Peter Howard

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Texas A&M University
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EDUCATION

PhD, Applied Mathematics, Indiana University, Bloomington, 1998.

MS, Mathematics, Indiana University, Bloomington, 1997.

MS, Management Science, University of Tennessee, Knoxville, 1993.

BS, Physics, Tennessee Technological University, Cookeville, 1991.

POSITIONS HELD

2023–current: Department Head, Mathematics Department, Texas A&M University.

2012–current: Professor of Mathematics, Texas A&M University.

2012–2019: Associate Head for Graduate Studies, Mathematics Department, Texas A&M University.

2007–2012: Associate Professor of Mathematics, Texas A&M University.

2001–2007: Assistant Professor of Mathematics, Texas A&M University.

1999–2001: Visiting Research Scientist, Courant Institute of Mathematical Sciences.

1998–1999: Visiting Research Scientist, Department of Mathematics, Brown University.

GRANTS

2009–2013: NSF Individual Investigator Grant DMS–0906370.

2005–2008: NSF Individual Investigator Grant DMS–0500988.

2001–2004: NSF Individual Investigator Grant DMS–0230003.

1998–2001: NSF Mathematical Sciences Postdoctoral Research Fellowship, DMS–9804390.

AWARDS

2014 Association of Former Students Distinguished Achievement Award in Teaching (College of Science)

2010 Texas A&M Partners in Learning Award

2006 Texas A&M mathematics department Outstanding Teacher Award

ARTICLES IN PRESS

1. *The Maslov index and spectral counts for linear Hamiltonian systems on* $\mathbb{R}$, to appear in J. Dynamics and Differential Equations.

2. *Renormalized oscillation theory for linear Hamiltonian systems on* $[0,1]$ *via the Maslov index*, (with Alim Sukhtayev), to appear in J. Dynamics and Differential Equations.

REFEREED PUBLICATIONS

1. *Renormalized oscillation theory for regular linear non-Hamiltonian systems*, Comm. Pure Appl. Anal. **21** (2022) 4311–4345.

2. *Renormalized oscillation theory for singular linear Hamiltonian systems* (with Alim Sukhtayev), J. Functional Analysis **283** (2022).

3. *Hörmander's index and oscillation theory*, J. of Mathematical Analysis and Applications **500** (2021), no. 1, 1–38.

4. *The Maslov and Morse indices for Sturm-Liouville Systems on the Half-Line*, (with Alim Sukhtayev), Discrete and Continuous Dynamical Systems A **40(2)** (2020) 983–1012.

5. *The Maslov and Morse indices for system Schrödinger operators on* $\mathbb{R}$ (with Yuri Latushkin and Alim Sukhtayev), Indiana U. Math. J. **67** (2018) 1765-1815.

6. *The Maslov index and spectral counts for Hamiltonian systems on* $[0,1]$, (with Soyeun Jung and Bongsuk Kwon), J. Dynamics and Differential Equations **30** (2018) 1703–1729.

7. *Spectral analysis of* θ*-periodic Schrödinger operators and applications to periodic waves*, (with Soyeun Jung), J. Differential Equations **264** (2018) 2205-2241.

8. *The Maslov index for Lagrangian pairs on* $\mathbb{R}^{2n}$ (with Yuri Latushkin and Alim

Sukhtayev), J. of Mathematical Analysis and Applications **451** (2017), no. 2, 794–821.

9. *Linear stability for transition front solutions in multidimensional Cahn-Hilliard systems*, Journal of Dynamics and Differential Equations **29** (2017) 895–955.

10. *The Maslov and Morse indices for Schrödinger operators on* $[0, 1]$ (with Alim Sukhtayev), J. Differential Equations **260** (2016) 4499–4559.

11. *Stability for transition front solutions in multidimensional Cahn-Hilliard systems*, Journal of Nonlinear Science **26** (2016) 619–661.

