

Institute for Fusion Studies
The University of Texas at Austin
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Work Experience

<i>Research Scientist</i>	September 2015 to present
<i>Research Associate</i>	January 2013 to September 2015
Institute for Fusion Studies; The University of Texas at Austin	
<i>Postdoctoral Research Associate</i>	January 2011 to December 2012
Max-Planck-Institut für Plasmaphysik; Garching, Germany	
<i>Fusion Energy Sciences Internship</i>	June 2007 to August 2007
Lawrence Livermore National Laboratory; Livermore, CA	
<i>Graduate Research Assistant</i>	June 2006 to December 2010
University of Wisconsin-Madison	

Education

Ph.D.	Physics, University of Wisconsin-Madison, 2010
B.S.	Mathematics, Utah State University, 2006
	Physics, Utah State University, 2005

Grants, Honors, and Awards

- Lead Principal Investigator for the SciDAC Partnership for Multiscale Gyrokinetic (MGK) Turbulence (2017-2022)
 - \$900k/year distributed among five institutions (UT-Austin, LLNL, U. Maryland, Princeton Plasma Physics Laboratory, MIT)
- Nominated for 2019 *Nuclear Fusion* award for the publication “Microtearing Turbulence Limiting the JET-ILW Pedestal”
- Institutional Principal Investigator for the SciDAC Partnership Center for High Fidelity Boundary Plasma Simulation (\$140k/year, 2017-2022)
- Co-Investigator for Institute for Fusion Studies (IFS) Block Grant, 2016-present
- PI of 2020 NERSC ERCAP award for 70m Cori core hours: “Gyrokinetic turbulence and transport: From basic understanding to truly predictive capability”

- Primary or senior investigator on several computation grants with personal use of 20+ million cpu hours/year (TACC, NERSC, Cineca, OLCF, IFERC-CSC, etc.), 2012-present
- Oak Ridge Institute for Science and Education (ORISE) Fusion Energy Sciences Fellowship, 2006-2010
- Barry M. Goldwater Scholarship, 2003-2005
- University Club Scholarship (four-year, full-tuition with stipend), Utah State University, 1999
- National Merit Scholar, 1999

Professional Activities

- International program committee, IAEA Fusion Energy Conference, 2020
- Panelist, Advancing Fusion with Machine Learning workshop, 2019
- Leader of DOE Office of Fusion Energy Sciences FY19 Theory Performance Target (TPT), a joint research initiative whose progress is reported to Congress
- Lecturer at the International Centre for Theoretical Physics, October 2018
- Fusion Energy Sciences representative for the SciDAC-4 coordinating committee, 2017-present
 - Liaison between fusion SciDAC projects and ASCR (Advanced Scientific Computing Research)
- Executive Committee, Sherwood Fusion Theory Conference, 2017-present
 - Chair of Sherwood Fusion Theory Conference, 2019
 - Co-Chair of Sherwood Fusion Theory Conference, 2018
- Program Committee, U.S. Magnetic Fusion Research Strategic Directions, 2017-2018
 - Co-Chair, Fusion Market Attractiveness Working Group
- Founder, Executive Committee, Early Career Fusion Scientists Forum, 2017-present
- Panelist, FES/ASCR Exascale Review Meeting, 2016
- Program Committee, Sherwood Fusion Theory Conference, 2016
- Speaker at physics workshop for Austin-area high school students, 2015
- Panelist, National Science Foundation, 2014
- Proposal Reviewer, National Science Foundation, 2013-present
- Member, American Physical Society, 2006-present
- Journal Referee:
 - *Communications in Computational Physics*
 - *Computer Physics Communications*
 - *Nature Communications*
 - *Nuclear Fusion*
 - *Physics of Plasmas*
 - *Plasma Physics and Controlled Fusion*
 - *Physical Review Letters*

