Adrienne L. Traxler

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Education

2006–2011	**PhD in Applied Mathematics and Statistics**, University of California Santa Cruz, Santa Cruz, CA.
2004–2006	**MS in Teaching (physics concentration)**, University of Maine, Orono, ME.
2000–2004	**BS in Physics**, University of Maine, Orono, ME.

Professional Experience

2022–present	**Associate Professor of Science Education**, University of Copenhagen, København, Denmark.
2019–2022	**Associate Professor of Physics**, Wright State University, Dayton, OH, USA.
2014–2019	**Assistant Professor of Physics**, Wright State University, Dayton, OH, USA.
2011–2014	**Assistant Director of Research Programs**, Department of Physics, Florida International University, Miami, FL, USA.
March–July 2011	**Postdoctoral Researcher**, Department of Applied Mathematics and Statistics, University of California Santa Cruz, Santa Cruz, CA, USA.

Publications

Journal Articles

2022	Steven F. Wolf, Timothy M. Sault, Tyme Suda, and Adrienne L. Traxler. Social network development in classrooms. *Applied Network Science*, 7(1):1–31, May 2022
	Adrienne Traxler. Networks and learning: A view from physics. *Journal of Learning Analytics*, 9(1):111–119, March 2022
	Kelley Commeford, Eric Brewe, and Adrienne Traxler. Characterizing active learning environments in physics using latent profile analysis. *Physical Review Physics Education Research*, 18(1):010113, February 2022
2021	Kelley Commeford, Eric Brewe, and Adrienne Traxler. Characterizing active learning environments in physics using network analysis and classroom observations. *Physical Review Physics Education Research*, 17:020136, November 2021

Eric Brewe, Adrienne Traxler, and Sarah Scanlin. Transitioning to remote instruction: Strong ties and anxiety. *Physical Review Physics Education Research*, 17:023103, July 2021

2020 Adrienne L. Traxler, Tyme Suda, Eric Brewe, and Kelley Commeford. Network positions in active learning environments in physics. *Physical Review Physics Education Research*, 16:020129, Oct 2020

Adrienne Traxler and Jennifer Blue. Sex and gender as non-binary: What does this mean for physics teachers? *The Physics Teacher*, 58(6):395–398, September 2020

James Wells, Rachel Henderson, Adrienne Traxler, Paul Miller, and John Stewart. Exploring the structure of misconceptions in the Force and Motion Conceptual Evaluation with Modified Module Analysis. *Physical Review Physics Education Research*, 16:010121, April 2020

2019 James Wells, Rachel Henderson, John Stewart, Gay Stewart, Jie Yang, and Adrienne Traxler. Exploring the structure of misconceptions in the Force Concept Inventory with modified module analysis. *Phys. Rev. Phys. Educ. Res.*, 15:020122, Sep 2019

Jennifer Blue, Adrienne Traxler, and Geraldine Cochran. Resource letter: GP-1: Gender and physics. *American Journal of Physics*, 87(8):616, July 2019

Rachel Henderson, John Stewart, and Adrienne Traxler. Partitioning the gender gap in physics conceptual inventories: Force Concept Inventory, Force and Motion Conceptual Evaluation, and Conceptual Survey of Electricity and Magnetism. *Phys. Rev. Phys. Educ. Res.*, 15(1):010131, May 2019

2018 Adrienne Traxler, A. Gavrin, and Rebecca Lindell. Networks identify productive forum discussions. *Phys. Rev. Phys. Educ. Res.*, 14(2):020107, September 2018

Rachel Henderson, Paul Miller, John Stewart, Adrienne Traxler, and Rebecca Lindell. Item-level gender fairness in the Force and Motion Conceptual Evaluation and the Conceptual Survey of Electricity and Magnetism. *Phys. Rev. Phys. Educ. Res.*, 14(2):020103, July 2018

Jennifer Blue, Adrienne L. Traxler, and Ximena C. Cid. Gender matters. *Physics Today*, 71(3):40–46, March 2018

Adrienne Traxler, Rachel Henderson, John Stewart, Gay Stewart, Alexis Papak, and Rebecca Lindell. Gender fairness within the Force Concept Inventory. *Phys. Rev. Phys. Educ. Res.*, 14(1):010103, January 2018

2017 Rachel Henderson, Gay Stewart, John Stewart, Lynnette Michaluk, and Adrienne Traxler. Exploring the gender gap in the conceptual survey of electricity and magnetism. *Phys. Rev. Phys. Educ. Res.*, 13(2):020114, September 2017

Noah L. Schroeder and Adrienne L. Traxler. Humanizing instructional videos in physics: When less is more. *Journal of Science Education and Technology*, 26(3):269–278, June 2017

