James T. (J.T.) Laverty — Curriculum Vitae

Department of Physics
Kansas State University
036C Cardwell Hall
1228 N. Martin Luther King Jr. Drive
Manhattan, KS 66506

laverty@ksu.edu
(office) 785-532-1526
(mobile) 419-944-5802
phys.ksu.edu/about/people/faculty/laverty.html

Education

- **Michigan State University (East Lansing, MI)**
  Doctor of Philosophy in Physics, 2013
  Thesis: "Expanding Our Understanding of Students' Use of Graphs for Learning Physics"
  Advisor: Gerd Kortemeyer
- **Michigan State University (East Lansing, MI)**
  Master of Science in Physics, 2008
- **University of Toledo (Toledo, OH)**
  Bachelor of Science in Physics, 2006
- **University of Toledo (Toledo, OH)**
  Bachelor of Science in Pure Mathematics, 2006

Academic Experience

- Associate Professor, Kansas State University (August 2022–present)
- Assistant Professor, Kansas State University (August 2016–August 2022)
- Postdoctoral Researcher, Michigan State University (2013–2016)
- Graduate Student, Michigan State University (2006–2013)

Teaching Experience

- **Kansas State University – Department of Physics**
  - Spring 2024 - Mechanics (4 credits)
  - Spring 2024 - Introduction to Arts & Sciences Education Theory and Practice (0-2 credits)
  - Fall 2023 - Teaching University Physics (3 credits)
  - Fall 2023 - Introduction to Arts & Sciences Education Theory and Practice (0-2 credits)
  - Spring 2023 - Mechanics (4 credits)
  - Spring 2023 - Introduction to Arts & Sciences Education Theory and Practice (0-2 credits)
  - Fall 2022 - Concepts of Physics (4 credits)
  - Spring 2022 - Mechanics (4 credits)
  - Spring 2022 - Introduction to Arts & Sciences Education Theory and Practice (0-2 credits)
  - Fall 2021 - Concepts of Physics (4 credits)
  - Fall 2020 - Concepts of Physics (4 credits)

- Spring 2020 - Mechanics (4 credits)
- Fall 2019 - Concepts of Physics (4 credits)
- Spring 2019 - Introduction to Arts & Sciences Education Theory and Practice (0-2 credits)
- Fall 2018 - Concepts of Physics (4 credits)
- Fall 2018 - Learning Assistant Pedagogy Course (0 credits)
- Spring 2018 - Engineering Physics II (4 credits) *Primary Instructor - Studio Section*
- Spring 2018 - Learning Assistant Pedagogy Course (0 credits)
- Fall 2017 - Concepts of Physics (4 credits)
- Fall 2017 - Learning Assistant Pedagogy Course (0 credits)
- Spring 2017 - Engineering Physics I (4 credits) *Primary Instructor - Studio Section*
- Fall 2016 - Engineering Physics II (4 credits) *Primary Instructor - Studio Section*
- **Michigan State University – Lyman Briggs College**
  - Spring 2013 - Physics II (4 credits) *Teaching Assistant*
  - Fall 2012 - Physics I (4 credits) *Teaching Assistant*
- **Michigan State University – Science and Math Education**
  - Summer 2012 - Physics for Teachers (3 credits) *Instructor*
- **Michigan State University – Department of Physics and Astronomy**
  August 2006 – May 2012
  Teaching Assistant
  - Physics for Scientists & Engineers I, four semesters (4 credits)
  - Physics for Scientists & Engineers II, three semesters (4 credits)
  - Introductory Physics I, three semesters (3 credits)
  - Introductory Physics II, four semesters (3 credits)
  - Physics Lab for Scientists I, one semester (1 credit)
  - Physics Lab for Scientists II, one semester (1 credit)
  - Introductory Physics Lab I, four semesters (1 credit)
  - Introductory Physics Lab II, one semester (1 credit)

External Funding

Awarded

- 2020, NSF IUSE, *Collaborative Research: Development and Implementation of a Scalable Assessment of Content and Practices for Upper-Division Thermal and Statistical Physics*
  Total Award: $599,115
  KSU Award: $315,933
  PIs: Bethany Wilcox, **James T. Laverty**
- 2018, NSF CCE STEM, *Developing a Value Literate Culture in Science*
  Award: $354,264
  PIs: Scott Tanona, **James T. Laverty**, Jon Herington
- 2017, NSF IUSE:EHR, *Collaborative Research: Extending A Coherent Gateway to STEM Teaching and Learning*
  Total Award: $2 million
  KSU Award: $287,681
  Site PIs: Melanie M. Cooper (Michigan State University), **James T. Laverty**, Sonia M.

Underwood (Florida International University), Deborah G. Herrington (Grand Valley State University)

Pending

- 2023, NSF IIR, *Collaborative Research: Developing a 21st Century Assessment Framework for Physics Graduate Programs*
  Total Requested: $1.2M
  KSU Requested: $348k
  PIs: Rachel Henderson (Michigan State University), Jacquelyn Chini (University of Central Florida), **James T. Laverty**
- 2023, NSF IUSE, *Collaborative Research: From Testing to Teaching - Developing Assessment Feedback to Shape Instructor Practices*
  Total Requested: $743k
  KSU Requested: $487k
  PIs: **James T. Laverty**, Bethany Wilcox (University of Colorado - Boulder), Jayson Nissen (Nissen Education Research and Design)

Rejected

- 2023, NSF ER2, *Collaborative: Physics CARES – Developing Resources for Mentor-Engaged Conversations on Value Tradeoffs*
  Total Requested: $400k
  KSU Requested: $327k
  PIs: **James T. Laverty**, Scott Tanona, Jonathan Herington (University of Rochester)
- 2022, NSF IIR, *Collaborative Research: Developing a 21st Century Assessment Framework for Physics Graduate Programs*
  Total Requested: $1.1M
  KSU Requested: $343k
  PIs: Rachel Henderson (Michigan State University), Jacquelyn Chini (University of Central Florida), **James T. Laverty**
- 2022, APS Innovation Fund (Finalist), *Physics Graduate Assessment Practices (P-GAP): A Landscape Study and Critical Review*
  Total Requested: $200k
  KSU Requested: $200k
  PIs: **James T. Laverty**, Jacquelyn Chini (University of Central Florida)
- 2022, NSF ER2, *Collaborative Research: Enabling Mentor-Led Conversations on Ethical Tradeoffs in Basic Science Research*
  Total Requested: $400k
  KSU Requested: $301k
  PIs: **James T. Laverty**, Jonathan Herington (University of Rochester)
- 2021, NSF CAREER, *CAREER: Research-Based Assessment as Change Agent - Designing to Promote Scientific Practices*
  Requested: $692k
  PI: **James T. Laverty**
- 2019, NSF IUSE, *Collaborative Research: Epistemological Messages in Undergraduate Physics: What our assessments tell students about knowledge*
  Total Requested: $600k

KSU Requested: $305k
PIs: **James T. Laverty**, Rosemary Russ (University of Wisconsin)

- 2019, NSF STS, *Collaborative Research: Standard Grant: The Changing Role of Textbooks in University Physics Education*
  Total Request: $563k
  KSU Requested: $512k
  PIs: **James T. Laverty**, Joanna F. Behrman, Gregory A. Good
- 2018, NSF IUSE, *Collaborative Research: Development and Implementation of a Scalable Assessment of Content and Practices for Upper-Division Thermal and Statistical Physics*
  Total Request: $600k
  KSU Requested: $329k
  PIs: Bethany Wilcox, **James T. Laverty**
- 2018, NSF CAREER, *CAREER: Developing A Next Generation Standardized Assessment for Undergraduate Physics*
  Requested: $600k
  PI: **James T. Laverty**
- 2017, NSF EHR Core Research, *Collaborative Research: Epistemological Messages in Undergraduate Physics: What our assessments tell students about knowledge*
  Requested: $500k
  PIs: **James T. Laverty**, Rosemary Russ (University of Wisconsin)
- 2016, NSF IUSE:EHR, *Collaborative Research: Epistemological Messages in Undergraduate Physics: What our assessments tell students about knowledge*
  Requested: $300k
  PIs: **James T. Laverty**, Rosemary Russ (University of Wisconsin)

