Todd R. Kelley

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Purdue University
Department of Technology Leadership and Innovation
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Education

Fall 2005- 2008 University of Georgia Athens, GA

- **Ph.D.** NCETE Graduate Fellow, Department of Workforce Education

1996–1997 Ball State University Muncie, IN

- **M.A.** Industrial Technology Education

1991-1993 Oswego State University Oswego, NY

- **B.S.** Technology Education

Employment

Program Head – Engineering Technology Education, West Lafayette, Indiana
(2014-present) Department of Technology Leadership and Innovation

Associate Professor – Purdue University; West Lafayette, Indiana
(2013-present) Department of Technology Leadership and Innovation – P-12 sTEm Initiative

Assistant Professor – Purdue University; West Lafayette, Indiana
(2012 - 2013) Department of Technology Leadership and Innovation – P-12 sTEm Initiative

Assistant Professor – Purdue University; West Lafayette, Indiana
(2008-2011) Department of Industrial Technology – P-12 sTEm Initiative

NCETE Fellow Graduate Assistant – College of Education; University of Georgia
(2005 - 2008) Department of Workforce Education, Leadership and Social Foundations

Assistant Professor – Ball State University; Muncie, Indiana
(2004-2005) Department of Technology

Technology Education Teacher – Jackson Creek Middle School; Bloomington, Indiana
(1998-2004) Monroe County Community Schools

Graduate Assistant –Ball State University, Muncie, Indiana
(1995-1996) Department of Industry and Technology

Technology Education Teacher – Lincoln Middle and High School; Cambridge City, Indiana
(1997-1998) Western Wayne School Corporation

Technology Education Teacher – Avon Jr. Sr. High School Central School District; Avon, New York
(1994-1996) Avon Central School District

Honors

- 2016 Distinguished Technology Educator Award- a mark of professional distinction. March 2016, International Technology and Engineering Teacher Education (ITEEA).
- 2014 Gerald R. Day Top Peer-Reviewed Article Award. McSpadden & Kelley, (2012) *Technology and Engineering Teacher*.
- 2012 Gerald R. Day Top Teacher Educator Article Award. Kelley, T. (2011) *Technology and Engineering Teacher*.
- Silvius-Wolansky Outstanding Scholarly Publication in Technology Education, March 2009.
- Research Excellence Award at the 2008 eTED Research Symposium
- International Technology Education Association Maley Scholarship, Spring 2008
- Three-time recipient of Philip Gray Memorial Scholarship, University of Georgia, Fall 2005-07.
- Monroe County Educator of the Year, Bloomington, Indiana, Fall 2001
  -Recognition for outstanding service in the field of education in Monroe County, Bloomington, IN
- Dean's Citation for Academic Excellence, Ball State University, 1996-1997
  -Graduated with a 4.0 Academic Record
- Graduated Cum Laude, Oswego State University, Oswego, NY, Fall 1993

Scholarly Productivity: Research, Creativity Endeavors, and Grants

- National Center for Engineering and Technology Education Seed Grant, Fall 2008
- National Center for Engineering and Technology Education Dissertation Funding, Fall 2007
- National Center for Engineering and Technology Education Research Funding, Summer 2006
- Monroe County Foundation Grant, Spring 2003
- MAC Grant, McDonald's Corporation, 2001-2002
- Fulbright Memorial Scholarship, Summer 2001
- Lilly Creativity Fellowship, Summer 2000

Publications Journals:

*Kelley, T. & Sung (submitted). *Design fixation*. *The Technology and Engineering Teacher.*

Kelley, T. (Accepted). Design sketching: A lost skill. *The Technology and Engineering Teacher.*

*Kelley, T. & Knowles, J. G. (2016). A conceptual framework for integrated STEM education. *International Journal of STEM Education*. *DOI:* 10.1186/s40594-016-0046-z

Kelley, T. (2016). Post cards from a road trip to innovation: A professor's sabbatical reflections. *The Technology and Engineering Teacher, 76*(3), *26-30.*

Kelley, T& Sung, E. (Accepted with Revision). Examining Elementary School Students' Transfer of Learning through Engineering Design using Think-Aloud Protocol Analysis. *The Journal of Technology Education.*

*Knowles, J.G., Kelley, T, & Hurd, B. (September, 2016). Innovate the intersection between entomology and technology. *The Technology and Engineering Teacher 76(1).* *https://www.iteea.org/TETe_Sept2016.aspx*

*Kelley, T., & Sung, E. (2016). Sketching by design: Teaching sketching to young learners. *International Journal of Technology and Design Education. DOI:* 10.1007/s10798-016-9354-3

*de Cresce El Debs, L. & Kelley, T. (2015), Gathering design references from nature. *The Technology and Engineering Teacher, 75*(1), 10-14.