2016 Adrienne L. Traxler, Ximena C. Cid, Jennifer Blue, and Ramón Barthelemy. Enriching gender in physics education research: A binary past and a complex future. *Phys. Rev. Phys. Educ. Res.*, 12(2):020114, August 2016

2015 Adrienne Traxler and Eric Brewe. Equity investigation of attitudinal shifts in introductory physics. *Phys. Rev. Spec. Top. - Phys. Educ. Res.*, 11(2):020132, November 2015

2014 Isis Artze-Vega, Leslie Richardson, and Adrienne Traxler. Stereotype threat-based diversity programming: Helping students while empowering and respecting faculty. *To Improve the Academy*, 33(1):74–93, September 2014

2013 Eric Brewe, Adrienne Traxler, Jorge de la Garza, and Laird H. Kramer. Extending positive CLASS results across multiple instructors and multiple classes of Modeling Instruction. *Phys. Rev. Spec. Top. - Phys. Educ. Res.*, 9(2):020116, 2013

2012 Giovanni M. Mirouh, Pascale Garaud, Stephan Stellmach, Adrienne L. Traxler, and Toby S. Wood. A new model for mixing by double-diffusive convection (semi-convection). I. The conditions for layer formation. *The Astrophysical Journal*, 750(1):61, 2012

2011 Erica Rosenblum, Pascale Garaud, Adrienne Traxler, and Stephan Stellmach. Turbulent mixing and layer formation in double-diffusive convection: Three-dimensional numerical simulations and theory. *The Astrophysical Journal*, 731(1):66, 2011

Adrienne Traxler, Pascale Garaud, and Stephan Stellmach. Numerically determined transport laws for fingering ("thermohaline") convection in astrophysics. *The Astrophysical Journal Letters*, 728(2):L29, 2011

Stephan Stellmach, Adrienne Traxler, Pascale Garaud, Nicholas Brummell, and Timour Radko. Dynamics of fingering convection. Part 2 The formation of thermohaline staircases. *Journal of Fluid Mechanics*, 677:554–571, 2011

Adrienne Traxler, Stephan Stellmach, Pascale Garaud, Timour Radko, and Nicholas Brummell. Dynamics of fingering convection. Part 1 Small-scale fluxes and large-scale instabilities. *Journal of Fluid Mechanics*, 677:530–553, 2011

Book Chapters

2023 Ramón Barthelemy, Jennifer Blue, Adrienne Traxler, and Madison Swirtz. Research on gender, intersectionality, and LGBT+ persons in physics education research. In *International Handbook of Physics Education Research*. In press

2020 Adrienne Traxler and Jennifer Blue. Disability in physics: Learning from binary mistakes. In Allison J. Gonsalves and Anna T. Danielsson, editors, *Physics Education and Gender: Identity as an Analytic Lens for Research*, number 19 in Cultural Studies of Science Education, pages 129–152. Springer International Publishing, Cham, 2020

Adrienne L. Traxler. Who belongs in science: Numbers are not enough. In Samina Azad, editor, *Addressing Gender Bias in Science & Technology*, volume 1354 of *ACS Symposium Series*, pages 73–90. American Chemical Society, January 2020

Work Under Review

Colin Green, Eric Brewe, Jillian Mellem, and Adrienne Traxler. Sentiment and thematic analysis of faculty responses: Transition to online learning. Under review

Work in Preparation

Adrienne Traxler, Jason Deibel, Meredith Rodgers, and Kathrin Engisch. "i contributed to something:" student meanings of research. In preparation

Conference Proceedings

2019 Carissa Myers, Elizabeth Fox, Adrienne Traxler, and A. Gavrin. Quantifying the linguistic persistence of high and low performers in an online student forum. In Michael B. Bennett, Steven Wolf, and Ying Cao, editors, *2019 Physics Education Research Conference*, PER Conference, pages 402–407, Provo, UT, 2020

Kelley Commeford, Eric Brewe, and Adrienne Traxler. Characterizing active learning environments in physics: Network analysis using exponential random graph models. In Michael B. Bennett, Steven Wolf, and Ying Cao, editors, *2019 Physics Education Research Conference*, PER Conference, Provo, UT, 2020

2018 Carissa Myers, Adrienne Traxler, and A. Gavrin. Content analysis of instructor tools for building a learning community. In Adrienne Traxler, Ying Cao, and Steven Wolf, editors, *2018 Physics Education Research Conference*, PER Conference, Washington, DC, August 2018

2016 Adrienne Traxler, Andrew Gavrin, and Rebecca Lindell. CourseNetworking and community: Linking online discussion networks and course success. In Dyan L. Jones, Lin Ding, and Adrienne Traxler, editors, *2016 Physics Education Research Conference*, pages 352–355, Sacramento, CA, 2016