Internal Funding

Accepted

- 2022, Global Campus Development Grant, *PHYS 106 Concepts of Physics*
  Award: $12k
  PIs: Janae Mooty, **James T. Laverty**

Rejected

- 2017, SCTE, *Expanding the Learning Assistant Program at Kansas State University*
  Requested: $140k
  PIs: **James T. Laverty**, Glenn Horton-Smith, Tim Bolton, Brandon Lohman, Brett Depaola

Publications

Papers appearing in peer-reviewed journals

1. Tyler Garcia, Bill Bridges, Caitlin Solis, Caleb Linville, Wyatt Jones, Scott Tanona, Jonathan Herington, **James T. Laverty**, *The Effect of Value-Focused Discussions on Scientists' Ethical Decision Making*, (submitted)
2. Amogh Sirnoorkar, **James T. Laverty**, *Theoretical exploration of task features that facilitate student sensemaking in physics*, (in revisions).

3. Melanie M. Cooper, Marcos D. Cabllero, Justin H. Carmel, Erin M. Duffy, **James T. Laverty**, Lynmarie A. Posey, Jon R. Stoltzfus, Ryan L. Stowe, Ryan D. Sweeder, Stuart Tessmer, Sonia M. Underwood, Diane Ebert-May, *Beyond Active Learning: Using 3-Dimensional Learning to Create Scientifically Authentic, Student-Centered Classrooms*, (accepted)
doi:

4. Caleb Linville, Aidan C. Cairns, Tyler Garcia, Bill Bridges, Jonathan Herington, **James T. Laverty**, Scott Tanona, *How Do Scientists Perceive the Relationship Between Ethics and Science?*, Sci Eng Ethics 29, 15, 2023.
doi: 10.1007/s11948-023-00429-1

5. Amogh Sirnoorkar, Paul Bergeron, **James T. Laverty**, *Sensemaking and Scientific Modeling: Intertwined processes analyzed in the context of physics problem solving*, Phys Rev PER, 19, 010118, 2023.
doi: 10.1103/PhysRevPhysEducRes.19.010118

6. Aidan C. Cairns, Caleb Linville, Tyler Garcia, Bill Bridges, Scott Tanona, Jonathan Herington, **James T. Laverty**, *Scientists beliefs about the causes of research misconduct*, Research Ethics, 2021.
doi: 10.1177/17470161211042658

7. Kelli Shar, Rosemary S. Russ, **James T. Laverty**, *Student Epistemological Framing on Paper-Based Assessments*, Phys Rev PER, 16, 020101, 2020.
doi: 10.1103/PhysRevPhysEducRes.16.020101

8. Kinsey Bain, Lydia Bender, Paul Bergeron, Marcos D. Caballero, Justin H. Carmel, Erin M. Duffy, Diane Ebert-May, Cori L. Fata-Hartley, Deborah G. Herrington, **James T. Laverty**, Rebecca L. Matz, Paul C. Nelson, Lynmarie A. Posey, Jon R. Stoltzfus, Ryan L. Stowe, Ryan D. Sweeder, Stuart H. Tessmer, Sonia M. Underwood, Mark Urban-Lurain, Melanie M. Cooper, *Characterizing College Science Instruction: The Three-Dimensional Learning Observation Protocol*, PLoS ONE 15(6): e0234640, 2020.
doi: 10.1371/journal.pone.0234640

9. Rebecca L. Matz, Cori L. Fata-Hartley, Lynmarie A. Posey, **James T. Laverty**, Sonia M. Underwood, Justin H. Carmel, Deborah G. Herrington, Ryan L. Stowe, Marcos D. Caballero, Diane Ebert-May and Melanie M. Cooper, *Evaluating the extent of a large-scale transformation in gateway science courses*, Science Advances, 4(10).
doi: 10.1126/sciadv.aau0554

10. **James T. Laverty**, Marcos D. Caballero, *Analysis of the most common concept inventories in physics: What are we assessing?*, Phys Rev PER, 14, 010123, 2018.
doi: 10.1103/PhysRevPhysEducRes.14.010123

11. **James T. Laverty**, Sonia M. Underwood, Rebecca L. Matz, Lynmarie A. Posey, Justin H. Carmel, Marcos D. Caballero, Cori L. Fata-Hartley, Diane Ebert-May, Sarah E. Jardeleza, Melanie M. Cooper, *Characterizing College Science Assessments: The Three-Dimensional Learning Assessment Protocol*, PLoS ONE 11(9): e0162333. doi: 10.1371/journal.pone.0162333, 2016.

12. Melanie M. Cooper, Marcos D. Caballero, Diane Ebert-May, Cori L. Fata-Hartley, Sarah E. Jardeleza, Joseph S. Krajcik, **James T. Laverty**, Rebecca L. Matz, Lynmarie A. Posey, and Sonia M. Underwood, *Challenge faculty to transform STEM learning*, Science, Vol. 350 no. 6258 pp. 281-282, 2015.

13. **James T. Laverty**, Gerd Kortemeyer, Wolfgang Bauer, and Gary Westfall, *Want to Reduce*

Guessing and Cheating while Making Students Happier? Give More Exams!, The Physics Teacher, Vol. 50, pp. 464-467., 2012

14. **James T. Laverty** and Gerd Kortemeyer, *Function Plot Response: A Scalable System for Teaching Kinematics Graphs*, American Journal of Physics, Vol 80, Issue 8, pp. 724, 2012

15. Roshan Foadi, **James T. Laverty**, Carl R. Schmidt, Jiang-Hao Yu, *Radiative Electroweak Symmetry Breaking in a Little Higgs Model*, JHEP 1006, 026. arxiv.org:1001.0584, 2010

Papers appearing in peer-reviewed conference proceedings

1. Dean A. Zollman, Amogh Sirnoorkar, **James T. Laverty**, *Comparing AI and student responses on variations of questions through the lens of sensemaking and mechanistic reasoning*, in Proceedings of the International Conference on Multimedia in Physics Teaching and Learning, 2024.
   doi: 10.1088/1742-6596/2693/1/012019

2. Amogh Sirnoorkar, **James T. Laverty**, *Analyzing students assumptions to varying degree of prompting during problem solving*, in Proceedings of the Physics Education Research Conference, 2023

3. Dean A. Zollman, Amogh Sirnoorkar, **James T. Laverty**, *Analyzing AI and student responses through the lens of sensemaking and mechanistic reasoning*, in Proceedings of the Physics Education Research Conference, 2023
   *Highlighted as a Notable Paper

4. Bill Bridges, Caitlin Solis, Joshua Barron, Jacquelyn J. Chini, Rachel Henderson, **James T. Laverty**, *Investigating the Assessment Landscape of Physics Graduate Programs*, in Proceedings of the Physics Education Research Conference, 2023

5. Michael Freeman, Amogh Sirnoorkar, **James T. Laverty**, Bethany R. Wilcox, *Applying Voting Theory to Mastery Grading; A Study of Faculty Interpretation of Course-Level Categorical-Score Distributions*, in Proceedings of the Physics Education Research Conference, 2023