*Kelley, T., Capobianco, B., & Kaluf, K. (2014). Concurrent think-aloud protocol to assess elementary design students. *International Journal of Technology and Design Education*. DOI: 10.1007/s10798-014-9291-y

Kelley, T. (2014). Constructing an engineer's notebook rubric. *The Technology and Engineering Teacher, 73 (5), 26-32.*

Kelley, T. (2014). STL guiding the 21st century thinker. *The Technology and Engineering Teacher, 73(4), 18- 23.*

McSpadden*, M., & Kelley, T. (2012). Engineering design: Diverse design teams to solve real-world problem. *The Technology and Engineering Teacher, 72*(1), 17-21. * (2014 Gerald R. Day Top Peer-Reviewed Article Award)

Kelley, T. (2012). Voices from the past: Messages for a STEM future. *Journal of Technology Studies, 38*(1), 34-42.

Werner, G., Kelley, T. R., & Rogers, G. E. (2012). Perceptions of parents related to Project Lead The Way. *Journal of sTEm Teacher Education 48*(2), 137-155

Kelley, T. (2011). Engineer's notebook – A design assessment tool. *Technology and Engineering Teacher 70*(7)30-35. *(2011 Gerald R. Day Top Teacher Educator Article Award)

Kelley, T., Brenner, D., & Pieper, J. (2010). Two Approaches to Engineering Design: Observations in sTEm Education. *Journal of sTEm Teacher Education, 47*(2), 5-40.

Kelley, T. (2010). Staking the Claim for the 'T' in STEM. *Journal of Technology Studies, 36*(1), 2-11.

Kelley, T. (2010). Design Assessment: *Consumer Reports* style. *Technology Teacher, 69*(8), 12-16.

Kelley, T. & Wicklein, R.C. (2009c). Teacher challenges to implement engineering design in secondary technology education. (third article in a three part series) *Journal of Industrial Teacher Education, 46(3), 34-50*.

Kelley, T. (2010). Optimization, An important stage of engineering design. *Technology Teacher, 69*(5). 18-23.

Kelley, T. & Wicklein, R.C. (2009b). Examination of assessment practice for engineering design projects in secondary technology education. (second article in a three part series) *Journal of Industrial Teacher Education*, *46*(2), 6-25.

Kelley, T. & Wicklein, R.C. (2009a) Examination of engineering design curriculum content in secondary technology education. (first article in a three part series) *Journal of Industrial Teacher Education 46*(1), 7-31.

Denson, C; Kelley, T.; & Wicklein, R.C. (2009) Integrating engineering design into technology education. *Journal of Industrial Teacher Education, 46*(1), 81-102.

Kelley, T., & Kellam, N. (2009*).* A theoretical framework to guide technology education's transition to an engineering design focus. *Journal of Technology Education, 20*(2), 37-49.

Kelley, T. (2008). Cognitive processes of students participating in two approaches to technology education. *Journal of Technology Education, 19*(2), 50-64.

Kelley, T. (2008). Using engineering cases in technology education. *Technology Teacher, 68*(7), 5-9.

Kelley, T. (2008). Examination of engineering design in curriculum content and assessment practices of secondary technology education. Unpublished doctoral dissertation, University of Georgia.

Kelley, T. (1996). M.S.T. (Math, Science, and Technology) projects for middle school technology programs. *University of the State of New York Dept. Learning Standards for Math, Science and Technology*. 100-101.

Technical Reports:

Rogers, G., Kelley, T*., Mentzer, N., & Daugherty, J. (2013). *Creating an Integrative STEM Teacher Center*. White Paper. College of Technology, Purdue University.

Rogers, G., Kelley, T., Mentzer, N., & Daugherty*, J. (2010). *Integrative STEM Teacher Leadership: Area of Specialization*. White Paper. College of Technology, Purdue University.