Emily Sandt and Adrienne Traxler. Non-traditional students' conceptual scores and network centrality in SCALE-UP classrooms. In Dyan L. Jones, Lin Ding, and Adrienne Traxler, editors, *2016 Physics Education Research Conference*, pages 296–299, Sacramento, CA, 2016

2015 Adrienne Traxler. Community structure in introductory physics course networks. In Alice D. Churukian, Dyan L. Jones, and Lin Ding, editors, *2015 Physics Education Research Conference*, pages 331–334, College Park, MD, 2015

Adrienne Traxler, Jonathan V. Mahadeo, Daryl McPadden, and Eric Brewe. Multiple representations and epistemic games in introductory physics exam solutions. In Paula V. Engelhardt, Alice D. Churukian, and Dyan L. Jones, editors, *2014 Physics Education Research Conference*, pages 247–250, Minneapolis, MN, 2015

2014 Jonathan V. Mahadeo, Adrienne L. Traxler, and Eric Brewe. Epistemic games analysis of common exam questions across course formats. In Paula V. Engelhardt, Alice D. Churukian, and Dyan L. Jones, editors, *2013 Physics Education Research Conference*, pages 241–244, Portland, OR, 2014

2010 Adrienne L. Traxler, Katherine A. Kretke, and P. Garaud. A fluid dynamics activity for prospective graduate students. In Lisa Hunter and Anne Metevier, editors, *Learning from Inquiry in Practice*, volume 436, pages 258–263, Santa Cruz, CA, December 2010. Astronomical Society of the Pacific

2006 Adrienne L. Traxler, Katrina E. Black, and John R. Thompson. Students' use of symmetry with Gauss's law. In Laura McCullough, Leon Hsu, and Paula Heron, editors, *2006 Physics Education Research Conference*, volume 883, pages 173–176, Syracuse, NY, July 2006. American Institute of Physics

Other Publications

2011 Adrienne L. Traxler. *Double-diffusive convection at high and low Prandtl numbers.* PhD thesis, University of California Santa Cruz, 2011

2010 Adrienne Traxler. Linear stability of Su-Gardner equations to small two-dimensional perturbations. Technical Report WHOI-10-01, Woods Hole Oceanographic Institution, 2010

2006 Adrienne L. Traxler. Assessment and modification of an introductory astronomy laboratory lesson on astronomical time-keeping. Master's thesis, University of Maine, 2006

Funded Research

National Science Foundation: DUE-2111275. Collaborative Research: Further Characterizing Active Learning Environments in Physics. October 2022–September 2025. Budget: $599,995 total, $135,398 to Wright State University. PI (collaborative proposal with Eric Brewe, Drexel University).

National Science Foundation: DUE-2100024. Collaborative Research: Mapping professional support networks of women and gender and sexual minorities in physics. July 2021–June 2024. Budget: $498,733 total, $63,481 to Wright State University. PI (collaborative proposal with Ramón Barthelemy, University of Utah, and Charles Henderson, Western Michigan University).

National Science Foundation: DUE-2027963. RAPID: Collaborative Research: Faculty Networks Supporting Rapid Transitions to Online Physics Teaching During the COVID-19 Pandemic. May 2020–April 2021. Budget: $86,978 total, $15,083 to Wright State University. PI (collaborative proposal with Eric Brewe, Drexel University).

National Science Foundation: DUE-1742339. WSU Students ASK... A Success & Scholarship Program for Students Applying Scientific Knowledge. August 2017–August 2022. Budget: $997,589. Co-PI (with Jason Deibel, PI, and Meredith Rodgers, co-PI).

National Science Foundation: DUE-1712341. Collaborative Research: Characterizing Active Learning Environments in Physics. July 2017–June 2020. Budget: $299,981 total, $73,485 to Wright State University. PI (collaborative proposal with Eric Brewe, Drexel University).

National Science Foundation: Subaward of HRD-1436702. Implementation Project: Improving Pathways for STEM Retention and Graduation. August 2015–July 2016. Budget: $56,011. PI at Wright State University (co-PIs Noah Schroeder, Douglas Petkie), subcontract from Central State University.

