIMS, 2011. Funded amount: \$2,000
12. PI, *Discovery Grant*, NSERC, 2015-2020. Funded amount: \$150,000
13. PI, *Fellowship, Stochastic Modeling and Computation in Biology*, Newton Institute, 2016. Funded amount: \$7,500 GBP
14. PI, *Accelerator*, NSERC, 2016-2019. Funded amount: \$120,000
15. PI, *Newton Institute Semester on Stochastics in Biology*, 2016. Funded amount: \$2,400 GBP
16. PI, NSF-CMMI, 2020-23. *Stochastic non-smooth analyses for nonlinear dynamics in energy*, total \$960K (\$300K GT) (NSF-EPSRC)

E2. As Co-Principal Investigator

1. Co-PI, *Mathematics Modeling Workshop*, NSA, 2000. Funded amount: \$20,000
2. Co-PI, *Mathematics Finance*, MITACS, 2003-2007. Funded amount: \$5,000
3. Co-PI, *Mathematics Finance*, Humboldt Foundation Trans-Coop, 2005-2007. Funded amount: \$85,000 plus MITACS matching
4. Co-PI, *Collaborative Research Group in Modeling/Computation in Biology*, PIMS, 2006-2009. Funded amount: \$300,000
5. Co-PI, *CWSEI-Math Education Initiative*, Carl Weiman Science Initiative, 2009-2014. Funded amount: \$375,000
6. Co-PI, *Support for SWSEI-Math and CWSEI-CS programs*, External Donor, 2010-2015. Funded amount: \$400,000
7. Co-PI, *International Visiting Research Scholar*, PWIAS, 2013. Funded amount: \$10,000
8. Co-PI, *Women in Math Summer School*, PIMS, 2016. Funded: \$20,000
9. Co-PI, *Distinguished Visiting Professor* (UBC-SFU), PIMS, 2015.

Funded amount: \$5,000

10. Georgia Tech Climate Fellows \$20,000

E3. As Senior Personnel or Contributor.

NSF TRIPODS Phase I, 2018-2021

E4. Pending Proposals.

E5. Proposals Submitted But not funded

NIH-NIGMS Proposal (2020) (co-PI)

NSF Convergence white paper (2018)

NSF TRIPODS Phase II, joint with Duke (co-PI) (2020)

NSF Math Institute Proposal (2019)

NSF Applied Math (2018)

NSF RTG Dynamics 2022 (Lead PI, joint with Georgia State and Florida Atlantic)

NSF TRIPODS Phase II, (joint with Rutgers (lead) and Duke, co-PI) (2022)

NSF STC: Center for Modeling Living Systems, pre-proposal (U Michigan lead) (2022)

F. Other Scholarly and Creative Accomplishments

Conferences and Seminars Organized

2022 ENOC Nonlinear Dynamics, Special Sessions: Random Dynamical Systems

2021 AMS Spring Southeastern Virtual Sectional Meeting, Functional Differential Equations, theory and applications

2017 Co-organizer & Data-Driven Methods for Reduced-Order Modeling and Stochastic PDE's, Banff International Research Station
Nonlinear Stochastic Dynamics PIMS, U Alberta
Random Dynamical Systems, ENOC 2017

2016 Co-organizer: PIMS Summer School, Two Weeks in Vancouver for Women in Math

2015 Co-organizer: Stochastic Dynamics, Chinese Academy of Sciences

2013 Co-organizer, JBK90, Stanford University

2012 Co-organizer: American Institute of Mathematics, Stochastic dynamics of small networks of neurons

2009 Conference Co-Chair: Mathematical Challenges in Climate Science

2007 Graduate Summer School: Stochastic Modeling in Infectious Disease
Synchrony in the Brain, UBC
Diversity in Math/Science, BIRS

2006 CAIMS-MITACS: Stochastic Modeling in Industry
BIRS Women in Math workshop

2005 Canadian Women in Math Conference (BIRS), organizing committee

- Hydraulic Fracturing Summit V, co-organizer
- 2003 Canadian Women in Math Conference (Edmonton), co-organizer
- PIMS Graduate Industrial Math Modeling Camp
- PIMS Industrial Problems Solving Workshop
- SIAM Applied Dynamical systems: Minisymposium on Localization and Synchronization
- SIAM/CAIMS: Minisymposium on Applications of Stochastic Dynamics
- 2002 IMA Graduate Math Modeling Workshop
- 2000 IMA Graduate Math Modeling Workshop