6. Amogh Sirnoorkar, Amali Priyanka Jambuge, Katherine D. Rainey, Alexander Adamson, Bethany R. Wilcox, **James T. Laverty**, *Theoretical Approach for Providing Feedback for Instructors Through a Standardized Assessment for Undergraduate Physics*, Proceedings of the International Society of the Learning Sciences, 2023
   https://repository.isls.org/handle/1/9912

7. **James T. Laverty**, Amogh Sirnoorkar, Amali Priyanka Jambuge, Katherine D. Rainey, Joshua Weaver, Alexander Adamson, and Bethany R. Wilcox, *A New Paradigm for Research-Based Assessment Development*, Proceedings of the Physics Education Research Conference, 2022

8. Tyler Garcia, Bill Bridges, Caitlin Solis, Wyatt Jones, Caleb Linville, Scott Tanona, Jon Herington, **James T. Laverty**, *The Effect of Value-Focused Discussions on Scientists Ethical Decision Making*, Proceedings of the Physics Education Research Conference, 2022

9. Amogh Sirnoorkar, **James T. Laverty**, *A methodology for identifying task features that facilitate sensemaking*, Proceedings of the Physics Education Research Conference, 2021

10. Paul D.O. Bergeron, Amogh Sirnoorkar, **James T. Laverty**, *An analytic framework for characterizing student models*, Proceedings of the Physics Education Research Conference, 2021

11. Amali Priyanka Jambuge, Katherine D. Rainey, Bethany R. Wilcox, and **James T. Laverty**, *Assessment feedback: A tool to promote scientific practices in upper-division*, Proceedings of

the Physics Education Research Conference, 2020

12. Katherine D. Rainey, Amali Priyanka Jambuge, **James T. Laverty**, and Bethany R. Wilcox, *Developing coupled, multiple-response assessment items addressing scientific practices*, Proceedings of the Physics Education Research Conference, 2020

13. Tra Huynh, Amali Priyanka Jambuge, Hien Khong, **James T. Laverty**, and Eleanor C Sayre, *Positioning in Groups: The Roles of Expertise and Being in Charge*, 14th International Conference of the Learning Sciences, 2020

14. **James T. Laverty**, Melanie M. Cooper, and Marcos D. Caballero, *Developing the Next Generation of Physics Assessments*, Proceedings of the Physics Education Research Conference, 2015

15. **James T. Laverty**, Stuart H. Tessmer, Melanie M. Cooper, and Marcos D. Caballero, *Engaging Physics Faculty in Course Transformation*, Proceedings of the Physics Education Research Conference, 2014

Presentations and Posters

Invited talks given at professional conferences

1. Jan 2019 **James T. Laverty**, *Assessing Scientific Practices (and Concepts!) in the Lab*, AAPT Winter Meeting, Assessing the Effectiveness of Laboratory Curricula; Houston, TX

2. Jan 2019 **James T. Laverty**, Panelist for *Professional Skills for Graduate Students*, AAPT Winter Meeting; Houston, TX

Invited talks given at departmental colloquia, seminars, and job interviews

1. Mar 2024 **James T. Laverty**, *Improving Physics Assessments - Supporting Students and Instructors*, University of Kansas, Lawrence, KS

2. Oct 2023 Jack Himelright, Roger McHaney, Camila Hernandez Flowerman, **James T. Laverty**, *Philosophy Department Panel on Ethics and AI: "AI and Data Ownership: Navigating the Ethical Labyrinth"*, Kansas State University, Manhattan, KS

3. Feb 2022 **James T. Laverty**, *Advancing Assessment to Support Instructors and Student Learning*, Texas Tech University, Colloquium, Virtual

4. Oct 2021 **James T. Laverty**, *Supporting Physics Teachers and Researchers through PER*, University of Colorado - Boulder, PER Seminar, Virtual

5. Sep 2021 James T. Laverty, Supporting Physics Teachers and Researchers through PER, Kansas State University, Colloquium, Manhattan, KS

6. Feb 2020 **James T. Laverty**, *Bringing the Next Generation of Science to College Classrooms*, University of Nebraska - Omaha, STEM Trail DBER Speaker Series, Omaha, NE

7. Mar 2016 **James T. Laverty**, *Preparing Higher Education for the Next Generation of Physics Students*, Missouri State University, Invited Job Talk, Springfield, MO

8. Mar 2016 **James T. Laverty**, *Characterizing Physics Assessments and Moving to the Next Generation*, University of Colorado - Boulder, PER Seminar, Boulder, CO

9. Mar 2016 **James T. Laverty**, *Initiating and Assessing Transformation in Science Disciplines*, University of Colorado - Boulder, DBER Seminar, Boulder, CO

10. Feb 2016 **James T. Laverty**, *Preparing Higher Education for the Next Generation of Physics Students*, University of Central Florida, Invited Job Talk, Orlando, FL

11. Feb 2016 **James T. Laverty**, *Preparing Higher Education for the Next Generation of Physics Students*, California State University - Chico, Invited Job Talk, Chico, CA
12. Feb 2016 **James T. Laverty**, *Preparing Higher Education for the Next Generation of Physics Students*, Kansas State University, Invited Job Talk, Manhattan, KS
13. Oct 2015, **James T. Laverty**, *Moving Physics Education Forward: Developing the Next Generation of Physics Assessments*, The Ohio State University, Physics Education Research Seminar, Columbus, OH
14. Feb 2015, **James T. Laverty**, *Initiating and Characterizing Transformations in Science Departments at MSU*, Purdue University, Physics Education Research Seminar, Lafayette, IN
15. Jan 2015, **James T. Laverty**, *Transforming Introductory Physics Courses at Michigan State University*, Michigan State University, Physics Education Research Seminar, East Lansing, MI
16. Dec 2014, **James T. Laverty**, *Transforming Introductory Science Courses at Michigan State University*, Wayne State University, Physics Seminar, Detroit, MI
17. May 2014, **James T. Laverty**, Sonia M. Underwood, Rebecca L. Matz, Melanie M. Cooper, Joseph S. Krajcik, Diane Ebert-May, Sarah E. Jardeleza, Cori L. Fata-Hartley, Lynmarie A. Posey, and Marcos D. Caballero, *Creating a Coherent Gateway for STEM Teaching and Learning at MSU*, Institutional Transformation Symposium, Kalamazoo, MI
18. May 2014, Sonia M. Underwood, **James T. Laverty**, Rebecca L. Matz, Melanie M. Cooper, Joseph S. Krajcik, Diane Ebert-May, Sarah E. Jardeleza, Cori L. Fata-Hartley, Lynmarie A. Posey, and Marcos D. Caballero, *Designing a Protocol to Characterize Assessments*, Institutional Transformation Symposium, Kalamazoo, MI
19. May 2014, Rebecca L. Matz, **James T. Laverty**, Sonia M. Underwood, Melanie M. Cooper, Joseph S. Krajcik, Diane Ebert-May, Sarah E. Jardeleza, Cori L. Fata-Hartley, Lynmarie A. Posey, and Marcos D. Caballero, *3D-LOP: Three-Dimensional Learning Observation Protocol*, Institutional Transformation Symposium, Kalamazoo, MI