Daugherty*, J., Mentzer, N., & Kelley, T. (2010). *Technology Leadership*. White Paper. College of Technology, Purdue University.

Kelley, T.R., Brenner, D.C., & Pieper, J.T. (2010). PLTW and Epics-High: Curriculum Comparisons to Support Problem Solving in the Context of Engineering Design. Unpublished technical report. National Center for Engineering and Technology Education.

Denson, C.D., Kelley, T.R., Wicklein, R.C. (2007). Investigation of engineering design as a focus for Georgia technology education. Unpublished technical report. The Georgia Department of Education, Atlanta, Ga.

Books:

Kelley, T. (2005). *Drawing your dragster on AutoCAD LT*. Product ID: W80915, Hearlihy.

Brusic, S., Kuetemeyer, F., and Kelley, T. (2012). Engineering and technology: Real- world applications. McGraw-Hill, Columbus, OH. 978-0-07-62552-9

Study, N., Simmers, C., and Kelley, T. (2012). Engineering capstone project. McGraw-Hill, Columbus, OH. ISBN: 0076632849

Book Chapter:

Kelley*, T. & Rayala, M. (2011). The knowledge and skills of creativity and design. In S. Warner & P. Gemmill (Eds)*, Creativity and Design in Technology Education: A comprehensive Yearbook*. Council on Technology Teacher Education. ISBN: 13:978-1-887101-103.

Book Content Advisor:

Loh-Hagan, V. (2017). *Aircraft Carriers*. Ann Arbor, MI: Cherry Lake Publishing.

Loh-Hagan, V. (2017). *Bridges*. Ann Arbor, MI: Cherry Lake Publishing.

Loh-Hagan, V. (2017). *Dams*. Ann Arbor, MI: Cherry Lake Publishing.

Loh-Hagan, V. (2017). *Roller Coasters*. Ann Arbor, MI: Cherry Lake Publishing.

Loh-Hagan, V. (2017). *Skyscrapers*. Ann Arbor, MI: Cherry Lake Publishing.

Loh-Hagan, V. (2017). *Stadiums*. Ann Arbor, MI: Cherry Lake Publishing.

Loh-Hagan, V. (2017). *Tunnels*. Ann Arbor, MI: Cherry Lake Publishing.

Loh-Hagan, V. (2017). *Water Parks*. Ann Arbor, MI: Cherry Lake Publishing

D. 11 Publications in practitioner (trade) journals

Kaluf*, K. & Kelley, T. (2011). Resources: Integrative art and technology through architecture. *Children's Technology and Engineering*, *16*(1), 4-5.

Gee*, R. & Kelley, T. (2010). Resources: Sustainable design for a green tomorrow. *Technology and Children, 14*(4), 12-13.

Pieper*, J. & Kelley, T. (2010). Resources: Curiosity quest to go green. *Technology and Children, 14*(3) 8-9.

Kelley, T. (2009) Resources: Using waste management to reduce, reuse, recycle. *Technology and Children, 14*(2), 14-15.

Brenner*, D. & Kelley, T. (2008). Resources: e-book readers. Technology and Children, *13*(2), 14-15.

Kelley, T. (2008). Resources: Staying in touch: Gone global. *Technology and Children*, *12*(4), 8 -9.

Kelley, T. (2008). Resources: Getting there: Space. *Technology and Children*, *12*(3), 10 -11.

Kelley, T. (1998). Techniques: Pythagoras meets hydraulics. *Tech Directions*, 42.

Interdisciplinary Journal

Briller, Sherylyn, Todd Kelley and Elizabeth Wirtz. "Designing for People." Teaching and Learning, *Anthropology News* website, September 14, 2016. http://www.anthropology-news.org/index.php/2016/09/14/designing-for-people/

Invited Presentations

Kelley, T. (January, 2017). *Tends in U.S Education Leads to a Road trip to Innovation- Keynote Speech*. Korean Technology Education Association,

Kelley, T. (2016, Nov). Research on Integrated Lessons in STEM education, Nottingham Trent University, Nottingham, England.

Kelley, T. (2014, November). Using Engineers Notebooks as a Source for Design Assessment, Goldsmith College, England.

Kelley, T. (2014, November). Elementary Children Design Sketching in the Science Classroom. University of Nottingham-Trent. Nottingham, England.