12. *Short-time existence theory toward stability for nonlinear parabolic systems*, Journal of Evolution Equations **15** (2015) 403–456.

13. *Spectral analysis for transition front solutions in multidimensional Cahn-Hilliard systems*, J. of Differential Equations **257** (2014) 3448–3465.

14. *Asymptotic stability analysis for transition front solutions in Cahn-Hilliard systems* (with Bongsuk Kwon), Phys. D **241** (2012), no. 14, 1193–1222.

15. *Asymptotic L^p stability for transition fronts in Cahn-Hilliard systems* (with Bongsuk Kwon), J. Differential Equations **252** (2012) 5814–5831.

16. *Spectral analysis for transition front solutions to Cahn-Hilliard systems* (with Bongsuk Kwon), Discrete and Continuous Dynamical Systems A **32** (2012) 126-166.

17. *Spectral analysis for periodic solutions of the Cahn-Hilliard equation on* $\mathbb{R}$, NoDEA Nonlinear Differential Equations and Applications **18** (2011) 1-26.

18. *Spectral analysis for stationary solutions of the Cahn–Hilliard equation in* $\mathbb{R}^d$, Communications in Partial Differential Equations **35** (2010) 590-612.

19. *Spectral analysis of stationary solutions of the Cahn–Hilliard equation*, Advances in Differential Equations **14** (2009) 87–120.

20. *Spectral analysis of planar transition fronts for the Cahn–Hilliard equation*, J. Differential Equations **245** (2008) 594–615.

21. *Asymptotic behavior near planar transition fronts for the Cahn–Hilliard equation*, Physica D **229** (2007) 123–165.

22. *Nonlinear stability of degenerate shock profiles*, Differential and Integral Equations **20** (2007) 515–560.

23. *Asymptotic behavior near transition fronts for equations of generalized Cahn–Hilliard form*, Communications in Mathematical Physics **269** (2007) 765–808.

24. *Stability of undercompressive shocks* (with Kevin Zumbrun, Indiana University),

Hyperbolic problems: theory, numerics and applications. I, 155-162, Yokohama Publ., Yokohama, 2006.

25. *Pointwise asymptotic behavior of perturbed viscous shock profiles* (with Mohammadreza Raoofi, Max Planck Institute for Mathematics), Advances in Differential Equations **9** (2006) 1031–1080.

26. *Sharp pointwise bounds for perturbed viscous shock waves* (with Mohammadreza Raoofi, Max Planck Institute for Mathematics and Kevin Zumbrun, Indiana University), Journal of Hyperbolic Differential Equations **3** (2006) 297–373.

27. *Pointwise Green's function estimates toward stability for degenerate viscous shock waves*, Communications on Partial Differential Equations **31** (2006) 73–121.

28. *Nonlinear stability for multidimensional fourth order shock fronts*, (with Changbing Hu, University of Louisville) Arch. Rational Mech. Anal. **181** (2006) 201–260.

29. *Stability of undercompressive shock profiles* (with Kevin Zumbrun, Indiana University), J. Differential Eqns. **225** (2006) 308–360.

30. *Pointwise Green's function estimates toward stability for multidimensional fourth order viscous shock fronts*, (with Changbing Hu, University of Louisville) J. Differential Equations **218** (2005) 325–389.

31. *The Evans function and stability criteria for degenerate viscous shock waves*, (with Kevin Zumbrun) Discrete and Continuous Dynamical Systems **10** (2004) 837–855.

32. *Local tracking and stability for degenerate viscous shock waves*, J. Differential Eqns. **186** (2002) 440–469.

33. *Pointwise estimates and stability for degenerate viscous shock waves*, J. Reine Angew. Math. **545** (2002) 19–65.

34. *Pointwise estimates and stability for dispersive–diffusive shock waves*, (with Kevin Zumbrun) Arch. Rational Mech. Anal. **155** (2000) 85–169.