Invited Talks and Workshops

2022 Adrienne Traxler. Characterizing active learning environments in physics: Networks and classroom observations. Seminar at Center for Computing in Science Education, University of Oslo, December 2022

Adrienne Traxler, Jason Deibel, and Meredith Rodgers. Supporting student research with a methods course. Seminar at Discipline-Based Science Education Research Center, University of Pittsburgh, May 2022

2021 Adrienne Traxler and Steven Wolf. Social positions in group exam networks. Invited talk at American Association of Physics Teachers winter meeting, January 2021

2020 Adrienne Traxler, Eric Brewe, and Sarah Scanlin. Transitioning to online physics teaching: Empathy and above average quality. Invited talk at Southern Ohio Section AAPT Spring meeting, October 2020

Jennifer Blue and Adrienne Traxler. Talking about genders in the classroom. Invited talk at American Association of Physics Teachers virtual summer meeting, July 2020

Adrienne Traxler. Network positions in active learning physics classes. Colloquium at Michigan State University, February 2020

2019 Adrienne Traxler. Role analysis of introductory physics collaboration networks. Physics department colloquium at Miami University, October 2019

Adrienne Traxler. Asking different questions: Critical Theory lessons for physics education. Panelist at Physics Education Research Conference, Provo, UT, July 2019

Adrienne Traxler. ASK the right questions: Student experiences in an undergraduate research program. Workshop at Institutional Change through Faculty Advancement in Instruction and Mentoring, Jackson State University, Jackson, MS, May 2019

Adrienne Traxler. Dimensions of success: Aligning learning goals with instruction in introductory science courses. Workshop at Institutional Change through Faculty Advancement in Instruction and Mentoring, Jackson State University, Jackson, MS, May 2019

2018 Adrienne Traxler. Equity in physics education: A snapshot of a complex system. Seminar at Center for the Advancement of STEM Teaching and Learning Excellence, Drexel University, October 2018

Adrienne Traxler. Gender matters: Patterns of inequity in physics and STEM. Seminar at IC-FAIM Workshop, Jackson State University, May 2018

Adrienne Traxler. Network analysis in education. Seminar at IC-FAIM Workshop, Jackson State University, May 2018

Adrienne Traxler. Gender in physics education: Looking back and looking forward. Plenary talk at OSAPS/MI-AAPT 2018 Spring meeting, Michigan State University, March 2018

2017 Adrienne Traxler and Jennifer Blue. Disability in physics: Lessons from the binary view of gender. Invited talk at European Science Education Research Association meeting, Dublin, Ireland, August 2017

Adrienne Traxler. "What are you?" – considerations and best practices in operationalizing identity through demographic variables. Panelist at Physics Education Research Conference, Cincinnati, OH, July 2017

Adrienne Traxler. As exceptional as any monstrosity: Gaps analyses past and present. Invited talk at American Association of Physics Teachers meeting, Cincinnati, OH, July 2017

Adrienne Traxler. Professional skills for graduate students. Panelist at American Association of Physics Teachers meeting, Atlanta, GA, February 2017

Adrienne Traxler. Enriching gender in physics education research: A binary past and a complex future. Invited talk at 2017 American Physical Society April Meeting, Washington, DC, January 2017

2016 Adrienne Traxler. Multiplex network analysis of student interactions in an introductory physics course. Physics Education Research group seminar at The Ohio State University, October 2016

2015 Adrienne Traxler. Using network analysis to describe collaboration in introductory physics. Physics department colloquium at Miami University, September 2015

Adrienne Traxler. Gender in physics education research: A binary past and a complex future. Physics department colloquium at Purdue University, September 2015

Adrienne Traxler. Equity perspectives and attitude shifts in introductory physics. Invited talk at American Association of Physics Teachers summer meeting, College Park, MD, July 2015

Adrienne Traxler. Attitude shifts in introductory physics: An equity perspective. Physics department colloquium at Michigan State University, February 2015

2014 Adrienne Traxler. Epistemic games as an analysis tool for physics final exam questions. Physics department colloquium at Wright State University, February 2014

Adrienne Traxler. Attitudinal shifts in introductory physics through an equity lens. Invited talk at American Association of Physics Teachers winter meeting, Orlando, FL, January 2014

2013 Adrienne Traxler. A study of common exam questions and epistemic games in physics. Physics department colloquium at Purdue University, November 2013

Adrienne Traxler. Positive attitudinal shifts in physics with modeling instruction. Global Physics Department colloquium, October 2013

Adrienne Traxler. Physics exam problems as a deployment of epistemic games. Physics department colloquium at Ohio State University, October 2013

Adrienne Traxler. Complexity of faculty change in the FIU Science Collaborative. Invited talk at American Association of Physics Teachers summer meeting, Portland, OR, July 2013

2012 Adrienne Traxler. Salt fingering at high and low Prandtl numbers. Physics department colloquium at Florida International University, February 2012

2011 Adrienne Traxler. Salt fingering in oceans and stars. Physics department colloquium at Sonoma State University, March 2011