G. Societal and Policy Impacts

H. Other Professional Activities

- 1999 Visiting Scholar, University of Bath
- 2009 Visiting professor, University of Leiden
- 2016 Fellow, Isaac Newton Institute
- 2016 Visiting Scholar, Imperial College
- 2016-18 Visiting Professor, Budapest University of Technology and Economics

V. Education

A. Courses Taught at Georgia Tech (No data)

B. Individual Student Guidance

B1. Ph.D. Students

1. Na Yu (2003-2009), Appl. Math
2. Jennifer Chafee (2005-2007), Appl. Math
3. Jielin Zhu (2010-2015)
4. William Thompson (2011-2015)
5. Sarah Sundius (2019-)
6. Sebastian Hernandez (2021 -) incoming mentor, project student
7. Geigh Zollicoffer (2021-) incoming mentor
8. Mengyi Tang, co-mentor, main supervisor Sung Ha Kang

B2. M.S. Students

1. Natasha Kerbel (1998-2001), Ind. Math
2. Miriam Freedman (2000-2002), Ind. Math
3. Yongwu Shao (2001) Summer Intern
4. Florica Coman (2003-2005) Applied Math
5. Hui-hua Wang (2004-2006)
6. Bruno L'Esperance (2005-2007) Applied Math
7. Cecilia Wang (2007-2009)
8. William Thompson (2008-2010)
9. Jiaxing Wang (2012-2014)
10. Mendgi Hua (2012-2014)
11. Yifan Feng (2012-2013) (co-supervisor)
12. Eamon Kavanagh (2012-2013) (co-supervisor)

13. Ziming Yin (2016 – 2018)
14. Cody Griffith (2016-2018)
15. Caiden Cook (2021-) incoming student mentor

B3. Undergraduate Students

1. Sarah Thompson (Spring 2000), Senior Research project
2. Summer 2000 Research Experience for Undergraduates
 Nick Stadtmiller: Barrier Options
 Laura Chasman: Bursting in Neurons
 Andrew Quigg: Free boundary Problems in Math Finance (unofficial)
3. Kristine Arneson (Spring 2001) Stochastic Differential-Delay Equations
 Independent Study
4. Summer 2001 Research Experience for Undergraduates
 Michael Hsieh: Option Pricing
 Justin Douglas: Localized Buckling
 Jessica Myers: Bursting in Coupled Neurons
5. Summer 2002 Research Experience for Undergraduates
 Jessica Striker Bursting in Morris-Lecar models
 Justin Douglas Bursting in Morris-Lecar models
 Costas Constantinides Pricing options for assets with delays
 Michael Walrath Pricing options for assets with delays
6. Terry Soo (Summer 2004), USRA SFU
 Bruno L' Esperance (Summer 2004), U Montreal, Stochastic resonance in
 machine tool vibrations
7. Laura Dunwoody (Summer 2006) UBC Math/Physics
 Tyler Dodds (Summer 2006) UBC Math/Physics
8. Mark Cembrowski, (Summer 2007)
9. Jiaying Wang (Summer 2011) Globalink Summer ugrad researcher
10. REUs 2019: Trevor Ridley, Emily Zhang, Janice Lee, Rachel Walker, Charanpreet
 Singh, Mil-Yonta Williams
11. REU's 2020: Sam Dulin, Ariba Khan, Kailee Lin, Yihua Xu
12. REU's 2021: Ivan Gonzalez, Julia Sanger, Corrine Vicario, Charlie Liu