35. *Pointwise Green's function approach to stability for scalar conservation laws*, Comm. Pure Appl. Math. **52** (1999) 1295–1313.

36. *Pointwise estimates on the Green's function for a scalar linear convection–diffusion equation*, J. Differential Equations **155** (1999) 327–367.

37. *Shift invariance of the occupation time of the Brownian bridge process* (with Kevin Zumbrun) Stat. Prob. Lett. **45** (1999) 379–382.

38. *Pointwise semigroup methods and stability of viscous shock waves*, (with Kevin Zumbrun) Indiana U. Math. J. **47** (1998) 741–871.

PROCEEDINGS

1. *Stability of transition front solutions in Cahn-Hilliard systems* (with Bongsuk Kwon, Ulsan National Institute of Science and Technology), Refereed Proceedings of the Research Institute of Mathematical Sciences, at Kyoto University.

2. *Stability of undercompressive shock profiles* (with Kevin Zumbrun, Indiana University), Refereed Proceedings in HYP2004: Proceedings of the Tenth International Conference on Hyperbolic Problems (2005).

THESIS

Pointwise estimates for the stability of a scalar conservation law, Doctoral disseration, Indiana University 1998 (Advisor: Kevin Zumbrun).

CONFERENCE TALKS PRESENTED

• 13th AIMS International Conference on Dynamical Systems, Differential Equations, and Applications, Wilmington, NC, May 31 – June 4, 2023.

• Joint Alabama–Florida Conference on Differential Equations, Dynamical Systems and Applications, Auburn University, Auburn, AL, May 13–14, 2023.

• IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, University of Georgia, Athens, GA, March 29 – April 1, 2022.

• IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, University of Georgia, Athens, GA, April 17 – 19, 2019.

• SIAM Conference on Nonlinear Waves and Coherent Structures, Anaheim, CA, June 11 – 14, 2018.

• KUMUNU PDE, Dynamical Systems and Applications Conference, U. Kansas, Lawrence, KS, Apr. 20 – 22, 2018.

• IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, University of Georgia, Athens, GA, March 29 – April 1, 2017.

• SIAM Conference on Nonlinear Waves and Coherent Structures, Philadelphia, PA, August 8 – 11, 2016.

• IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, University of Georgia, Athens, GA, April

1–4, 2015.

• SIAM Conference on Nonlinear Waves and Coherent Structures, Churchill College, University of Cambridge, Cambridge, UK, August 11 – 14, 2014.

• AMS Central Section Meeting, University of Kansas, March 30 – April 1, 2012.

• SIAM Conference on Applications of Dynamical Systems, Snowbird, Utah, May 22-26, 2011.

• SIAM Conference on Nonlinear Waves and Coherent Structures, Philadelphia, PA, Aug 16–19, 2010.

• SIAM Conference on Applications of Dynamical Systems, Snowbird, Utah, May 17–21, 2009.

• 7th AIMS International Conference on Dynamical Systems, Differential Equations, and Applications, Arlington, TX, May 18–21, 2008.

• SIAM Conference on Analysis of Partial Differential Equations, Mesa, Arizona, Dec. 10–12, 2007.

• SIAM Conference on Applications of Dynamical Systems, Snowbird, Utah, May 28–June 1, 2007.

• Texas PDE 2007, Mar. 24–25, University of Texas at San Antonio.

• SIAM Conference on Nonlinear Waves and Coherent Structures, Seattle, WA, Sept. 9–12, 2006.

• SIAM PDE Conference, Boston, MA, July 10–12, 2006.

• Joint mathematics meeting, San Antonio, TX, Jan. 12–15, 2006.

• The 26th Midwest–Pacific Differential Equations Conference, Edmonton, Alberta, Canada, October 15–17, 2005

• AIM Workshop on stability criteria for multi-dimensional waves and patterns, Palo Alto, CA, May 16–20, 2005.

• SIAM conference on Analysis of Partial Differential Equations, Houston, December 6–8, 2004.