Contributed Talks and Posters

2022 Jillian Mellen, Eric Brewe, Adrienne L. Traxler, Sarah Scanlin, and Colin Green. Predictors of faculty sentiment on their transition to online teaching. Contributed talk at American Association of Physics Teachers Summer Meeting, July 2022

2021 Adrienne Traxler, Eric Brewe, and Sarah Scanlin. Crisis transitions to online physics teaching: Empathy and above average quality. Contributed talk at American Physical Society April meeting, April 2021

Eric Brewe and Adrienne Traxler. Transitions to online physics teaching: Empathy and above average quality. Contributed talk at American Association of Physics Teachers Virtual Summer Meeting, August 2021

Jillian Mellen, Eric Brewe, Adrienne Traxler, Sarah Scanlin, and Colin Green. Predictors of faculty sentiment on their transition to online teaching. Contributed talk at American Association of Physics Teachers Virtual Summer Meeting, August 2021

Colin Green, Eric Brewe, and Adrienne Traxler. Sentiment analysis of faculty responses to the covid-19 teaching transition. Contributed talk at 2021 American Association of Physics Teachers conference, July 2021

2020 Adrienne L. Traxler, Jason Deibel, and Meredith Rodgers. Chili and mistakes: Students reflect on research. Contributed poster at 2020 Physics Education Research Conference, July 2020

Adrienne L. Traxler, Tyme Suda, Eric Brewe, and Kelley Commeford. Role analysis of student networks in active learning physics classes. Contributed poster at American Association of Physics Teachers virtual summer meeting, July 2020

Adrienne L. Traxler, Jason Deibel, and Meredith Rodgers. "Diving into a void:" student views of research. Contributed talk at American Association of Physics Teachers virtual summer meeting, July 2020

Kelley Commeford, Eric Brewe, and Adrienne Traxler. Characterizing active learning environments in physics using COPUS. Contributed talk at American Association of Physics Teachers virtual summer meeting, July 2020

2019 Adrienne L. Traxler, Carissa Myers, Jason Deibel, and Meredith Rodgers. Network analysis of students' descriptions of scientific research. Contributed poster at 2019 Physics Education Research Conference, Provo, UT, July 2019

Carissa Myers, Elizabeth Fox, Adrienne Traxler, and A. Gavrin. Quantifying the linguistic persistence of high and low performers in an online student forum. Contributed poster at 2019 Physics Education Research Conference, Provo, UT, 2019

Tyme Suda, Adrienne Traxler, Eric Brewe, and Kelley Commeford. Student network positions in active learning physics classrooms. Contributed poster at American Association of Physics Teachers summer meeting, Provo, UT, July 2019

Kelley Commeford, Eric Brewe, and Adrienne Traxler. Characterizing active learning environments in physics. Contributed talk at American Association of Physics Teachers summer meeting, Provo, UT, July 2019

James Wells, Rachel Henderson, John Stewart, and Adrienne Traxler. Exploring FCI misconceptions by gender using Modified Module Analysis. Contributed talk at American Association of Physics Teachers summer meeting, Provo, UT, July 2019

Jason A. Deibel, Adrienne L. Traxler, and Meredith Rodgers. Applying Scientific Knowledge (ASK): A transformative approach to integrating and scaling up undergraduate research. Contributed talk at 2019 CUR Undergraduate Research Programs Conference, Columbus, OH, June 2019

Jason A. Deibel, Adrienne L. Traxler, and Meredith Rodgers. Applying Scientific Knowledge (ASK): A transformative approach to integrating and scaling up undergraduate research. Contributed talk at 2019 Ohio-PKAL Annual Conference, Dayton, OH, May 2019

Kelley Commeford, Eric Brewe, and Adrienne Traxler. Characterizing Active Learning Environments in Physics: Preliminary results. Contributed talk at 2019 American Physical Society meeting, Denver, CO, April 2019

Suhaela Eledkawi, Adrienne Traxler, and A. Gavrin. Talking physics online: Do different conversation models affect forum network structure? Contributed poster at 2019 Ohio Louis Stokes Alliance for Minority Participation Conference, Cincinnati, OH, April 2019

Carissa Myers, Elizabeth Fox, Adrienne Traxler, and A. Gavrin. Recurrence quantification of student discourse. Contributed poster at CogFest 2019, Columbus, OH, March 2019

2018 Carissa Myers, Adrienne Traxler, and A. Gavrin. Content analysis of instructor tools for building a learning community. Contributed poster at 2018 Physics Education Research Conference, Washington, DC, August 2018

Kelley Commeford, Eric Brewe, and Adrienne Traxler. Characterizing Active Learning Environments in Physics. Contributed talk at 2018 Physics Education Research Conference, Washington, DC, July 2018