Publications

1. **D. R. Hatch**, M. Kotschenreuther, S. M. Mahajan, M. J. Pueschel, C. Michoski, G. Merlo, A. R. Field, L. Frassinetti, C. Giroud, J. C. Hillesheim, C. F. Maggi, C. Perez von Thun, C. M. Roach, S. Saarelma, D. Jarema, F. Jenko, JET contributors, "Magnetic Fluctuations and Microtearing Instabilities in the JET Pedestal," in preparation.
2. M. Kotschenreuther, X. Liu, **D. R. Hatch**, S. M. Mahajan, M. J. Pueschel, M. Halfmoon, A. Garafalo, J. Mcclenaghan, X. Chen, M. Zarnstorff, I. J. McKinney, P. Xanthopoulos, J. Qian, S. Ding, "Transport Barriers in Magnetically Confined Plasmas," in preparation.
3. **D. R. Hatch**, M. T. Kotschenreuther, S. M. Mahajan, M. Halfmoon, E. Hassan, G. Merlo, C. Michoski, J. Canik, A. Sontag, I. Joseph, M. Umansky, W. Guttenfelder, A. Diallo, R. Groebner, A. O. Nelson, F. Laggner, J. Hughes, S. Mordijck, "Final Report for the FY19 FES Theory Performance Target," submitted to DOE-FES, accompanying manuscript in preparation.
4. X. Liu, M. Kotschenreuther, **D.R. Hatch**, S. M. Mahajan, J. W. Hughes, A. E. Hubbard, "Gyrokinetic Investigations of an I-mode Pedestal in Alcator C-Mod," submitted to *Nuclear Fusion*.
5. Craig Michoski, Milos Milosavljevic, Todd Oliver, **D. R. Hatch**, "Solving Differential Equations using Deeping Neural Networks," *Neurocomputing*, 399, 193, (2020).
6. A. Shukla, **D. R. Hatch**, W. Dorland, and C. Michoski, "A Robust Fluid Closure for Phase Mixing in Gyrokinetic ITG/ETG Turbulence," <https://arxiv.org/pdf/1912.06769v1.pdf>, (2019).
7. E. Joffrin *et al.*, "Overview of the JET preparation for deuterium–tritium operation with the ITER like-wall," *Nuclear Fusion* 59, 112021 (2019).
8. G. Merlo, M. Fontana, S. Coda, **D. Hatch**, S. Janhunen, L. Porte, F. Jenko, "Turbulent transport in TCV plasmas with positive and negative triangularity," *Physics of Plasmas* 26, 102302 (2019).
9. B. Teaca, A. Bañón Navarro, D. Told, T. Goerler, G. Plunk, **D. R. Hatch**, F. Jenko, "A Look at Phase Space Intermittency in Magnetized Plasma Turbulence," *Astrophysical Journal* 886, 65 (2019).
10. **D. R. Hatch**, M. Kotschenreuther, S. M. Mahajan, G. Merlo, A. R. Field, C. Giroud, J. C. Hillesheim, C. F. Maggi, C. Perez Von Thun, C. M. Roach, S. Saarelma, and JET Contributors, "Direct Gyrokinetic Comparison of Pedestal Transport in JET with Carbon and ITER-like Walls," *Nuclear Fusion* 59, 086056 (2019).
11. M. Kotschenreuther, X. Liu, **D. R. Hatch**, S. Mahajan, L. Zheng, A. Diallo, R. Groebner, the DIII-D Team, J.C. Hillesheim, C.F. Maggi, C. Giroud, F. Koechl, V. Parail, S. Saarelma, E. Solano, A.

Chankin, and JET Contributors, "Gyrokinetic analysis and simulation of pedestals to identify the culprits for energy losses using 'fingerprints,'" *Nuclear Fusion* 59, 096001 (2019).

12. V. Bratanov, S. Mahajan, **D. R. Hatch**, "Transition from weak to strong turbulence in magnetized plasmas," *New Journal of Physics* 21, 043046 (2019).

13. M. J. Pueschel, **D. R. Hatch**, D. R. Ernst, W. Guttenfelder, P. W. Terry, J. Citrin, J. W. Connor, "On microinstabilities and turbulence in steep-gradient regions of fusion devices," *Plasma Physics and Controlled Fusion* 61, 034002 (2019).

14. **D. R. Hatch**, R. Hazeltine, M. Kotschenreuther, S. Mahajan, "Flow Shear Suppression of Pedestal Turbulence—A First Principles Theoretical Framework," *Plasma Physics and Controlled Fusion* 60, 084003 (2018).

15. S. Houshmandyar, **D. R. Hatch**, C. W. Horton, K. T. Liao, P. E. Phillips, W. L. Rowan, B. Zhao, N. M. Cao, D. R. Ernst, M. Greenwald, N. T. Howard, A. E. Hubbard, J. W. Hughes, J. E. Rice, "Electron critical gradient scale length measurements of ICRF heated L-mode plasmas at Alcator C-Mod tokamak," *Physics of Plasmas* 25, 042305 (2018).