• AIMS Fifth International Conference on Dynamical Systems and Differential Equations, California State Polytechnic University, June 16–June 19, 2004

• BIRS Workshop: Nonlinear Dynamics of Thin Films and Fluid Interfaces, Banff, Alberta, Canada, Nov. 29–Dec. 4, 2003.

• Joint Mathematics Meetings, Minisymposium on hyperbolic conservation laws

and related topics, Baltimore, MD, Jan. 2003.

• AIMS Fourth International Conference on Dynamical Systems and Differential Equations, UNC Wilmington (2002)

• Pacific Rim Dynamical Systems Conference, SIAM (2000)

• Mathematical Aspects of Materials Science, SIAM (2000)

• Nonlinear Analysis 2000, Courant Institute (2000)

• Hyperbolic Aspects of Fluid Dynamics, Oberwolfach (1999)

• Workshop on Conservation Laws, Stanford (1999)

• Seventh International Conference on Hyperbolic Equations, ETH Zürich (1998)

COLLOQUIUM AND SEMINAR TALKS PRESENTED

• University of Houston, Houston, TX, March 2020.

• University of Texas at Dallas, Dallas, TX, November 2019.

• Brigham Young University, Provo, UT, October 2018.

• Miami University, Oxford, OH, March 2018.

• National Autonomous University of Mexico (UNAM), Mexico City, Mexico, August 2017.

• Texas A&M University, September 2016.

• Ulsan National Institute of Science and Technology, Ulsan, Korea, July 2016.

• University of Wyoming, September 2013.

• Max Planck Institute for the Mathematical Sciences, Leipzig, Germany, July 2012.

• Texas A&M University, December 2011.

• University of Helsinki, September 2011.

• Texas A&M University, September 2011.

• University of Kentucky, February 2010.

• Michigan State University, January 2008.

• University of Louisville, October 2007.

• Penn State University, October 2007.

• Texas A&M University, September 2007.

• Texas A&M University, September 2006.

• Texas A&M University, February 2006.

• Georgia Tech, September 2004.

• Indiana University, May 2004.

• Texas A&M University, September 2003.

• University of Houston, September 2002.

• Indiana University, September 2002.

• Texas A&M University, September 2001.

• North Carolina State University, February 2001.

• Texas A&M University, February 2001.

• University of Tennessee, Knoxville, January 2001.

• Illinois University, January 2001.

• Indiana University, September 1999.

• University of Massachusetts, Amherst, October 1998.

• Brown University, September 1998.

CURRICULUM DEVELOPMENT

• Developed an on-line version of M615, Introduction to Classical Analysis, Fall 2015.

• Introduced a new two-semester sequence on calculus for students in the biological sciences (M289), Texas A&M University, Fall 2006, Spring 2007.

• Entirely re-designed M670 (Applied Math I) as a course in asymptotic analysis, perturbation methods, and variational methods, Texas A&M University, Fall 2004.

COURSES TAUGHT AT TEXAS A&M UNIVERSITY

• M147, Calculus I for students in life sciences, Fall 2010, Fall 2009.

• M151B, Calculus I for students in life sciences, Fall 2008, Fall 2007.

• M152B, Calculus II for students in life sciences, Spring 2008.

• M200, Horizons of mathematics, Fall 2022, Spring 2021.

• M289, Two semester sequence on calculus for students in the biological sciences, Fall 2006–Spring 2007.

• M308, Differential Equations, Spring 2023 (College majors version), Spring 2021 (Honors), Fall 2020, Fall 2005, Fall 2002, Fall 2001.

• M401, Advanced Engineering Mathematics, Spring 2010, Fall 2003.

• M412, Theory of Partial Differential Equations, Fall 2005.

• M442 Mathematical Modeling, Spring 2022, Fall 2017, Fall 2016, Fall 2013, Fall 2009, Fall 2007, Fall 2006, Spring 2006, Spring 2005, Fall 2004, Spring 2003, Fall 2003, Spring 2002.