Talks contributed to professional conferences

1. Jul 2023, **James T. Laverty**, Amogh Sirnoorkar, Alexander Adamson, Tyler Garcia, Michael Freeman, Bill Bridges *A Research-based Assessment to Help You Improve Your Course*, AAPT, Sacramento, CA
2. Jul 2023, Bill Bridges, Caitlin Solis, Joshua Barron, Jacquelyn J Chini, Rachel Henderson, **James T. Laverty**, *Investigating the Assessment Landscape of Physics Graduate Programs*, AAPT, Sacramento, CA
3. Jul 2023, Tyler Garcia, Michael Freeman, Alexander Adamson, Amogh Sirnoorkar, Bethany R Wilcox, **James T. Laverty**, *Content Validation of Tasks through Evidence from Students in Assessments through Interviews*, AAPT, Sacramento, CA
4. Jul 2022, **James T. Laverty**, Amogh Sirnoorkar, Alexander Adamson, Josh Weaver, Bethany Wilcox *Supporting Instructors through Research Based Assessment*, AAPT, Grand Rapids, MI
5. Jul 2022, Amogh Sirnoorkar, **James T. Laverty**, *Analyzing students' sensemaking with algebraic inequalities*, AAPT, Grand Rapids, MI
6. Jul 2022, Bill Bridges, Tyler Garcia, Caleb Linville, Wyatt Jones, Caitlin Solis, Scott Tanona, Jon Herington, **James T. Laverty**, *Identifying Epistemic Frames in Faculty Discourse Cen-*

tered around Ethics, AAPT, Grand Rapids, MI

7. Jul 2022, Tyler Garcia, Bill Bridges, Caleb Linville, Caitlin Solis, Scott Tanona, Jon Herington, **James T. Laverty** *Effect of Value-Focused Discussions on Scientists Ethical Decision Making*, AAPT, Grand Rapids, MI

8. Jul 2022, Paul Bergeron, **James T. Laverty**, *Assessing Students' Knowledge and Skills with 3 Dimensional Learning*, AAPT, Grand Rapids, MI

9. Jul 2022, Juan Yang, **James T. Laverty**, Eleanor Sayre, *Comparing introductory physics courses in the US and China*, AAPT, Grand Rapids, MI

10. Aug 2021, Katherine D. Rainey, Amali Priyanka Jambuge, Amogh Sirnoorkar, **James T. Laverty**, Bethany R. Wilcox, *An Assessment for Upper-Division Thermal Physics Addressing Three-Dimensional Learning*, AAPT, Online

11. Aug 2021, Amali Priyanka Jambuge, James T. Laverty, Katherine Rainey, Amogh Sirnoorkar, Bethany Wilcox, Research-based Assessment Feedback for Instructors, AAPT, Online

12. Aug 2021, Amogh Sirnoorkar, **James T. Laverty**, *A Methodology for Identifying Task Features that Facilitate Sensemaking*, AAPT, Online

13. Aug 2021, Tyler Garcia, Bill Bridges, Caleb Linville, Aidan C. Cairns, Jonathan Herington, Scott Tanona, **James T. Laverty**, *Roles of goals and values in ethical discussions*, AAPT, Online

14. Aug 2021, Bill Bridges, Tyler Garcia, Caleb Linville, Aidan C. Cairns, Jonathan Herington, Scott Tanona, **James T. Laverty**, *Identifying Epistemic Games in Faculty Discourse of Values in Science*, AAPT, Online

15. Apr 2021, **James T. Laverty**, Bethany R. Wilcox, Amali Priyanka Jambuge, Katherine D. Rainey, Amogh Sirnoorkar *Development of a Thermal and Statistical Physics Assessment*, APS April Meeting, Online

16. Feb 2021, Aidan C. Cairns, Scott Tanona, Jon Herington, **James T. Laverty**, *Scientists' beliefs about the causes of research misconduct*, APPE Simulive Presentation, Online

17. Feb 2021, Caleb Linville, Jon Herington, **James T. Laverty**, Scott Tanona, *Science before Ethics: Scientists' Conception of the Relationship between Ethical and Epistemic Values*, APPE Flash Presentation, Online

18. Jan 2021, Tyler Garcia, **James T. Laverty**, *Scientists Views on Ethics in their Research*, AAPT, Online

19. Jan 2021, Amali Priyanka Jambuge, **James T. Laverty**, Bethany R. Wilcox, Katherine D. Rainey, *Designing Research-based Assessment Feedback for Instructors*, AAPT, Online

20. Jul 2020, **James T. Laverty**, *3DL4US Project: Examining College Assessments in the Age of NGSS*, AAPT & PERC, Online

21. Jul 2020, Paul Bergeron, Paul Nelson, **James T. Laverty**, *3DL4US Project: Characterizing NGSS 3-Dimensionality in College Instruction*, AAPT & PERC, Online

22. Jul 2020, Paul Nelson, Paul Bergeron, **James T. Laverty**, *3DL4US Project: Implementation Hinges on Scientific Practices*, AAPT & PERC, Online

23. Jul 2020, Amali Priyanka Jambuge, **James T. Laverty**, *Making inferences about students abilities in Using Math in Assessments*, AAPT & PERC, Online

24. Jul 2020, Hien Khong, **James T. Laverty**, *Assessing Students in Planning Investigations*, AAPT & PERC, Online

25. Jul 2020, Lydia Bender, **James T. Laverty**, *How Faculty Take Up Ideas from a Professional Development Program*, AAPT & PERC, Online

26. Jul 2019, Nicole Coon, Scott Tanona, Jon Herington, **James T. Laverty**, *Assessing Motivations to Engage in Responsible Conduct of Research*, AAPT, Provo, UT

27. Jul 2019, Amali Priyanka Jambuge, **James T. Laverty**, *How Can We Assess Scientific Practices? The Case of "Using Mathematics"*, AAPT, Provo, UT

28. Jul 2019, Hien Khong, **James T. Laverty**, *How Can We Design Assessment Tasks for "Planning Investigations"*, AAPT, Provo, UT

29. Jul 2019, Kelli Shar, Rosemary Russ,**James T. Laverty**, *Influence of Assessment Features on Student Epistemologies*, AAPT, Provo, UT

30. Jul 2019, Lydia Bender, **James T. Laverty**, *How Faculty Perceptions of Three-Dimensional Learning Change Over Time*, AAPT, Provo, UT

31. Jul 2018, **James T. Laverty**, *The Long-Term Impact of Course Reforms*, AAPT, Washington DC

32. Jul 2018, Katherine C. Ventura, **James T. Laverty**, *Engaging Students in Developing and Using Models through Assessment*, AAPT, Washington DC

33. Jul 2018, Amali Priyanka Jambuge **James T. Laverty**, *Students' Use of Mathematics While Working on Physics Assessments*, AAPT, Washington DC

34. Jan 2018, **James T. Laverty**, Katherine Ventura, Amali Priyanka Jambuge, *Can Assessments Tell Us if Students Engage in Scientific Practices?*, AAPT, San Diego, CA

35. Jul 2017, **James T. Laverty**, Brett R. Kippley, *Developing Research Assessments for the Next Generation of Student Learning*, AAPT, Covington, KY

36. Feb 2017, **James T. Laverty**, *A New Instrument to Develop Assessments that Align with PER*, AAPT, Atlanta, GA

37. Oct 2016, **James T. Laverty**, *Developing Assessments that Align with PER*, AAPT AOK Sectional Meeting, Emporia, KS

38. Jul 2016, **James T. Laverty**, *Concept Inventories and the Next Generation of Assessment*, AAPT, Sacramento, CA

39. Jul 2015, **James T. Laverty**, *Integrating Scientific Practices into Introductory Physics Assessments*, AAPT, College Park, MD

40. Apr 2015, **James T. Laverty**, Sonia M. Underwood, Melanie M. Cooper, Marcos D. Caballero, Diane Ebert-May, Joseph S. Krajcik, Cori Fata-Hartley, Rebecca L. Matz, Lynmarie Posey, Sarah Jardeleza, *Characterizing Assessments Using the Three-Dimensional Learning Assessment Protocol (3D-LAP)*, NARST, Chicago, IL