16. **D. R. Hatch**, M. Kotschenreuther, S. Mahajan, P. Valanju, X. Liu, "A gyrokinetic perspective on the JET-ILW pedestal," *Nuclear Fusion* 57, 36020 (2017).

17. X. Litaudon *et al.*, "Overview of the JET results in support to ITER," *Nuclear Fusion* 57, 102001 (2017).

18. E. Hassan, I. Keramidis Charidakos, **D. R. Hatch**, P. J. Morrison, W. Horton, "Plasma turbulence in the equatorial electrojet: a 2-D Hamiltonian fluid model," *Physics of Plasmas* 24, 72301 (2017).

19. M. Kotschenreuther, **D. R. Hatch**, S. Mahajan, P. Valanju, "Pedestal transport in H-mode plasmas for fusion gain," *Nuclear Fusion* 57, 64001 (2017).

20. **D. R. Hatch**, M. Kotschenreuther, S. Mahajan, P. Valanju, F. Jenko, D. Told, T. Gorler, S. Saarelma, "Microtearing turbulence limiting the JET-ILW pedestal," *Nuclear Fusion* 56, 104003 (2016).

21. E. Hassan, **D. R. Hatch**, P. J. Morrison, W. Horton, "Multiscale equatorial electrojet turbulence: energy conservation, coupling, and cascades in a baseline 2-D fluid model," *Journal of Geophysical Research* 121, 2016JA022671 (2016).

22. **D. R. Hatch**, F. Jenko, V. Bratanov, A. Bañón Navarro, P. W. Terry, M. J. Pueschel, "Linear signatures in nonlinear gyrokinetics: interpreting turbulence through pseudospectra," *New Journal of Physics* 18, 75018 (2016).

23. M. J. Pueschel, B. J. Faber, J. Citrin, C. C. Hegna, P. W. Terry, **D. R. Hatch**, "Stellarator Turbulence: Subdominant Eigenmodes and Quasilinear Modeling," *Physical Review Letters* 116, 85001 (2016).
24. P. W. Terry, D. Carmody, H. Doerk, W. Guttenfelder, **D. R. Hatch**, C. C. Hegna, A. Ishizawa, F. Jenko, W. M. Nevins, I. Predebon, M. J. Pueschel, J. S. Sarff, G. G. Whelan, "Overview of gyrokinetic studies on electromagnetic turbulence," *Nuclear Fusion*, 55, 104011 (2015).
25. E. Wolfrum, E. Viezzer, A. Burckhart, M. G. Dunne, P. A. Schneider, M. Willensdorfer, E. Fable, R. Fischer, **D. R. Hatch**, F. Jenko, B. Kurzan, P. Manz, S. K. Rathgeber and the ASDEX Upgrade team, "Overview of recent pedestal studies at ASDEX Upgrade," *Nuclear Fusion* 55, 053017 (2015).
26. **D. R. Hatch**, D. Told, F. Jenko, H. Doerk, M. G. Dunne, E. Wolfrum, E. Viezzer, M. J. Pueschel, and the ASDEX-Upgrade team, "Gyrokinetic study of ASDEX-Upgrade inter-ELM pedestal profile evolution," *Nuclear Fusion* 55, 063028 (2015).
27. E. Hassan, W. Horton, A. I. Smolyakov, **D. R. Hatch**, S. K. Litt, "Multiscale equatorial electrojet turbulence," *Journal of Geophysical Research* 120, JA020387 (2015).
28. **D. R. Hatch**, F. Jenko, A. Bañón Navarro, V. Bratanov, "Phase space scales of free energy dissipation in gradient-driven gyrokinetic turbulence," *Journal of Plasma Physics* 80, 531-551 (2014).
29. P. W. Terry, K. D. Makwana, M. J. Pueschel, **D. R. Hatch**, F. Jenko, F. Merz, "Mode-space energy distribution in instability-driven plasma turbulence," *Physics of Plasmas* 21, 122303 (2014).
30. J. Citrin, J. Garcia, T. Goerler, F. Jenko, P. Mantica, D. Told, C. Bourdelle, **D. R. Hatch**, J. Hogewij, T. Johnson, M. J. Pueschel, M. Schneider, "Electromagnetic stabilization of tokamak microturbulence in a high-beta regime," *Plasma Phys. Control. Fusion* 57, 014032 (2014).
31. M. J. Pueschel, P. W. Terry, **D. R. Hatch**, "Aspects of the non-zonal transition," *Physics of Plasmas* 21, 055901 (2014).
32. K. D. Makwana, P. W. Terry, M. J. Pueschel, and **D. R. Hatch**, "Subdominant Modes in Zonal-Flow-Regulated Turbulence," *Physical Review Letters* 112, 095002 (2014).
33. M. J. Pueschel, **D. R. Hatch**, T. Görler, W. M. Nevins, F. Jenko, P. W. Terry, D. Told, "Properties of high- β microturbulence and the non-zonal transition," *Physics of Plasmas* 20, 102301 (2013).