B4. Thesis or Dissertation Committees

- | | |
|------|--|
| 1997 | Jinghua Qian, Dept. of Math, Tufts University |
| 1998 | High School Workshop: Project GAMMA Workshop, ITCEP, UMN |
| 1999 | Xiangdong Tong, Civil Engineering, UMN
Diane Miller, Chemical Engineering, UMN |
| 2000 | Christopher Tyler, Chem. Eng., UMN
Kristantinos Apostolou, Chem Eng., UMN
Jose Adachi, Civil Eng., UMN
Alexei Savitskii, Civil Eng, UMN
Andrew Cady, Physics, UMN
Won Jae Chang, Math, UMN
Luis Roman, Math, UMN |
| 2001 | Xiangdong Tong, Civil Engineering, UMN
Pavan K Vitthaladevuni, ECE,UMN |

Marie-Nathalie Contou-Carrere, Chemical Engineering, UMN
 Shantanu Rane, Electrical Engineering, UMN
 Jianlin Wang, Geolog. Eng., UMN
 Won Jae Chang, Math, UMN
 Jose Adachi, Civ. Eng. UMN
 Tamara Naeh-Galor, Tel Aviv Univeristy
 2002 Pornchai Phukpattaranont, EE, UMN
 Ziomara Gerdzten Chem Eng., UMN
 Soumendra Basu, Chem Eng., UMN
 Kevin Collins, Math, UMN
 2003 Ph. D. committee: Pichmony Anhaouy, UBC
 2004 Theodore Kolokolnikov, UBC, Ph. D. in IAM
 2005 Chair Ph.D Defense, Jason Kalirai, Ph D. Physics

 2006 University Examiner, Maggie Wang, Ph D. Mech Eng
 2008 University Examiner, Doruk Merdol, Ph. D., Mech Eng

 2009 University Examiner, Wan Chan
 Univerty Examiner, Alex Wang
 PhD Defense Chair, Hsien-Hang Shieh
 Committee, Alberto Molina
 2011 PhD Defense chair, Jason Donald Thompson
 2012 PhD Defense chair, Shubo Wang, Sauder
 PhD Defense chair, Mark Anthony Crowley, CS
 2013 PhD Committee, Bernhard Konrad, IAM
 Proposal exam, Jia Gou, IAM
 2015 PhD Defence, Chair, Essex Edwards
 PhD Committee, Zhilong Fang (EOAS)
 2016 University Examiner, Alex McAvoy (Math)
 2019- QBioS – Andreea Magalie
 2020 QBioS – Athulya Ram

B5 Mentorship of postdoctoral fellows or visiting scholars

IMA Postdoc: 1999-2000 Ralf Wittenberg,
 2000-2001 Dmitri Kirill
 UBC : 2003-2006 Sarah Mitchell (now lecturer, University of Limerick, IE)
 2007-2010 Peter Borowski 10/07- 3/10 (private sector research, Munich)
 2009-2012 David Simpson 8/09-8/12 (moved to lecturer Massey Univ., NZ)
 2011-13 Chia Ying Lee, 8/13- (researcher at AIR worldwide consulting)
 2014-2016 Anna Barry, 8/14 -1/2016 (moved to lecturer Auckland Univ., NZ)
 2016-2018 Emmanouil Daskalakis, 9/16- (jointly supervised with F.
 Herrmann)
 Georgia Tech: 2017-2020 Larissa Serdukova, 8/17 – 9/20
 2018-2020 Andre Wibisono (main supervisor, Jake Abernathy, CS)
 2021 Dimitri Costa, (remote due to COVID)
 2022- Christina Athanasouli

Rahul Kumar

C. Educational Innovations and Other Contributions

Mech II program, UBC, 2004-2007

VI. Service

A. Professional Contributions

(a) Memberships on scholarly societies, including offices held and dates

Society for Industrial and Applied Math (SIAM) 1992-present

Association for Women in Math (AWM) 1996-present

CMS 2003-2013

CAIMS 2005-present

(b) Memberships on other societies, including offices held and dates

(c) Memberships on scholarly committees, including offices held and dates

2002 NSF Panel, Division of Mathematical Sciences

2005 SIAM-AWM Sonja Kovalesky Prize Committee

2005 Chair: SIAM-AWM Sonja Kovalesky Prize Committee

2005-08 NSERC Grant Selection Committee: Pure/Applied Math B (Chair: 2006-

08)