41. Apr 2015, Rebecca L. Matz, **James T. Laverty**, Sarah Jardeleza, Claire M. Morrison, Zachary D. Nusbaum, Sonny A. Ly, Diane Ebert-May, Joseph S. Krajcik, Marcos D. Caballero, Melanie M. Cooper, *Investigating Change in Classroom Instruction of Scientific Practices, Crosscutting Concepts, and Core Ideas*, NARST, Chicago, IL

42. Oct 2014, Sonia M. Underwood, **James T. Laverty**, Melanie M. Cooper, Joseph S. Krajcik, Marcos D. Caballero, Diane Ebert-May, Rebecca L. Matz, Lynmarie A. Posey, Sarah E. Jardeleza, *Creating a Coherent STEM Gateway for Teaching and Learning: An AAU STEM Initiative Project*, Transforming Institutions, Indianapolis, IN

43. Jul 2014, **James T. Laverty**, Stuart H. Tessmer, Marcos D. Caballero, *Integrating Practices and Core Ideas into Introductory Physics Courses*, AAPT, Minneapolis, MN

44. Oct 2013, **James T. Laverty** and Marcos D. Caballero, *The First Steps to Transforming Introductory Physics at Michigan State*, MI-AAPT Fall, Roscommon, MI

45. Jul 2012, **James T. Laverty** and Gerd Kortemeyer, *Teaching Students Graphs: Construction*

vs. Intepretation, AAPT, Philadelphia, PA

46. Apr 2012, **James T. Laverty** and Gerd Kortemeyer, *Expanding Online Homework Systems with Student Generated Graphs and Diagrams*, MI-AAPT, Allendale, MI

47. Aug 2011, **James T. Laverty** and Gerd Kortemeyer, *Expanding LON-CAPA Homework Sets to Include Student-Generated Graphs*, AAPT, Omaha, NE

48. Feb 2011, **James T. Laverty** and Gerd Kortemeyer, *Student Generated Graphs in LON-CAPA*, LON-CAPA Conference, Richmond, VA

Posters contributed to professional conferences

1. Jul 2023, Tyler Garcia, Michael Freeman, Alexander Adamson, Amogh Sirnoorkar, Bethany R. Wilcox, **James T. Laverty**, *Content Validation of Tasks Through Evidence from Students in Assessments Through Interviews*, AAPT, Sacramento, CA

2. July 2023, Michael Freeman, Amogh Sirnoorkar, **James T. Laverty**, Bethany R. Wilcox, *Using Voting Theory to Guide Assessment Feedback; A Study of Faculty Interpretation of Class Score Distributions*, AAPT, Sacramento, CA

3. Jul 2023, Amogh Sirnoorkar, **James T. Laverty**, *Analyzing students assumptions to varying degree of prompting during problem solving*, PERC, Sacramento, CA

4. Jul 2023, Bill Bridges, Caitlin Solis, Joshua Barron, **James T. Laverty**, Jacquelyn J. Chini, Rachel Henderson, *Investigating the Assessment Landscape of Physics Graduate Programs*, PERC, Sacramento, CA

5. Jul 2023, Tyler Garcia, Michael Freeman, Amogh Sirnoorkar, Bethany R. Wilcox, **James T. Laverty**, *Interview Validation of Tasks Assessing Knowledge-In-Use*, PERC, Sacramento, CA

6. July 2023, Parker Poulos, Bethany R. Wilcox, **James T. Laverty**, *Instructor Expectations and Reactions Toward Assessment Feedback*, Sacramento, CA

7. July 2023, Michael Freeman, Amogh Sirnoorkar, **James T. Laverty**, Bethany R. Wilcox, *Categorical-Score Distributions*, PERC, Sacramento, CA

8. Jul 2022, **James T. Laverty**, Amogh Sirnoorkar, Alexander Adamson, Josh Weaver, Bethany Wilcox, *Supporting Instructors through Research Based Assessment*, AAPT/PERC, Grand Rapids, MI

9. Jul 2022, Tyler Garcia, Bill Bridges, **James T. Laverty**, Caitlin Solis, Wyatt Jones, Scott Tanona, Jonathon Herington *The Effect of Value-Focused Discussions on Scientists' Ethical Decision Making*, AAPT/PERC, Grand Rapids, MI

10. Jul 2022, Bill Bridges, Tyler Garcia, Caleb Linville, Wyatt Jones, Caitlin Solis, Scott Tanona, Jonathon Herington, **James T. Laverty**, *Identifying Epistemic Frames in Faculty Discourse Centered around Ethics*, AAPT/PERC, Grand Rapids, MI

11. Jul 2022, Paul Bergeron, **James T. Laverty**, *Using 3 Dimensional Learning to Improve Student Learning on Assessments*, AAPT/PERC, Grand Rapids, MI

12. Jul 2022, Juan Yang, Eleanor Sayre, **James T. Laverty**, *Comparing Introductory Physics Courses in the US and China*, PERC, Grand Rapids, MI

13. Jul 2022, Amogh Sirnoorkar, **James T. Laverty**, *Analyzing students' sensemaking with algebraic inequalities*, PERC, Grand Rapids, MI

14. Jul 2022, Bethany Wilcox, Amogh Sirnoorkar, **James T. Laverty**, *Developing actionable feedback statements for research-based assessments*, AAPT, Grand Rapids, MI

15. Oct 2021, Tyler Garcia, Bill Bridges, Caleb Linville, Aidan C. Cairns, Jonathan Herington,

Scott Tanona, **James T. Laverty**, *The effect of value-focused discussions on scientists' ethical reasoning*, National Diversity in STEM Conference, Online

16. Aug 2021, Amali Priyanka Jambuge, Katherine D. Rainey, Bethany R. Wilcox, **James T. Laverty**, *Conceptualizing Assessments in PER Informed by Explicit Feedback for Instructors*, PERC, Online

17. Aug 2021, Amogh Sirnoorkar, **James T. Laverty**, *A methodology for identifying task features that facilitate sensemaking*, AAPT & PERC, Online

18. Aug 2021, Tyler Garcia, Bill Bridges, Caleb Linville, Aidan C. Cairns, Jonathan Herington, Scott Tanona, **James T. Laverty**, *The effect of value-focused discussions on scientists' ethical reasoning*, PERC, Online

19. Aug 2021, Bill Bridges, Tyler Garcia, Caleb Linville, Aidan C. Cairns, Jonathan Herington, Scott Tanona, **James T. Laverty**, *Identifying epistemic games in faculty discussions about values in science*, PERC, Online

20. Aug 2021, Katherine D. Rainey, Amali Priyanka Jambuge, Amogh Sirnoorkar, **James T. Laverty**, Bethany R. Wilcox, *A Knowledge-in-Use Assessment for Upper-Division Thermal Physics*, AAPT, Online

21. Aug 2021, Katherine D. Rainey, Amali Priyanka Jambuge, Amogh Sirnoorkar, **James T. Laverty**, Bethany R. Wilcox, *Faculty Perceptions of Three-Dimensional Learning Performances Addressing Thermal Physics*, PERC, Online

22. Aug 2021, Paul D.O. Bergeron, Amogh Sirnoorkar, **James T. Laverty**, *Student Engagement in the Practice of Developing and Using Models*, AAPT, Online

23. Aug 2021, Paul D.O. Bergeron, Amogh Sirnoorkar, **James T. Laverty**, *An analytic framework for characterizing student models*, PERC, Online

24. Jul 2020, Amali Priyanka Jambuge, Katherine Rainey, Bethany Wilcox, **James T. Laverty**, *Assessment feedback: A tool to promote scientific practices in upper-division*, AAPT & PERC, Online