Rachel Henderson, John Stewart, and Adrienne Traxler. A synthesis of the gender gap on the conceptual inventories. Contributed talk at 2018 American Physical Society meeting, Washington, DC, July 2018

2017 Kelley Commeford, Eric Brewe, and Adrienne Traxler. Characterizing Active Learning Environments in Physics: Establishing a baseline. Contributed poster at 2017 Physics Education Research Conference, Cincinnati, OH, July 2017

Andy Rundquist, Gillian Ryan, Adrienne Traxler, Jeremy Bailin, and Melissa Dancy. Lessons learned from facilitating Faculty Online Learning Communities. Contributed talk at 2017 American Physical Society meeting, Cincinnati, OH, July 2017

Rachel Henderson, John Stewart, Adrienne Traxler, and Rebecca Lindell. Item Response Theory on the Force and Motion Conceptual Evaluation. Contributed talk at 2017 American Physical Society meeting, Cincinnati, OH, July 2017

Adrienne Traxler, A. Gavrin, and Rebecca Lindell. Network analysis of physics discussion forums and links to course success. Contributed poster at 2017 American Physical Society April Meeting, Washington, DC, January 2017

Rebecca Lindell and Adrienne Traxler. Uncovering introductory astronomy students' conceptual modules of lunar phases. Contributed poster at 2017 American Physical Society April Meeting, Washington, DC, January 2017

2016 Adrienne Traxler, A. Gavrin, and Rebecca Lindell. CourseNetworking and community: Linking online discussion networks and course success. Poster at 2016 Physics Education Research Conference, Sacramento, CA, July 2016

Jesper Bruun and Adrienne Traxler. Investigating physics learning with layered student interaction networks: Combining time and modes of interaction. Invited poster at 2016 Physics Education Research Conference, Sacramento, CA, July 2016

Sarah Hierath and Adrienne L. Traxler. Network analysis, conceptual gains, and gender in introductory physics. Contributed poster at 2016 Physics Education Research Conference, Sacramento, CA, July 2016

Alexis Papak, Adrienne Traxler, and Rebecca Lindell. Viewing gender differences on the FCI through a psychometric lens. Contributed poster at 2016 Physics Education Research Conference, Sacramento, CA, July 2016

Emily Sandt and Adrienne L. Traxler. Non-traditional students' conceptual scores and network centrality in SCALE-UP classes. Contributed poster at 2016 Physics Education Research Conference, Sacramento, CA, July 2016

Adrienne Traxler, Gillian Ryan, Andy Rundquist, Joel Corbo, and Melissa Dancy. Improved recruitment to build a better Faculty Online Learning Community. Contributed talk at American Association of Physics Teachers summer meeting, Sacramento, CA, July 2016

Alexis Papak, Adrienne Traxler, and Rebecca Lindell. Viewing gender differences on the FCI through a psychometric lens. Contributed poster at American Association of Physics Teachers winter meeting, New Orleans, LA, January 2016

2015 Adrienne Traxler. Multiple measures of active learning in physics. Contributed poster at Wright State University Teaching for Student Success Symposium, Dayton, OH, August 2015

Adrienne Traxler. Community structure in introductory physics course networks. Contributed poster at 2015 Physics Education Research Conference, College Park, MD, July 2015

Sarah Hierath, Emily Sandt, and Adrienne Traxler. Network centrality and conceptual gains in an introductory physics course. Contributed poster at Wright State University Celebration of Research, Scholarship and Creative Activities, Dayton, OH, April 2015

Jennifer Blue and Adrienne L. Traxler. Enriching gender in physics education research: A binary past and a complex future. Contributed talk at Miami University Race, Class, Gender, and Sexuality Symposium, Oxford, OH, February 2015

2014 Adrienne L. Traxler, Jonathan V. Mahadeo, Daryl McPadden, and Eric Brewe. Multiple representations and epistemic games in introductory physics exam solutions. Contributed poster at 2014 Physics Education Research Conference, Minneapolis, MN, July 2014

Adrienne L. Traxler, Laird Kramer, Eric Brewe, David Brookes, Joseph Lichter, and Marcy Lowenstein. Research-based reform: Faculty as change agents in multiple departments. Invited poster at 2014 Physics Education Research Conference, Minneapolis, MN, July 2014

Seth Manthey, Eric Brewe, Sat Gavassa, Adrienne Traxler, Laird Kramer, George E. O'Brien, Eric von Wettberg, and Marcy Lowenstein. A multi-measure assessment of course type efficacy between traditional lecture and online instruction General Biology I at a large public Hispanic-serving university, July 2014. Contributed talk at Society for the Advancement of Biology Education Research Annual Meeting, Minneapolis, MN