34. **D. R. Hatch**, M. J. Pueschel, F. Jenko, W. M. Nevins, P. W. Terry, H. Doerk, "Magnetic stochasticity and transport due to nonlinearly excited subdominant microtearing modes," *Physics of Plasmas* 20, 012307 (2013).
35. F. Jenko et al., "Global and local gyrokinetic simulations of high-performance discharges in view of ITER," *Nuclear Fusion* 53, 073003 (2013).
36. M. J. Pueschel, T. Görler, F. Jenko, **D. R. Hatch**, A. J. Cianciara, "On secondary and tertiary instability in electromagnetic plasma microturbulence," *Physics of Plasmas* 20, 102308 (2013).
37. M. J. Pueschel, P. W. Terry, F. Jenko, **D. R. Hatch**, W. M. Nevins, T. Görler, D. Told, "Extreme Heat Fluxes in Gyrokinetic Simulations: A New Critical β ," *Physical Review Letters* 110, 155005 (2013).
38. **D. R. Hatch**, F. Jenko, A. Bañón Navarro, V. Bratanov, "Transition between Saturation Regimes of Gyrokinetic Turbulence," *Physical Review Letters* 111, 175001 (2013).
39. V. Bratanov, F. Jenko, **D. R. Hatch**, M. Wilczek, "Nonuniversal Power-Law Spectra in Turbulent Systems," *Physical Review Letters* 111, 075001 (2013).
40. A. Limone, **D. R. Hatch**, C. B. Forest, F. Jenko, "Identification of vortexes obstructing the dynamo mechanism in laboratory experiments," *Physics of Fluids* 25, 066603 (2013).
41. V. Bratanov, F. Jenko, **D. R. Hatch**, S. Brunner, "Aspects of linear Landau damping in discretized systems," *Physics of Plasmas* 20, 022108 (2013).
42. A. Limone, **D. R. Hatch**, C. B. Forest, F. Jenko, "Facilitating dynamo action via control of large-scale turbulence," *Physical Review E* 86, 066315 (2012).
43. J. Citrin, C. Bourdelle, P. Cottier, D. F. Escande, O. D. Gurcan, **D. R. Hatch**, D. Hogeweyj, F. Jenko, M. J. Pueschel, "Quasilinear transport modeling at low magnetic shear," *Physics of Plasmas* 19, 062305 (2012).
44. **D. R. Hatch**, M. J. Pueschel, F. Jenko, W. M. Nevins, P. W. Terry, H. Doerk, "Origin of Magnetic Stochasticity and Transport in Plasma Microturbulence," *Physical Review Letters* 108, 235002 (2012).
45. **D. R. Hatch**, D. del-Castillo-Negrete, P. W. Terry, "Analysis and compression of six-dimensional gyrokinetic datasets using higher order singular value decomposition," *Journal of Computational Physics* 231, 4234 (2012).
46. H. Doerk, F. Jenko, T. Goerler, D. Told, M. J. Pueschel, **D. R. Hatch**, "Gyrokinetic prediction of microtearing turbulence," *Physics of Plasmas* 19, 055907 (2012).