Kelley, T. (2014, November). A Theoretical Framework to Integrate Science, Technology, Engineering and Mathematics in K-12 Classrooms. Nottingham, England.

Kelley, T. (2014, November). Think-aloud Protocols as a Research Methodology for Design Studies. Nottingham, England.

Kelley, T. (2011, November). *STEM Design Thinking for Technology Education*. Paper presented at the 98th Mississippi Valley Technology Teacher Education Conference. St. Louis, MO.

Kelley, T. (2009, October). *The Blurred Boundaries of STEM Education*. Paper presented at the 96th Mississippi Valley Technology Teacher Education Conference. Nashville, TN.

Kelley, T., (2009, March). *Defining the 'T' in STEM*. Paper presented at Epsilon Pi Tau Honorary Breakfast. Louisville, KY.

Kelley, T., (2009, April). *Examination of Engineering Design in Curriculum Content of Secondary Technology Education: A National and State Perspective*. I-STEM Network, Indiana University Purdue University, Indianapolis, IN.

Presentations:

*Sung, E., & Kelley, T. (2017, March). *How students solve design problems: A Sequential Pattern Analysis*, International Technology and Engineering Education Association's 79th Annual Conference. Dallas, TX.

Kelley, T., * Knowles, G., & Sung, E. (2017, March-accepted). *TRAILS Integrated STEM Model, Workshop, & Research* at the International Technology and Engineering Education Association Conference. Dallas, TX.

Kelley, T. * Knowles, J.G., & Sung, E. Choi, J. (2017, June- accepted) *Research Design, Data Collection, and Assessment Methods for an Integrated STEM Education Model (Work in Progress)*. American Society of Engineering Education, Columbus, OH.

Kelley, T. & Sung E. (2016, Nov). *Teachers and Researchers Advancing Integrated Lessons in STEM* London International Conference on Education. London, England.

Kelley, T. (2016, March). *Road Trip to Innovation: A Professor's Sabbatical in 2015* at the International Technology and Engineering Education Association Conference. Washington, DC National Harbor.

Kelley, T*. & Sung, E. (2016, March). *STEM research informs Technology Education Practice: Results from a Five Year NSF MSP Project*. Council on Technology and Engineering Education at the International Technology and Engineering Education Association Conference. Washington, DC National Harbor.

Kelley, T*., & Sung, E. (2016, March). *Mathematical Thinking in Engineering Design.* Council on Technology and Engineering Education Poster session at the International Technology and Engineering Education Association Conference. Washington, DC National Harbor.

Kelley, T., Capobianco, B., Lehman, J. & Nyquist, C. (2016, January). *Enhancing Teaching and Learning through Engineering Design in Elementary Classrooms.* The Hawaii Conference on Education. Honolulu, Hawaii.

Kelley, T., Capobianco, B., Nyquest, C., Lehman, J., & Pantich, A. (2015, April). Promoting Effective Science Teaching and Learning through Engineering Design in the Elementary Classroom. AERA 2015 Symposium, American Educational Research Association Annual Meeting, Chicago, IL.

Kelley, T*. & Taylor-Smith, R. (2015, March). What Happens When Design and Science Intersect? Council on Technology and Engineering Education poster session at the International Technology and Engineering Education Association Conference. Milwaukee, WI.

Kelley, T*. & Knowles, G. (2015, March). *Inquiry, Design, and Technology to Integrate STEM.* Council on Technology and Engineering Education Paper session at the International Technology and Engineering Education Association Conference. Milwaukee, WI.

Kelley, T. (2014, November). Elementary Children Design Sketching in the Science Classroom. London International Conference on Education. London, England.

Kelley, T*., Warner, G., Lumkes, J. (2014, March). Teaching engineering design through global challenges. International Technology and Engineering Education Association Conference. Orlando, FL.

Kelley, T*., & Kaluf, K. (2014, March). *When Science introduces engineering design: Impacts on Technology Education.* Council on Technology and Engineering Education conference session at the International Technology and Engineering Education Association Conference. Orlando, FL.

Kelley, T*., & Kaluf, K. (2014, March). *When design enters the Science classroom.* Council on Technology and Engineering Education Poster session at the International Technology and Engineering Education Association Conference. Orlando, FL.