2005-08 BIRS Scientific Advisory Board

2008, 2010, 2012 NSF Panel, Division of Mathematical Sciences

2009 Chair: NSF Review of IPAM (NSF funded Math Institute)

2010 Chair: SIAM J.D. Crawford Prize Committee

2010-12 Long Range Planning Committee: Math-Stats-NSERC

2012-18 SIAM Council

2011-15 Fields Institute Scientific Advisory Panel: 2011-present

2013 Chair: NSF Review of ICERM (NSF funded Math Institute)

2017 External review, Mathematics, University of Illinois, Chicago

2017-20 ICERM Scientific Advisory Board

2019- National Academies Board on Math Sciences & Analytics

2019 - SIAM Ethics Committee

2021 NSF Review Panel

2022 - ICERM Board of Trustees, Chair

CAIMS Research Prize

Noether Lecture Award Committee, AMS (chair)

2022 - SIAM Fellows Selection Committee

SIAM Dynamical Systems nominating committee (chair)

(d) Memberships on other committees, including offices held and dates

2004– 2009 CMS Women in Math Committee

2005 BIRS Site Visit Committee

2004- 2011 ICIAM 2011 Steering Committee

2008- 2011 NSERC-MATH-STATS Liaison Committee

(e) Editorships (list journal and dates)

2023- Guest Editor, Special Issue, Chaos
 2020-present: Physica D
 2020-present: SIAM Multiscale Modeling and Simulation
 2017-present: Transactions of Mathematics and its Applications
 2015- 2018 Editorial Board, SIAM Book Series on Modeling and Computation
 2012-2017 Editorial Board, Discrete and Continuous Dynamical Systems – B
 2011-present Mathematics in Industry Case Studies
 2008-present Editorial Board, European J. of Applied Math
 2007–present Editorial board, IMA journal on applied math
 2005-2017 Editorial Board, SIAM J. Appl. Math
 2006-2012 Editorial Board, SIAM Review
 2006-2011 Editorial Board, Computing in Science and Engineering (IEEE/AIP)
 2005-06 Guest Editor, Computing in Science and Engineering (IEEE/AIP)
 Special Issue : Interactions of Noise and Signal in Complex Systems

(f) *Reviewer (journal, agency, etc. including dates)*

1995 SIAM Journal on Applied Mathematics(2)
 1996 SIAM Journal on Applied Mathematics(2)
 1997 Physics Letters A
 Journal of Mathematical Analysis and Applications
 1998 SIAM Journal of Applied Mathematics
 Journal of Theoretical Biology
 Journal of Mathematical Analysis and Applications
 1999 SIAM J. Appl. Math
 Appl. Math. Letters
 NSF Proposal/Applied Math
 2000 SIAM Review
 NSF Proposal/Physics
 European Journal of Applied Math (2)
 Applied Mathematical Finance
 NSF Proposal/International Opportunities
 Fraction Calculus and Applied Analysis
 SIAM Journal on Applied Math
 2001 Physics Letters A
 SIAM Journal on Applied Math
 International Journal of Mathematics and Mathematical Sciences
 NSF Proposal- Applied Math
 Math Modeling text, Oxford University Press
 2002 NSF Panel
 Princeton University Press, book proposal(2)
 SIAM J. Applied Math
 Journal of Math Finance
 2003 IUTAM Symposium
 Journal of Nonlinear Science
 Phys. Letters A
 European Journal of Applied Math

NSERC Discovery Grant proposal
 Mathematical Finance
 Journal of Mathematical Analysis and Applications
 SIAM J. Applied Math
 2004 Applied Math Letters
 Applied Math Finance
 European J. Appl. Math
 Math and Computer Modeling
 Physica D
 2005 NSERC proposal
 SIAM J. Appl. Math (3)
 Computers and Mathematics with Applications
 Book Review, SIAM News
 Book Proposal Review, Academic Press
 J. Comp. Math and Optimization
 2006 SIAM Multiscale modeling
 SIAM Review, book review
 J Differential Equations and Dyn. Sys
 2007 Physica D
 Chaos
 2008 Journal of Mathematical biology
 2 NSERC proposals
 2009 3 NSERC proposals
 2010 3 NSERC proposals
 J. Math Bio
 2011 1 NSERC proposal
 J. Differential Equations
 2012 NSERC Proposal
 2013 Journal of Mathematical Neuroscience
 Journal of Theoretical Biology
 2014 1 NSERC proposal
 2015 CRC 1 Renewal
 Proceedings of the Royal Society – A
 SIAM Applied Dynamical Systems
 NSERC Discovery Grant
 SIAM Review
 Proc. American Math Society
 2016 International Journal of Bifurcation and Chaos
 Physica D
 E. Journal of Qualitative Theory of Differential Equations
 J. Stat Phys (2, 1 joint review)
 2017 Chaos (2)
 2018 SIAM Multi-Scale Modeling
 Nonlinear Dynamics
 SIAM Applied Dynamical Systems
 Springer Book review