47. P. W. Terry, A. F. Almagri, G. Fiksel, C. B. Forest, **D. R. Hatch**, F. Jenko, M. D. Nornberg, S. C. Prager, K. Rahbarnia, Y. Ren, and J. S. Sarff, "Dissipation range turbulent cascades in plasmas," *Physics of Plasmas* 19, 055906 (2012).
48. H. Doerk, F. Jenko, M. J. Pueschel, **D. R. Hatch**, "Gyrokinetic Microtearing Turbulence," *Physical Review Letters* 106, 155003 (2011).
49. E. Wang, W. M. Nevins, J. Candy, **D. R. Hatch**, P. W. Terry, W. Guttenfelder, "Electron heat transport from stochastic fields in gyrokinetic simulations," *Physics of Plasmas* 18, 056111 (2011).
50. **D. R. Hatch**, P. W. Terry, F. Jenko, F. Merz, W. M. Nevins, "Saturation of Gyrokinetic Turbulence Through Damped Eigenmodes," *Physical Review Letters* 106, 115003 (2011).
51. **D. R. Hatch**, P. W. Terry, F. Jenko, F. Merz, M. J. Pueschel, W. M. Nevins, E. Wang, "Role of subdominant stable modes in plasma microturbulence," *Physics of Plasmas* 18, 055706 (2011).
52. K. Makwana, P. W. Terry, J. H. Kim, **D. R. Hatch**, "Damped eigenmode saturation in plasma fluid turbulence," *Physics of Plasmas* 18, 012302 (2011).
53. P. W. Terry, D. A. Baver, **D. R. Hatch**, "Reduction of inward momentum flux by damped eigenmodes," *Physics of Plasmas* 16, 122305 (2009).
54. **D. R. Hatch**, P. W. Terry, W. M. Nevins, W. Dorland, "Role of stable eigenmodes in gyrokinetic models of ion temperature gradient turbulence," *Physics of Plasmas* 16, 022311 (2009).
55. M. J. Taylor, A. K. Taori, **D. R. Hatch**, H. L. Liu, R. G. Robie, "Characterization of the semi-annual-oscillation in mesospheric temperatures at low-latitudes," *Advances in Space Research*, Vol. 35, Issue 11 (2005).

Talks and Presentations

Gyrokinetic Comparison of JET-ILW and JET-C Pedestal Transport
Invited Talk, European Physical Society; Milan, Italy (Jul. 2019)

Gyrokinetic Simulation and Analysis of Pedestal Transport
IPP-Garching Seminar; Garching, Germany (June 2019)

Gyrokinetic Simulation and Analysis of Pedestal Transport
MIT PSFC Seminar; Cambridge, MA (May 2019)

Understanding Pedestal Transport via Combined Gyrokinetic and Edge Modeling
Invited Talk, TTF Meeting; Austin, TX (Mar. 2019)

Overview of FES SciDACs for SciDAC Institutes

Remote presentation for FES SciDACs and the SciDAC Institutes (Sep. 2018)

Overview of the Partnership for Multiscale Gyrokinetic Turbulence

SciDAC PI Meeting

Rockville, MD (Jul. 2018)

Turbulent Transport in the H-Mode Pedestal

NIFS Seminar

Toki, Japan (Mar. 2018)

Turbulent Transport in the H-Mode Pedestal

Seminar at Nagoya University

Nagoya, Japan (Mar. 2018)

Turbulent Transport in the H-Mode Pedestal

Seminar at Kyoto University

Kyoto, Japan (Mar. 2018)

Pedestal Particle Transport

19th Transport and Confinement Topical Group Meeting

Espoo, Finland (remote) (Sep. 2017)

Pedestal Transport

10th Plasma Kinetics Working Meeting, Wolfgang Pauli Institute

Vienna, Austria (Jul. 2017)

Pedestal Transport Mechanisms: Gyrokinetics and Multi-Machine Comparisons

Seminar, Max Planck Institute for Plasma Physics

Garching, Germany (Jul. 2017)

Shear Suppression of Pedestal Turbulence

Plasma Seminar, Oxford University

Oxford, UK (Jul. 2017)

Pedestal Shear Suppression: Theory and Computation

Invited Talk, Sherwood Fusion Theory Conference

Annapolis, MD (May 2017)

Kinetic Plasma Turbulence

Physics Seminar, Dartmouth College

Hanover, NH (Mar. 2017)

Verification of Pedestal/Edge Gyrokinetics

APS-DPP Mini-Conference: New Developments in Algorithms and Verification of Gyrokinetic Simulations

San Jose, CA (Oct. 2016)

A Gyrokinetic Perspective on the JET-ILW Pedestal

Joint EU-US Transport Taskforce Meeting

Leysin, Switzerland (Sep. 2016)