• M469, Introduction to Mathematical Biology, Spring 2020, Fall 2010.

• M491, Research on Zugunruhe for the bird *sylvia borin*, Summer 2010.

• M611, Introduction to Ordinary and Partial Differential Equations, Fall 2019, Fall 2014, Fall 2008.

• M612, Partial Differential Equations, Spring 2020, Spring 2015, Spring 2009.

• M615-online, Introduction to Classical Analysis, TAMU, Spring 2019, Fall 2017, Fall 2015.

• M641, Analysis for Applications I, Fall 2012.

• M642, Analysis for Applications II, Spring 2013.

• M647 Mathematical Modeling, Spring 2022, Fall 2018, Spring 2017, Spring 2016, Spring 2014, Spring 2012, Spring 2011, Spring 2004.

• M670, Applied Math I: Asymptotic Methods, Perturbation Theory, and Variational Techniques, Fall 2004.

• M685, Spring 2023, Directed Studies on geometric singular perturbation theory, and existence of pulse solutions to the FitzHugh-Nagumo equations.

• M685, Fall 2022, Directed Studies on stability of shock-rarefaction patterns.

• M685, Spring 2022, Directed Studies on applied analysis.

• M685, Summer 2017, Directed Studies on Queueing Theory.

• M685, Spring 2013, Directed Studies on the mathematics of phase separation processes.

• M685, Summer 2011, Directed Studies on game theory and stochastic processes,

• M685, Summer 2010, Directed Studies on numerical evaluation of the Evans function for transition front solutions in Cahn-Hilliard systems.

• M685, Summer 2006, Directed Studies in phase separation and the Cahn–Hilliard equation.

COURSES TAUGHT AT INDIANA UNIVERSITY

• T104, Mathematics for Education Majors, Fall 1997, Spring 1997, Fall 1996, Spring 1996.

• M125, Pre-calculus, Fall 1995.

COURSES TAUGHT AT THE UNIVERSITY OF TENNESSEE

• MS 310, Introduction to Management Science, Spring 1992, Fall 1992.

JOURNALS REFEREED

• Applications and Applied Mathematics

• Communications in Partial Differential Equations

• Communications in Pure and Applied Mathematics

• Discrete and Continuous Dynamical Systems

• Dynamics of Continuous, Discrete and Impulsive Systems

• European Journal of Applied Mathematics

• FILOMAT

• Indiana U. Mathematics Journal

• Interface and Free Boundaries

• International Journal of Mathematics and Mathematical Sciences

• Journal of Computational and Applied Mathematics

• Journal of Differential Equations

• Journal of Dynamics and Differential Equations

• Journal of Evolution Equations

• Journal of Hyperbolic Differential Equations

• Journal of Mathematical Analysis and Applications

- Journal of Mathematical Physics
- Journal of Nonlinear Science
- Kinetic and Related Models
- Mathematische Annelen
- Mathematische Nachrichten
- Physica A
- Physica D
- Proceedings of the Edinburgh Mathematical Society
- Quarterly of Applied Mathematics
- SIAM Journal on Mathematical Analysis
- Zeitschrift fuer Angewandke Mathematik und Physik (ZAMP)

MATHEMATICAL REVIEWS

1. Y. Wu, X. Xing, and Q. Ye, *Stability of travelling waves with algebraic decay for n-degree Fisher-type equations*, Discrete and Continuous Dynamical Systems **16** (2006) 47–66.

DEPARTMENTAL SERVICE

- Endowed Positions Committee, 2022–current.
- Strategic Planning Steering Committee, 2022–current.
- Undergraduate Programs Committee 2021–current.
- Executive Committee 2019–2021; 2014–2016; 2008–2010.
- Chair, ad-hoc Committee revising documents for APT appointment and promotion, 2019 – 2020.
- Chair, Department Head Search Committee, Spring 2019.
- Associate Head for Graduate Studies 2012–2019.
- Graduate Programs Committee 2012–2019.
- Web Design Committee 2012-2016.
- AMUSE seminar speaker, Fall 2017, Fall 2015.