Seth Manthey, Eric Brewe, Eric von Wettberg, George E. O'Brien, and Adrienne Traxler. General biology students' attitudes towards biology at a Hispanic-serving university, July 2014. Contributed poster at Society for the Advancement of Biology Education Research Annual Meeting, Minneapolis, MN

2013 Adrienne L. Traxler, Eric Brewe, and Laird Kramer. An equity investigation of attitudinal shifts in introductory physics. Contributed poster at 2013 Physics Education Research Conference, Portland, OR, July 2013

Jonathan Mahadeo, Adrienne L. Traxler, and Eric Brewe. Epistemic analysis of common exam questions across course formats. Contributed poster at 2013 Physics Education Research Conference, Portland, OR, July 2013

Adrienne L. Traxler, Laird Kramer, Eric Brewe, David Brookes, Joseph Lichter, and Ophelia Weeks. Exploring faculty change in the FIU Science Collaborative. Contributed poster at American Association of Physics Teachers summer meeting, Portland, OR, July 2013

Jonathan Mahadeo, Adrienne L. Traxler, and Eric Brewe. Exploring different course formats via AP scores and epistemic games. Contributed talk at American Association of Physics Teachers summer meeting, Portland, OR, July 2013

Konstantinos Kavallieratos, Adrienne L. Traxler, Joseph L. Lichter, C. Burns, L. Fernandez, M. Luzi, and J. Torner. Transforming the CHM 1033 "Survey of Chemistry" class for nursing students using the Learning Assistant (LA) model: Challenges and rewards. Contributed talk at 245th American Chemical Society National Meeting, New Orleans, LA, 2013

2012 Amber Frazier, Adrienne L. Traxler, and Laird Kramer. Do common exam question scores vary significantly between different modes of instruction? Contributed poster at 2012 Physics Education Research Conference, Philadelphia, PA, July 2012

Adrienne L. Traxler, Laird Kramer, Eric Brewe, David Brookes, Ophelia Weeks, and Joseph Lichter. Assessment opportunities and challenges in the FIU Science Collaborative. Contributed poster at 2nd Conference on Transforming Research in Undergraduate STEM Education, St. Paul, MN, June 2012

2011 Adrienne Traxler, Pascale Garaud, and Stephan Stellmach. Thermohaline mixing at low Prandtl numbers. Contributed talk at 217th American Astronomical Society Meeting, Seattle, WA, January 2011

2009 Adrienne Traxler, Stephan Stellmach, Pascale Garaud, Timour Radko, and Nicholas Brummell. Spontaneous layer formation in salt fingering simulations. Contributed poster at Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2009

2008 Adrienne Traxler, Stephan Stellmach, Pascale Garaud, Timour Radko, and Nicholas Brummell. Spontaneous layer formation in three-dimensional simulations of thermohaline convection. Contributed poster at Fall Meeting of the American Geophysical Union, San Francisco, CA, December 2008

Stephan Stellmach, Adrienne Traxler, and Pascale Garaud. Three-dimensional simulations of double-diffusive salt-finger convection and layer formation. Contributed talk at 61st APS Division of Fluid Dynamics Meeting, San Antonio, TX, November 2008

2006 Adrienne L. Traxler, Katrina Black, and John Thompson. Analysis of student understanding of symmetry in Gauss' law. Contributed talk at American Physical Society New England Section Spring Meeting, Boston, MA, April 2006

Adrienne L. Traxler, David Batuski, Neil Comins, and John Thompson. Refining understanding: redesigning an introductory laboratory on time. Contributed poster at 207th American Astronomical Society Meeting, Washington, DC, January 2006

2005 Adrienne L. Traxler, David J. Batuski, Neil F. Comins, and John R. Thompson. Student understanding of time in an introductory astronomy laboratory. Contributed poster at 206th American Astronomical Society Meeting, Minneapolis, MN, May 2005

Teaching Experience

University of Copenhagen

- **Introduction to University Pedagogy** (Nov2022, Jan2023) Week-long intensive course for university teaching, 20–24 participants.
- **University Pedagogy (Universitetspædagogikum)** (Nov2022) Theoretical and practical course in university teaching, 20–24 participants.