Kelley, T. (2014, January). *Preparing Integrated STEM Teachers*. The Hawaii Conference on Education. Honolulu, Hawaii.

Kelley, T*. Knowles, G. (2013, November). *Promoting the T in STEM through an integrated STEM approach*. The 100th Mississippi Valley Technology Teacher Education Conference. Rosemont, IL.

Kelley, T*. Knowles, G. (2013, September). *An integrated STEM approach to technology education*. Engineering/Technology Educators of Indiana: A joint conference with Association for Career and Technical Education and Indiana Department of Education, Indianapolis, IN.

Kelley, T. (2013, March). *Creating Engineer's notebook grading rubric*. Paper present at International Technology and Engineering Education Association Conference, Columbus, OH.

Kelley, T*., & Kaluf, K. (2013, March). *Science Learning through Engineering Design: Impacts and insights for Technology Education*. Council on Technology and Engineering Education session at The International Technology and Engineering Education Association Conference. Columbus, OH.

Kelley, T., Mentzer, N., Kaluf, K., & Huffman, T*. (2013, March). *How students design: Lessons from the classroom*. Council on Technology and Engineering Education session at International Technology and Engineering Education Association Conference Columbus, OH.

Kelley, T*., & Kaluf, K. (2013, March). *Science Learning through Engineering Design: Impacts and insights for Technology Education*. Council on Technology and Engineering Education Poster session at the International Technology and Engineering Education Association Conference. Columbus, OH.

Kelley, T., & Capobianco, B. (2012, March). *Think-aloud Protocol Analysis as a Measure of Students' Science Learning through Design Assessment*. Paper presented in paper set titled: Strand 1: Science Learning, Understanding and Conceptual Change at National Association for Research in Science Teaching (NARST).

Moody, N., Fouch, K., Kelley, T., Purzer, S., & Fosmire*, M. (2012, March).*Innovation Differentiation: Examining the Problem-Solving Approaches of Engineering and Technologist Students at Purdue University*. Paper presented at IL/IN ASEE Regional Conference. Valparaiso, IN.

Fouch, K., Moody, N., Kelley, T., Purzer, S., & Fosmire*, M. (2012). *Innovation Differentiation*. Paper presented at Purdue Undergraduate Research Poster Symposium. West Lafayette, IN.
Fouch, K., Moody, N., Kelley, T., Purzer, S., & Fosmire*, M. (2012). *Innovation Differentiation.* Paper presented at One Book Higher Purdue University Libraries Symposium. West Lafayette, IN.

Kelley, T. (2012, March). *INSPIRE, Institute for P-12 Engineering Research and Learning.* Paper presented at the Technology Education for Children Council. International Technology and Engineering Education Association Conference, Long Beach, CA.

Kelley*, T., & Kaluf, K. (2011, November). *STEM Education Rediscovers Project-based Education*. Paper presented at the Association for Career and Technical Education. Conference, St. Louis, MO.

Kelley*, T., & Kaluf, K. (2011, November). *Using Engineer's Notebooks in the Classroom*. Paper presented at the Association for Career and Technical Education Conference, St. Louis, MO.

Daugherty, J., Mentzer, N., & Kelley, T. (2011, April). *Technology Design and Engineering Design: Is there a difference?* Paper presented at IAJC- ASEE Joint International Conference. Harford, CT.

Koch, D., Johnson, M., & Kelley, T. (2011, Feb). Role models to influence early career choice. Paper presented at 2011 Conference for Industry and Education Collaboration (CIEC), San Antonio, TX.

Kelley, T. (2010, Dec). *Two approaches to Engineering Design*. Paper presented at Association for Career and Technical Education Conference, Las Vegas, NV.

Kelley, T. (2010, Aug). Voices from the past: Messages for a STEM future. Paper presented at P-12 Engineering and Design Education Research Summit 2010. Seaside, OR.

Kelley, T. (2009, Nov). A Theoretical Framework for the Re-engineering of Technology Education. Paper presented at the ACTE 2009 Conference. Nashville, TN.

Kelley, T, & Pieper, J. (Oct, 2009). *PLTW and EPICS High: Curriculum Comparisons to Support of Problem Solving in the Context of Design*. Paper presented at ASEE North Mid-West Sectional Conference.

Kelley, T. (Oct, 2009). *The Blurred Boundaries of STEM Education*. Paper presented at the 96th Mississippi Valley Technology Teacher Education Conference. Nashville, TN.