• Represented the mathematics department at the IMA PI Council Meeting and Industrial Advisory Board at the University of Minnesota, April 19, 2015.

• Represented the mathematics department at the IMA PI Council Meeting at the University of Minnesota, May 20, 2014.

• Co-organizer (with Bojan Popov) of the Math Mini Fair, Spring 2011.

• Member, M308 textbook selection committee, Spring 2011.

• Outreach Activities Committee 2008–2011

• Engineering Math Committee 2008–2012.

• Undergraduate Programs Committee 2007–2008.

• Graduate Programs Committee 2007

• Power Team Exam Grader, High School Mathematics Contest, Oct. 28 2006.

• Member, M308 Committee 2003.

• Mock interviewer for Mathematics Communications, Fall 2016, Spring 2015, Fall 2014, Spring 2014, Fall 2013, Fall 2012, Spring 2012, Fall 2011, Spring 2011, Fall 2010.

POST-DOCTORAL MENTORING

• Post-doctoral mentor for Alim Sukhtayev, 2012–2015.

• Post-doctoral mentor for Bongsuk Kwon, 2009–2012.

• Post-doctoral mentor for Changbing Hu, 2002–2005.

PhD COMMITTEES

• Chair, PhD committee for Cesar Cobos-May, 2017–2019.

• co-Chair, PhD committee for Sandra Truong (Genetics), 2012–2017.

• Member, PhD committee for Krishna Kamdi (student in Mechanical Engineering, Kumbakonan Rajagopal, chair), 2022–current.

• Member, PhD committee for Mohsen Alshahrani (Yalchin Efendiev, chair), 2022–current.

• Member, PhD committee for Tanuj Gupta (Emil Straube, chair), 2021–current.

• Member, PhD committee for Siddharth Sabharwal (Dean Baskin, chair), 2021–current.

• Member, PhD committee for Zhiying Hai (Prabir Daripa, chair), 2019–2022.

• Member, PhD committee for Johnathan McKenzie (student in Industrial Systems Engineering), 2018–2022.

• Member, PhD committee for Sangin Mah (Jay Walton, chair), 2015–2021.

• Member, PhD committee for Yanbo Li, 2016–2019.

• Member, PhD committee for Sourav Dutta, 2016–2017.

• Member, PhD committee for Zhidong Zhang, 2014–2017.

• Member, PhD committee for Bowen Li, 2014–2017.

• Member, PhD committee for Wing Tat Leung, 2016–2017.

• Member, PhD committee for Jing Tian, 2014–2016.

• Member, PhD committee for Manal Alotibi, 2013–2016.

• Member, PhD committee for Bheemaiah Veena Shankva Narayan Rao, 2011-2016.

• Member, PhD committee for Craig Gin, 2014–2015.

• Member, PhD committee for Maya Johnson, 2010–2015.

• Member, PhD committee for Yi-Ching Wang 2009–2015.

• Member, PhD committee for Mustafa Ayyuru, 2012–2014.

MASTER'S COMMITTEES

• Chair, (thesis) Master's committee for Devon Maywald, 2023–current.

• Chair, (non-thesis) Master's committee for Micah Gautney, 2022–current.

• Chair, (non-thesis) Master's committee for Zach Kossow, 2018–current.

• Chair, (non-thesis) on-line Master's committee for David Amos, 2017–current.

• Member, (non-thesis) Master's committee for Kathryn Quandt (Anne Shiu, chair), 2022–current.

• Member, (non-thesis) Master's committee for Daniel Vorobiev (student in electrical and computer engineering, Linda Katehi, chair), 2022–current.

• Member, (non-thesis) Master's committee for Nathan Taylor (student in electrical and computer engineering), 2022–current.