25. Jul 2020, Katherine Rainey, Amali Priyanka Jambuge, **James T. Laverty**, Bethany Wilcox, *Addressing Scientific Practices with Upper-Division Physics Assessment Items*, AAPT, Online

26. Jul 2020, Katherine Rainey, Amali Priyanka Jambuge, **James T. Laverty**, Bethany Wilcox, *Developing coupled, multiple-response assessment items addressing scientific practices*, PERC, Online

27. Jul 2020, Hien Khong, **James T. Laverty**, *Examining students engagement in Planning Investigations practice in a written exam*, AAPT & PERC, Online

28. Jul 2020, Lydia G Bender, **James T. Laverty**, *How Faculty Take Up Ideas from a Professional Development Program*, AAPT & PERC, Online

29. Nov 2019, Matthew Mikota, **James T. Laverty**, *Two worlds: Identifying How Students Translate between the Real World Context and the Physics world Context*, PHYSCON, Providence, RI

30. Jul 2019, Amali Priyanka Jambuge, **James T. Laverty**, *How Can We Assess Scientific Practices? The Case of "Using-Mathematics"*, AAPT & PERC, Provo, UT

31. Jul 2019, Lydia G. Bender, **James T. Laverty**, *How Faculty Take Up Ideas from a Professional Development Setting*, AAPT & PERC, Provo, UT

32. Jul 2019, Kelli Shar, Rosemary S. Russ, **James T. Laverty**, *Investigating the Influence of Assessment on Student Epistemology in Physics*, AAPT & PERC, Provo, UT

33. Jul 2019, Hien Khong, **James T. Laverty**, *How Do We Develop Assessment Tasks for*

Planning Investigations, AAPT & PERC, Provo, UT

34. Jul 2019, Alexander N. Coon, Scott Tanona, Jonathan Herington, **James T. Laverty**, *Assessing Motivations to Engage in Responsible Conduct of Research*, AAPT & PERC, Provo, UT

35. Jul 2018, Amali Priyanka Jambuge, **James T. Laverty**, *Students Use of Mathematics While Working on Physics Assessments*, AAPT & PERC, Washington DC

36. Jul 2018, Lydia G. Bender, **James T. Laverty**, *Research Proposal: Developing and Evaluating the Effectiveness of Three-Dimensional Materials in a General Physics Classroom*, AAPT & PERC, Washington DC

37. Jul 2018, Virginia M. Coghlan, **James T. Laverty**, *Investigating Student Perceptions of Learning Assistants*, AAPT & PERC, Washington DC

38. Jul 2018, Kelli Shar, Rosemary S. Russ, **James T. Laverty**, *Investigating the Influence of Assessment Questions on Student Epistemological Resources in Physics*, AAPT & PERC, Washington DC

39. Jul 2018, Bryan Stanley, **James T. Laverty**, *Comparing Assessment Data Between Learning and Teaching Assistant Supported Studios*, AAPT & PERC, Washington DC

40. Jul 2018, Hien Khong, **James T. Laverty**, *Assessing Students in Planning Investigations*, AAPT & PERC, Washington DC

41. Jul 2018, Katherine C. Ventura, **James T. Laverty**, *Engaging Students in Developing and Using Models through Assessments*, AAPT & PERC, Washington DC

42. Mar 2018, Eduardo Velazquez, **James T. Laverty**, *Video Analysis of Argument and Explanation in an Introductory Classroom*, APS March Meeting, Los Angeles, CA

43. Feb 2018, Juan Hernandez, Alexander Coon, **James T. Laverty**, *Evaluation of Three-Dimensional Learning in University Physics Textbook Assessments Using the Three-Dimensional Learning Assessment Protocol*, Emerging Researchers Network Conference, Washington DC

44. Jul 2017, Katherine C. Ventura, **James T. Laverty**, *Do Assessments Engage Students in Scientific Practices?*, AAPT & PERC, Covington, KY

45. Jul 2017, Eduardo A. Velazquez, **James T. Laverty**, *Video Analysis of Argument and Explanation in an Introductory Classroom*, AAPT & PERC, Covington, KY

46. Jul 2016, **James T. Laverty**, and Marcos D. Caballero *Concept Inventories and the Next Generation of Assessment*, AAPT & PERC, Sacramento, CA

47. Feb 2016, **James T. Laverty**, Rebecca L. Matz, Sonia M. Underwood, Sarah E. Jardeleza, Justin H. Carmel, Cori L. Fata-Hartley, Lynmarie Posey, Joseph S. Krajcik, Diane Ebert-May, Marcos D. Caballero, and Melanie M. Cooper, *Investigating Assessments in Gateway College Science Courses*, CREATE for STEM Miniconference, East Lansing, MI

48. Oct 2015, **James T. Laverty**, Sonia M. Underwood, Rebecca L. Matz, Sarah E. Jardeleza, Cori L. Fata-Hartley, Lynmarie Posey, Joseph S. Krajcik, Diane Ebert-May, Marcos D. Caballero, Melanie M. Cooper, *Designing Three-Dimensional Learning Assessments for Introductory College Science Courses*, AAU STEM Networking Conference, Saint Louis, MO

49. Jul 2015, **James T. Laverty**, *Characterizing Assessments for Three-Dimensional Learning*, AAPT & PERC, College Park, MD

50. Apr 2015, Sonny A. Ly, Sarah E. Jardeleza, Rebecca L. Matz, **James T. Laverty**, Sonia M. Underwood, Cori L. Fata-Hartley, Lynmarie Posey, Joseph S. Krajcik, Diane Ebert-May, Marcos D. Caballero, Melanie M. Cooper, *Questions in the Classroom: How Often do Students Respond?*, University Undergraduate Research and Arts Forum (UURAF), Michigan State

University, East Lansing, MI

51. Feb 2015, **James T. Laverty**, Sonia M. Underwood, Rebecca L. Matz, Sarah E. Jardeleza, Cori L. Fata-Hartley, Lynmarie Posey, Joseph S. Krajcik, Diane Ebert-May, Marcos D. Caballero, Melanie M. Cooper, *Designing Three-Dimensional Learning Assessments for Introductory College Science Courses*, CREATE for STEM Mini-Conference, East Lansing, MI

52. Feb 2015, Zachary D. Nusbaum, Sonny A. Ly, Claire M. Morrison, Keenan L. Noyes, Sarah E. Jardeleza, Rebecca L. Matz, **James T. Laverty**, Sonia M. Underwood, Cori L. Fata-Hartley, Lynmarie Posey, Joseph S. Krajcik, Diane Ebert-May, Marcos D. Caballero, Melanie M. Cooper, *Comparing Teaching Activities in Gateway Science Courses*, CREATE for STEM Mini-Conference, East Lansing, MI

53. Jul 2014, **James T. Laverty**, Sonia M. Underwood, Melanie M. Cooper, Joseph S. Krajcik, Diane Ebert-May, Sarah E. Jardeleza, Rebecca L. Matz, Cori L. Fata-Hartley, Lynmarie A. Posey, and Marcos D. Caballero, *Measuring Change in Introductory Courses with Three Dimensional Learning Analytics*, AAPT & PERC, Minneapolis, MN

54. Apr 2014, **James T. Laverty**, Stuart H. Tessmer, and Marcos D. Caballero, *Integrating Practices and Core Ideas into MSU's Introductory Physics Courses*, MI-AAPT Spring, Kalamazoo, MI

55. Feb 2014, **James T. Laverty**, Melanie M. Cooper, Diane Ebert-May, Marcos D. Caballero, Joseph S. Krajcik, *Creating a Coherent Gateway for STEM Teaching and Learning at MSU* CREATE for STEM Mini-Conference, East Lansing, MI