Wright State University

- **Undergraduate Physics Seminar I (PHY 1000, 1 credit.)** (F2018, F2019, F2020, F2021) Introductory undergraduate seminar, 5–10 students.
- **General Physics I (PHY 2400, 4 credits).** (F2014, Su2015, F2015, Sp2016, F2016, F2017, F2018, F2019, Sp2020, F2020) Introductory undergraduate, 10–220 students. Calculus-based course covering Newtonian mechanics.
- **Introduction to Astrophysics (PHY 3300, 3 credits).** (Sp2018, Sp2019, Sp2021) Upper-division undergraduate, 5–15 students. Developed new astrophysics course.
- **Analytical Mechanics (PHY 3710/5710, 3 credits).** (Sp2017, Sp2018, Sp2019, Sp2020, Sp2022) Upper-division undergraduate and cross-listed as graduate, 10–20 students. Newtonian mechanics using ordinary differential equations, with computational assignments in Matlab.
- **Senior Project (PHY 4940, 3 credits).** (F2017, Sp2018, F2018, Sp2019) Capstone undergraduate independent study format, 1–2 students.
- **Classical Mechanics (PHY 6800, 3 credits).** (F2021) Graduate, lecture format, 6 students. Mechanics including Lagrangian formulation, orbital dynamics, and oscillations.
- **Special Topics in Physical Science for Teachers (PHY 6990, 3 credits).** (F2017, F2018, F2020) Graduate, online format, 1–2 students. Developed new course for high school teachers

seeking certification to teach college-credit physics courses. Pedagogical readings, writing, and discussion around introductory course content.

- **Minor Problems (PHY 7990, 3 credit hours).** (F2014, Sp2015) Graduate, independent study format, 1–2 students. Research credits taken by graduate students before formally submitting thesis proposal.
- **Research (PHY 8990, 3 credit hours).** (F2015, Sp2016, Su2016, F2017, Sp2017, Su2017, F2017, Sp2018, F2020, Sp2021) Graduate, independent study format, 1–3 students. Thesis project credits.

Florida International University

- **Calculus-based Physics I (PHY 2048, 4 credit hours).** (F2012) Introductory undergraduate lecture and laboratory (studio format), 25–30 students. Calculus-based.
- **Calculus-based Physics II (PHY 2049, 4 credit hours).** (Sp2013) Introductory undergraduate lecture and laboratory (studio format), 25–30 students. Second semester of Modeling Instruction course above (PHY 2048), covering electricity and magnetism.

Student Supervision

Graduate Students

- Hannah Benston (MS physics 2022)
- Kelley Commeford (co-advisor, PhD physics 2021), "Characterizing active learning environments in physics"
- Raym Alzahrani (MS physics 2016)
- Sarah Hierath (MS physics 2016)
- Emily Sandt (MS physics 2016)

Undergraduate Students

- Heather Robinson (Senior project, BS physics 2022)
- Chynna Spitler (Senior project co-advisor, BS physics 2022)
- Carissa Myers (Senior project, BS physics 2019)
- Tyme Suda (Senior project, BS physics 2019)
- Hannah Roth (Senior project, BS physics 2018)
- Jonathan Mahadeo (Research assistant, 2012–2014)
- Amber Frazier (PhysTEC REU student, 2012)

Thesis and Project Committees

- Current: Hope Strickland (EdD), Justin Gambrell (PhD physics)
- Past: Colin Green (MS physics, 2022), Russell Clark (MST, 2016), Melody Deitrick (MST, 2020)

Leadership Positions

- **PERLOC** (Physics Education Research Leadership and Organizing Council); Member, January 2020–August 2021, Vice-chair, January–August 2021

- **Southern Ohio Section of the American Association of Physics Teachers** Vice-president for four-year colleges (Spring 2018–Spring 2019), treasurer (Spring 2019–present)
- **American Physical Society** Forum on Education Member-at-Large, 2019–2021.
- **Physics Education Research Conference Proceedings** Editor, Spring 2016–Spring 2019
- **American Association of Physics Teachers** Committee on Women in Physics (member, 2015; vice chair, 2016; chair, 2017)
- **Faculty Online Learning Community** Peer Leader for APS/AAS/AAPT Physics and Astronomy New Faculty Workshop (Spring 2016–Fall 2017)

Other Service

Workshop Instructor (The Carpentries)

The Carpentries workshops (Software Carpentry, Data Carpentry, and Library Carpentry) teach programming and data analysis tools to academic audiences.

- Library Carpentry: Virginia Tech (June 2021, lead instructor)
- Data Carpentry: North Carolina Central University (August 2020, assistant instructor), US Department of Agriculture (May 2021, assistant instructor), University of Baltimore (May–June 2022, assistant instructor).

Review Work

- **Journals:** American Journal of Physics, CBE – Life Sciences Education, European Journal of Physics, International Journal of Research and Method in Education, Physical Review Physics Education Research, The Physics Teacher, Physics Education Research Conference Proceedings, Proceedings A, Research in Science Education, Science Advances, Topics in Cognitive Science,
- **Grants:** National Science Foundation (United States)