• Member, (non-thesis) Master's committee for Matthew Lee (student in physics, Nader Mirabolfathi, chair), 2022–2022.

- Chair, (non-thesis) on-line Master's committee for Lucas Johnson, 2019–2021.
- Chair, (non-thesis) on-line Master's committee for Donna Jaznow, 2019–2021.
- Chair, (non-thesis) Master's committee for Daniel Uyarra, 2019–2020.
- Chair, (non-thesis) Master's committee for Aggie Hennessey, 2019–2020.
- Chair, (non-thesis) Master's committee for Shifan Zhao, 2019–2020.
- Chair, (non-thesis) Master's committee for Madelaine Werran, 2018–2019.
- Chair, (non-thesis) Master's committee for Xingchi Li, 2018–2019.
- Member, (non-thesis) Master's committee for Natalie Hemmer, 2018–2019.
- Member, (non-thesis) on-line Master's committee for Nick Valletta, 2017–2019.
- Chair, (non-thesis) Master's committee for Chunyang Liao, 2017–2018.
- Chair, (non-thesis) Master's committee for Ting Lu, 2017–2018.
- Chair, (non-thesis) Master's committee for Guanxun Li, 2017–2018.
- Member, (non-thesis) Master's committee for Hatice Pekmez, 2017–2018.
- Member, (non-thesis) on-line Master's committee for Jessica Crook, 2017–2018.
- Member, (non-thesis) on-line Master's committee for Joseph Smith, 2017–2018.
- Chair, (non-thesis) on-line Master's committee for Badri Johnson, 2017–2018.
- Chair, (non-thesis) on-line Master's committee for Leon Johnson, 2016–2018.
- Member, (thesis) Master's committee for Sabyasachi Chakraborty, 2014–2018.
- Member, (non-thesis) Master's committee for Christian Williams, 2017.
- Member, (non-thesis) Master's committee for Xinjie Fan, 2016–2017.
- Member, (non-thesis) Master's committee for Fernando Chavarria, 2016–2017.
- Chair, (non-thesis) Master's committee for Yu Han, 2016–2017.
- Chair, (non-thesis) Master's committee for Linhao Song, 2016–2017.
- Member, (non-thesis) on-line Master's committee for Matt Stanford, 2016–2017.
- Chair, (non-thesis) Master's committee for Bibhu Mishra, 2015–2016.
- Chair, (non-thesis) Master's committee for Song Zhai, 2015–2016.
- Member, (non-thesis) Master's committee for Shuo Yang, 2015–2016.
- Member, (non-thesis) Master's committee for Quyuan Lin, 2015–2016.

- Chair, (non-thesis) Master's committee for Todd Schrader, 2015–2016.
- Member, (non-thesis) Distance Master's committee for Tim Swast, 2015–2018.
- Member, (non-thesis) Master's committee for Zheming Gao, 2015–2016.
- Member, (distance) Master's committee for Cynthia Galvan, 2014–2016.
- Chair, (non-thesis) Master's committee for Mona Karimi, 2014–2015.
- Member, (non-thesis) Master's committee for Katie Switzer, 2014–2015.
- Member, (non-thesis) Master's committee for Jennifer Bouse, 2014–2015.
- Member, (non-thesis) Distance Master's committee for Lisa O'Brien, 2014–2015.
- Member, (non-thesis) Master's committee for Alex Lapanowski, 2014–2015.
- Chair, (non-thesis) Master's committee for Mahmood Ettehad, 2013–2014.
- Member, (thesis) Master's committee for Homayoon Shobeiri, 2012–2014.
- Member, (non-thesis) Master's committee for Yun Shi, 2013–2014.
- Chair, (non-thesis) Master's committee for Gaurav Sharma, 2013.
- Co-Chair, (non-thesis) Master's committee for Shuang Yin, 2012–2013.
- Member, (non-thesis) Master's committee for Shriram Srinivasan, 2012–2013.
- Chair, (non-thesis) Master's committee for Grant Clayton, 2012–2013.
- Chair, (non-thesis) Master's committee for Jun Yao, 2012.
- Chair, (non-thesis) Master's committee for Tingyi Zhu, 2011–2012.
- Chair, (non-thesis) Master's committee for Jing Voon Chen, 2011-2012.
- Member, (non-thesis) Master's committee for Tanner Wilson, 2011-2012.
- Member, (non-thesis) Master's committee for Ruifang Li 2010–2012.
- Chair, (non-thesis) Master's Committee for Mayumi Nabb 2006.
- Chair, (non-thesis) Master's Committee for Mark Pape 2004–2005.
- Member, (non-thesis) Master's Committee for Xuechao Du 2004–2005.
- Member, (non-thesis) Master's Committee for Mohammad Sattar 2004–2005.