56. Feb 2014, **James T. Laverty**, Stuart H. Tessmer, and Marcos D. Caballero, *Integrating Practices and Core Ideas into MSU's Introductory Physics Courses*, CREATE for STEM Mini-Conference, East Lansing, MI

57. Aug 2012, **James T. Laverty** and Gerd Kortemeyer, *Students and Graphing: Construction vs. Interpretation*, PERC, Philadelphia, PA

58. May 2012, **James T. Laverty** and Gerd Kortemeyer, *Students and Graphing: Three Related Studies*, CREATE for STEM Mini-Conference, East Lansing, MI

59. Aug 2011, **James T. Laverty** and Gerd Kortemeyer, *A Scalable System for Teaching Graphs*, PERC, Omaha, NE

Workshops given at professional conferences

1. Jul 2023, **James T. Laverty**, *Developing the Next Generation of Physics Assessments*, AAPT Summer Meeting, Sacramento, CA

2. Jul 2022, **James T. Laverty**, *Developing the Next Generation of Physics Assessments*, AAPT Summer Meeting, Grand Rapids, MI

3. Jul 2021, **James T. Laverty**, *Developing the Next Generation of Physics Assessments*, AAPT Summer Meeting, Online

4. Jul 2020, **James T. Laverty**, *Developing the Next Generation of Physics Assessments*, AAPT Summer Meeting, Online

5. Jul 2019, **James T. Laverty**, *Developing the Next Generation of Physics Assessments*, AAPT Summer Meeting, Provo, UT

6. Jul 2017, **James T. Laverty**, Marcos D. Caballero, *Developing the Next Generation of Physics Assessments*, AAPT Summer Meeting, Covington, KY

7. Jul 2016, **James T. Laverty**, Marcos D. Caballero, *Developing the Next Generation of Physics Assessments*, AAPT Summer Meeting, Sacramento, CA

8. Apr 2014, **James T. Laverty**, Steven F. Wolf, and Marcos D. Caballero, *Integrating Practices and Core Ideas into Introductory Physics Courses*, MI-AAPT Spring, Kalamazoo, MI

Students & Mentees

- **Postdoctoral Researchers**
    1. Paul Bergeron (MSU), Aug 2019-Aug 2022
- **Graduate Students - Advisor**
    - Ph.D.
        1. Yohanes Dua, Aug 2023-Present
        2. Parker Poulos, Aug 2022-Present
        3. Bill Bridges, Jan 2021-Present
        4. Tyler Garcia, Aug 2020-May 2024
           Dissertation: *Investigating Changes in Scientists' Ethical Decision Making and Course Design*,
           `https://hdl.handle.net/2097/44337`
        5. Amogh Sirnoorkar, Jul 2020-Aug 2023
           Dissertation: *Development and analysis of assessments that promote sensemaking in physics*,
           `https://hdl.handle.net/2097/43342`
        6. Amali Priyanka Jambuge, Jun 2017-Dec 2021
           Dissertation: *Research-based assessment design in physics: including scientific practices and feedback for physics faculty*,
           `https://hdl.handle.net/2097/41725`
    - M.S.
        1. Katelynn Hubenig, Apr 2023-Aug 2023
           Report: *The Foundation and Building Blocks of Inclusive and Equitable Classrooms in STEM*,
           `https://hdl.handle.net/2097/43442`
        2. Lydia G. Bender, Jan 2018-Aug 2020
           Thesis: *Influences on faculty uptake from a faculty learning community*,
           `https://hdl.handle.net/2097/40803`
        3. Santosh Budhathoki, Aug 2017-Aug 2019
           Thesis: *How does a reformed course look after many years? A case study of the reformed calculus-based introductory physics course at KSU.*,
           `http://hdl.handle.net/2097/39743`
        4. Virginia M. Coghlan, Aug 2017-May 2019
           Thesis: *Investigating student perceptions of learning assistants*,
           `http://hdl.handle.net/2097/39653`
- **Graduate Students - Committee Member**
    - Ph.D.
        1. Lauren Carroll-Kibisov - Physics, HEP
        2. Kristin Wright - Counseling & Student Development
        3. Adriana Ortiz-Aquino - Math (2024)
        4. Chris Hass - Physics, PER (2023)

5. Hien Khong - Physics, PER (2022)
6. Joshua Miller - Math (2021)
7. Tra Thi Thanh Huynh - Physics, PER (2020)
8. Dina Zohrabi-Alaee - Physics, PER (2020)
9. Abdul Halim - Civil Engineering (2020)
10. Ashley Shaw - Special Education (2019)
11. Nandana Weliweriya - Physics, PER (2019)
12. Bahar Modir - Physics, PER (2017)
  ○ M.S.
    1. Shamna Trivedi - Physics, Condensed Matter (2024)
    2. Kelley Ruhnow - Physics, High Energy (2021)
    3. Peter Anderson - Physics, AMO (2021)
    4. Praful Gagrani - Physics, Cosmology (2018)

- **Undergraduate Students - Departmental Advisor**
  1. Josh Barron, Feb 2023-Present
  2. Caitlin Solis, Feb 2021-Present
- **Undergraduate Students - Research Supervisor**
  1. Josh Barron, Jan 2023-May 2023
  2. Caitlin Solis, Sep 2021-Dec 2023
  3. Alex Adamson, Sep 2021-Aug 2023
  4. Wyatt Jones, Sep 2021-Dec 2022
  5. Josh Weaver, Sep 2021-Aug 2022
  6. Caleb Linville, Jan 2020-Aug 2022
  7. Aidan Cairns, Aug 2019-Sep 2021
  8. Matthew Mikota (REU), Jun 2019-Aug 2019
  9. Kelli Shar (REU), Jun 2018-Jul 2020
  10. Bryan Stanley (REU), Jun 2018-Aug 2018
  11. Sarah Peterson, Aug 2017-July 2019
  12. Nicole Coon, Jun 2017-Dec 2019
  13. Juan Hernandez (LS-AMP RiPS), Jun 2017-Dec 2017
  14. Eduardo Velazquez (REU), Jun 2017-Aug 2017
  15. Brett R. Kippley, Nov 2016-Jul 2018
  16. Katherine C. Ventura, Oct 2016-Dec 2018
- **Graduate Students - Teaching Supervisor**
  1. Devon Romine (Fall 2022, Spring 2023)
  2. Lauren Carroll (Fall 2020)
  3. Tien Phan (Fall 2020)
  4. Peter Anderson (Fall 2019, Fall 2020)
  5. Chris Hass (Fall 2018)
  6. Kelley Daenzer (Fall 2018)
  7. Ajib Paudel (Fall 2016)
- **Undergraduate Students - Teaching Supervisor**
  1. Jesus Becerra (Fall 2022)
  2. Corbin Allison (Fall 2021, Fall 2022)
  3. Aurora Meyer (Fall 2019, Fall 2021)

4. Nicole Coon (Fall 2019)
5. Alexandra Davidson (Fall 2019)
6. Erin O'Toole (Fall 2019)
7. Rebecca Swartz (Fall 2018)
8. Zoe Cosgrove (Spring 2017, Fall 2018)
9. Benjamin Emerson (Spring 2018)
10. Abigail Hilliard (Fall 2017)
11. Halle Kutsche (Fall 2017)
12. Matt McWhorter (Fall 2017)
13. Alexandra Lyle (Spring 2017)