A Gyrokinetic Perspective on the JET-ILW Pedestal

Varenna Fusion Theory Meeting (Aug. 2016)

Progress in Pedestal Gyrokinetics

Princeton Plasma Physics Laboratory (Jan. 2016)

The JET-ILW Pedestal and the Fate of the H-mode

Plasma Seminar, University of Wisconsin-Madison (Oct. 2015)

The Fate of the H-mode: ITER and Beyond

Plasma Seminar, UCLA (Sep. 2015)

Application of Proper Orthogonal Decomposition to Plasma Turbulence

Oak Ridge National Laboratory (May 2015)

Gyrokinetic Study of Electromagnetic Pedestal Transport

U. S. Transport Taskforce Workshop

Salem, MA (May 2015)

Turbulence and Transport in Fusion Plasmas

Special Colloquium, University of Texas at Austin (Feb. 2015)

Transition between Saturation Regimes of Gyrokinetic Turbulence

55th Annual Meeting of the APS Division of Plasma Physics, Session G05

Denver, CO (Nov. 2013)

Transition between Saturation Regimes of Gyrokinetic Turbulence

General Meeting, Max-Planck/Princeton Center for Plasma Physics

Princeton Center for Theoretical Science, Princeton University (Nov. 2013)

Application of Proper Orthogonal Decomposition to Analysis of Turbulent Dynamics

Stability, Energetics, and Turbulent Transport in Astrophysical, Fusion, and Solar Plasmas

Princeton Center for Theoretical Science, Princeton University (Apr. 2013)

Electromagnetic Effects in Gyrokinetic Turbulent Transport: Recent GENE Results

David R. Hatch, CV, December 2019

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and

The Fully Spectral Reduced-Gyrokinetic DNA Code

6th Fusion Theory Working Group Meeting, Wolfgang Pauli Institute
Vienna, Austria (Mar. 2013)

Electromagnetic Effects on Turbulent Transport

Fusion VIP Seminar, University of Texas at Austin (Oct. 2012)

Turbulent Transport in Fusion Plasmas

Physics Seminar, University of Iowa (Mar. 2012)

Magnetic Stochasticity and Transport in Plasma Microturbulence

Plasma Physics Seminar, University of Iowa (Mar. 2012)

Magnetic Stochasticity and Transport Due to Nonlinear Excitation of Microtearing Modes

5th Fusion Theory Working Group Meeting, Wolfgang Pauli Institute
Vienna, Austria (Mar. 2012)

Magnetic Stochasticity Due to the Excitation of Subdominant Tearing Modes

Joint Theory Meeting, Max-Planck-Institut für Plasmaphysik
Liebenberg, Germany (Dec. 2011)

Magnetic Stochasticity Due to the Excitation of Subdominant Tearing Modes

53rd Annual Meeting of the APS Division of Plasma Physics, Session J05
Salt Lake City, UT (Nov. 2011)

Development of Magnetic Stochasticity Due to Subdominant Modes

U. S. Transport Taskforce Workshop, Plenary Session II
San Diego, CA (Apr. 2011)

Subdominant Stable Eigenmodes in Plasma Microturbulence

Invited talk, 52nd Annual Meeting of the APS Division of Plasma Physics, Session XI2
Chicago, IL (Nov. 2010)

Nonlinear Excitation of Damped Eigenmodes in Microturbulence Simulations

13th Joint EU-US Transport Taskforce Workshop, Core and Heat Transport Session
Copenhagen, Denmark (Sep. 2008)

Teaching Experience

- *Plasma Physics I*—Physics 380L, main instructor for graduate level physics course, The University of Texas at Austin, 2018
- *General Physics* – Physics 302K, substitute instructor for Herb Berk, The University of Texas at Austin, 2015

- *Plasma Physics I* – Physics 380L, substitute instructor for Herb Berk, The University of Texas at Austin, 2014
- *General Physics* – Physics 302L, substitute instructor for Herb Berk, The University of Texas at Austin, 2013
- *Introduction to Physics for Scientists and Engineers* – Physics 202, teaching assistant for Don Reeder, University of Wisconsin-Madison, Spring Semester, 2006 – received excellent student ratings
- *Introduction to Physics for Scientists and Engineers* – Physics 202, teaching assistant for Peter Timbie, University of Wisconsin-Madison, Fall Semester, 2005 – received excellent student ratings

Foreign Languages

- German -- conversational