TEACHING MENTOR

Ayo Adeniran, Weston Baines, Ryan Causey, Jimmy Corbin, Ngoc Do, Mahmood Ettehad, Alperen Ergur, Oguz Gesmiz, Arezou Ghesmati, Aditi Ghosh, Yonghui Guan, Paul Gustafson, Timo Heister (post-doc), Sheagan John, Minh Kha, Sanghyun Lee, Quyuan Lin, Wen Liu, Tina Mai, Dustin McPhate, Van Nguyen, Nida Obatake, Sofia Ortega-Castillo, Arpan Pal, Andrew Penland, Curtis Porter, Yang Qi, Todd Schrader, Vladimir Tomov, Joe Torres, Tracy Weyand, John Williams (post-doc), Konrad Wrobel, Yanfang Yang, Li Ying

UNIVERSITY SERVICE

• Member, College of Arts and Sciences Faculty Affairs Council, Fall 2022 – current.

• Member, Association of Former Students Distinguished Graduate Student Awards Selection Committee, Spring 2021, Spring 2014.

• Member, College of Science Graduate Instruction Committee, 2012–2019.

• Mentor, 3M Thesis Contest, Fall 2016, Fall 2015.

• Judge, 3M Thesis Contest, Fall 2016, Spring 2016, Fall 2014, Fall 2013.

• Member, Faculty Advisory Council, College of Science, 2012 - 2016.

• Texas A&M representative at the investiture of Dr. Philip Oldham as President of Tennessee Technological University, Nov. 2, 2012.

• Reviewer, Merit/Diversity Fellowship Nominations 2015, 2012.

• 9th Annual Pathways Texas A&M System Student Research Symposium Judge, Fall 2011.

• Member, Math and Engineering Student Success Task Force, 2010-

• Member, (thesis) Master's Committee, Wei Guo, Civil Engineering, 2008–2009.

• Member, ECON PhD Committee, Megha Weerakoon Watugala, 2007–2008.

• Member, (thesis) Master's Committee for Brandon Shirley, Electrical Engineering 2005–.

• Member, (non-thesis) Master's Committee for Marilee Myers, Aerospace Engineering 2004–2005.

• Member, (thesis) Master's Committee for Nishant Kumar, Computer Science 2003–2004.

PROFESSIONAL SERVICE

• Co-organizer for conference *Stability of nonlinear waves: analysis and computation*, Institut Henri Poincare, July 1–5, 2019.

• Developed a SEMIODE modeling project, jointly with Jean Marie Linhart. J. M. Linhard and P. Howard, "Ballistics modeling with a sponge dart," available: https://www.simiode.org/resources/5568

• Presentation at St. Edward's University in Austin, Texas about graduate school in mathematics, Feb. 23, 2018.

• Panel Member, *Choosing the right math graduate school*, Joint Mathematics Meetings, San Antonio, Texas, Jan. 10–13, 2015.

• Co-organizer for conference *Shock Waves and Beyond*, Institut Henri Poincare, June 23–26, 2015.