- **Undergraduate Students - Teaching Mentor (LA Program)**
    1. Audrey Irvine (Spring 2024)
    2. Ben Monday (Spring 2024)
    3. Andy Robinson (Spring 2024)
    4. Phillip Shirkey (Spring 2024)
    5. Caitlin Solis (Spring 2024)
    6. Savanna Stewart (Spring 2024)
    7. Sarah Baden (Fall 2023)
    8. Jacob Gordon (Fall 2023)
    9. Logan Sanders (Fall 2023)
    10. Nikolas Siler (Fall 2023)
    11. Eleanor Braynock (Spring 2023)
    12. Rachel Humbert (Spring 2023)
    13. Allie Jensen (Spring 2023)
    14. Grace Tsen (Spring 2023)
    15. Josh Barron (Spring 2022)
    16. Jackson Biel (Spring 2022)
    17. Shelby Clinton (Spring 2022)
    18. Kaden Saucedo (Spring 2022)
    19. Kale Stahl (Spring 2022)
    20. Morgan Woodsmall (Spring 2022)
    21. Carly Byrne (Fall 2019)
    22. Cade Ifland (Fall 2019)
    23. Reilly Jensen (Fall 2019)
    24. Jared Medina (Fall 2019)
    25. Bob Morris (Fall 2019)
    26. Garret Prendergast (Fall 2019)
    27. Allison Wheeler (Fall 2019)
    28. Emilee Agnew (Spring 2019, Fall 2019)
    29. Alex Arnold (Spring 2019, Fall 2019)
    30. Aidan Cairns (Spring 2019, Fall 2019)
    31. Kathryn Collins (Spring 2019, Fall 2019)
    32. Julia Deeb (Spring 2019)
    33. Ethan George (Spring 2019, Fall 2019)
    34. Creighton Glasscock (Spring 2019, Fall 2019)

35. Seth Hensarling (Spring 2019, Fall 2019)
36. Braeden Ingold (Spring 2019, Fall 2019)
37. Nathan Jackson (Spring 2019, Fall 2019)
38. Po-Yu Lai (Spring 2019)
39. Kaden Lewis (Spring 2019, Fall 2019)
40. Kaleb Mekonnen (Spring 2019)
41. Antone Novelly (Spring 2019)
42. Kelsey Robinett (Spring 2019, Fall 2019)
43. Tavian Ward (Spring 2019)
44. Reed Adams (Fall 2018, Spring 2019, Fall 2019)
45. Philip Lucas (Fall 2018, Spring 2019, Fall 2019)
46. Riley Mitts (Fall 2018)
47. Rhett Pierce (Fall 2018, Spring 2019)
48. Rebecca Swartz (Fall 2018)
49. Benjamin Archibeque (Spring 2018)
50. Garrett Binns (Spring 2018, Fall 2018, Spring 2019)
51. Macey Elkington (Spring 2018)
52. Benjamin Emerson (Spring 2018, Fall 2018, Spring 2019)
53. Juan Hernandez (Spring 2018, Fall 2018, Spring 2019)
54. Jacob Hutchins (Spring 2018, Fall 2018, Fall 2019)
55. Thomas Lasnier (Spring 2018)
56. T-Ying Lin (Spring 2018, Fall 2018, Spring 2019, Fall 2019)
57. Heather McGee (Spring 2018)
58. Matt McWhorter (Spring 2018, Fall 2018)
59. Erin O'Toole (Spring 2018, Fall 2018, Spring 2019)
60. Ryan Schamberger (Spring 2018, Fall 2018, Spring 2019)
61. Ethan Zajac (Spring 2018, Fall 2018, Spring 2019, Fall 2019)
62. David Beckley (Fall 2017)
63. Benjamin Damm (Fall 2017)
64. Jared Fangman (Fall 2017, Spring 2018, Fall 2018, Spring 2019, Fall 2019)
65. Jacob Kraus (Fall 2017, Spring 2018, Fall 2018)
66. Angie Mitchell (Fall 2017)
67. Jared Schuler (Fall 2017, Spring 2018, Spring 2019, Fall 2019)
68. Camden Wenger (Fall 2017)
69. Connelly White (Fall 2017, Spring 2018, Fall 2018, Spring 2019, Fall 2019)
70. Nicole Coon (Spring 2017, Fall 2017, Spring 2018, Fall 2018, Spring 2019)
71. Zoe Cosgrove (Spring 2017, Spring 2018)
72. Kristen Jones (Spring 2017)
73. Alexandra Davidson (Spring 2017, Fall 2017, Spring 2018, Fall 2018, Spring 2019)

Service & Community Partnership

- **American Physical Society (APS)**
  - Jan 2023-Dec 2025 - Ethics Committee Member

- **NSF**
  - 2021 Proposal reviewer (panelist), NSF-DUE
- **KSU Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (K-SACNAS) Chapter**
  - January 2020-Present, Faculty Advisor
- **Flint Hills Discovery Center**
  - Apr 2019-Apr 2025, Advisory Board Member
- **Learning Assistant Program**
  - Jan 2017-Present, Program Director
  - Fall 2016-Present, Recruiting and Hiring LAs
  - Spring 2020, Started LA Program in General Physics I
  - Fall 2019, Started LA Program in General Physics II
  - Fall 2018, Started LA Program in Concepts of Physics
  - Spring 2017, Started LA Program in Engineering Physics II
  - Spring 2017, Oversaw the experience of the LAs in the program
  - Spring 2017, Started LA Program in Engineering Physics I
  - Fall 2016, Organized LA recruitment and initiated LA Program
- **Kansas State University Committees**
  - Physics Department
    * August 2023-Present, Vertical Integration Committee (chair)
    * August 2022-Present, Departmental Exam Committee
    * August 2022-Present, Assessment Committee (chair)
    * April 2022-July 2022, Teaching Professor Hiring Committee
    * December 2021-March 2022, Department Head Search Committee
    * January 2017-Present, Undergraduate Recruitment Committee
    * August 2017-December 2019, Graduate Student Recruitment and Selection Committee
    * February 2017-December 2017, Ad Hoc Space Committee
    * February 2017-May 2017, Ad Hoc Entrepreneurship Committee
  - College of Arts and Sciences
    * April 2019-Present, Diversity Committee
- **AAPT**
  - Jan 2018-Jan 2019, Ex-Officio Member, Physics Education Research Leadership and Organizing Council (PERLOC)
  - Jan 2018-Jan 2019, Chair; Committee on Research in Physics Education (RiPE)
  - Jan 2017-Jan 2018, Vice-Chair; Committee on Research in Physics Education (RiPE)
  - Nov 2017-Oct 2018, Member; Ad Hoc Committee on Code of Conduct
  - Jan 2016-Jan 2017, Member; Committee on Research in Physics Education (RiPE)
- **Reviewer for:**
  - 2021-Present, *Journal of Chemical Education*
  - 2020-Present, *Science Advances*
  - 2015-Present, *Physical Review - Physics Education Research*
  - 2014-Present, *Journal of Research in Science Teaching*
  - 2014-Present, *The Physics Teacher*
  - 2015-2021, *American Journal of Physics*

- **MI-AAPT Section meetings**
  - April 2015, Event Coordinator
- **Impression 5 Science Center**
  - February 2016, Event Coordinator: Physics and Astronomy Day
  - November 2015 - April 2016, Planet Walk Redesign Team
  - February 2015, Event Coordinator: Physics and Astronomy Day
  - January 2014 - July 2016, Weekly Volunteer
- **Michigan State Science Olympiad**

  Event Coordinator
  - 2016, It's About Time (C)
  - 2015, It's About Time (C)
  - 2014, Metric Mastery (B)
  - 2013, Metric Mastery (B)

  Event Staff
  - 2012, Write It, Do It (B), Compute This (B)
  - 2011, Optics (B, C), Sumo Bots (C)
  - 2010, It's About Time (C)