AMS Book review

- 2019 Science China
- 2021 NSF Panel – DMS
- 2023. NSF Panel - CMMI

(g) *External examiner (indicate universities and dates)*

- External Examiner, Ph. D. , U of Waterloo, Applied Math 4/04
- External Examiner, Ph. D. , McGill, Physics, 2011
- External Examiner, Habilitation, Vienna, 2016
- External Examiner, PhD, U Auckland, Mathematics, 2016
- 2018 External Examiner, PhD, Budapest University of Tech/Econ, Applied Mechanics,
- 2019 External Examiner, PhD, University of Galway, Ireland, Mathematics,
- 2020 External Examiner, PhD, Budapest University of Tech/Econ, Applied Mechanics,

(h) *Consultant (indicate organization and dates)*

- 2004 Council of Ontario Universities,
Wilfred Laurier University, New M.Sc. Program review
- 2007 External Review of Dept. of Applied Math, University of Washington
- 2008 Grad program review, Queen's University, Math/Stat
- 2009 External review: School of Math.Sciences, Chair, Arizona State University
- 2015- Strategic Advisory Board, Statistical Applied Mathematics at Bath
(SAMBa) Centre for Doctoral Training, Univ. of Bath: Chair (2020-)
- 2017 External review, Mathematics, University of Illinois, Chicago
- 2019 External review, Applied Mathematics, Northwestern University
- 2020 External review, Mathematics (chair), U Victoria, BC, Canada
- 2021 External review, U Texas, San Antonio
- 2022 External review, U Toronto, ON, Canada
- 2022 German Research Foundation (DFG), Collaborative Research Centre (CRC).
- 2023 External Review, Simon Fraser University

(i) *Other service to the community*

- 2013 *Speaker for NSF Advance conference call*
- 2012 *Speaker at Whatcomm Comm. College*
- 2012 *Opening speaker for Women in Science and Engineering event*
- 2011 *AWM-ICIAM Panel on Women in Leadership*
- 2010-2018 Advisor: AWM Mentor Network
- 2010 *Srivastava Workhops Panel*
- 2009 Women in Math in Mexico
- 2008 Canada-France Congress: Women in Math Panel
- 2006-2007 American Institute of Mathematics, Associate Director for Program
Diversity
- 2006-2008 Co-leader, PIMS Collaborative Research Group on
Modeling/computation
Biology
- 2003 Canadian Women in Mathematics, Panel: ``Careers in Mathematics``
Women in Applied Math: Research/Leadership, Panel: ``The tenure

process''
AWM Panel: ``Careers in Mathematics'', AMS Meeting, Phoenix
2001-2009. AWM Mentor Network Coordinator
2000 University of Nebraska, High School Summer Math Camp
2015 AWM Panel on ``Launching your Career in Mathematics'', AMS
Meeting, Baltimore,
SIAM Annual Meeting/Association for Women in Mathematics
Workshop (Mentor)

B. Public and Community Service

C. Institute Contributions

GT: 2017- TRIAD (NSF TRIPODS) Management Committee
2017-18 ML@GT Internal Advisory Council
2018-19 Honorary Degree & Commencement Speaker Committee
2020 -21 Physics Chair search committee
2021 Spring 2022 and Beyond Task Force
2022 – ADVANCE Implicit Bias Workshop Facilitators Group
SoM: 2022- SoM Jr RPT Committee, chair
2022 – SoM Sr RPT Committee
2023 - SoM PPR Committee
2022 - SoM DEI committee