Kelley, T., (2009, April). Examination of Engineering Design in Curriculum Content of Secondary Technology Education: A National and State Perspective. I-STEM Network, Indiana University Purdue University, Indianapolis, Indiana.

Kelley, T., (2009, March). *Defining the 'T' in STEM*. Paper presented at Epsilon Pi Tau Honorary Society Breakfast. Louisville, KY.

Kelley, T., (2009, March). *Engineering Design Content in Technology Education*. Paper presented at the 71st annual International Technology Education Conference. Louisville, KY.

Kelley, T., (2008, December). *Examination of engineering design in curriculum content and assessment practices of secondary technology education*. Paper presented at the 2008 eTED Research Symposium (first place award). Association for Career and Technical Education Conference. Charlotte, North Carolina.

Kelley, T. (2008, December). *Engineering Design as a focus for Technology Education: One state's perspective*. Paper presented at Association for Career and Technical Education Conference. Charlotte, North Carolina.

Kelley, T., Denson, C., & Wicklein, R. (2008, February). *Integrating Engineering Design: The Georgia perspective*. Paper presented at International Technology Education Association Conference. Salt Lake City, Utah.

Kelley, T., & Wicklein, R. (2008, February). *Redirecting Technology Education: Engineering Design Focus*. Presentation for Council on Technology Teacher Education at International Technology Education Association Conference. Salt Lake City, Utah.

Kelley, T., & Hill, R. (2008, February). *Cognitive processes of students solving ill-defined problems*. Paper presented for Council on Technology Teacher Education at International Technology Education Association Conference. Salt Lake City, Utah.

Kelley, T., Denson, C. (2008, February). *How to float your boat.* Presentation for Technology Education for Children Council at The Technology, Innovation, Design, & Engineering (TIDE) Workshop for Elementary School Teachers.

Kelley, T., (2008, February). *Examination of engineering design in curriculum content and assessment practices of secondary technology education*. Paper presented for National Center for Engineering and Technology Education at International Technology Education Association Conference. Salt Lake City, Utah.

Kelley, T., & Smith, C. (2007, October). *Mission possible: Teaching engineering design.* Presentation at Georgia Engineering and Technology Education Association Annual Conference.

Kelley, T. (2007, May). *Cognitive processes of students solving ill-defined technical problems: An observational protocol study*. Paper presented at National Center for Engineering and Technology Education Spring Meeting. Champaign, Illinois.

Kelley, T., Daugherty, J., Denson, C., Mentzer, N., Walrath, D., & Zeng, Y. (May, 2007). *Necessary Tensions: Moving the Field (ETE) Forward*. National Center for Engineering and Technology Education Meeting. University of Illinois at Urbana-Champaign.

Kelley, T. (2007, March). *Students Solving Ill-defined Technical Problems: An Observational Protocol Study.* Poster session presented at International Technology Education Association Conference. San Antonio, Texas.

Kelley, T. & Wicklein, R. (2007, March). *Redirecting University Technology Education: Engineering Design Focus*. presented at International Technology Education Association Conference. San Antonio, Texas.

Kelley, T., & Denson, C. (2007, March). *Creative Engineering Activities for Elementary.* Technology Education for Children Council Conference. San Antonio, Texas.

Kelley, T., & Denson, C. (2006, May). *Perspectives of First Year Fellows*. presented at National Center for Engineering and Technology Education Spring Meeting. Athens, GA.

Kelley, T. (2006, February). *A Protocol Study of Expert Engineers Solving An Ill-defined Problem: The Case of Hurricane Katrina.* Poster session presented at fifth annual meeting. CLT PI, Washington, DC.

Other:

Workshop Session:

Kelley, T., Knowles, G., & Sung, E. (2017, March-accepted). Design Thinking in Integrated STEM Education. Pre- conference Workshop at the International Technology and Engineering Education Association Conference. Dallas, TX.

Kelley, T. Sung, E. (2016). Design Thinking in K-12. Pre-conference Workshop at the International Technology and Engineering Education Association Conference. Washington, DC National Harbor.

Kelley, T. (2015, Summer). Creating Standards-based Design Briefs. Science Learning through Engineering Design Summer Institute 2015, West Lafayette, Indiana.

Kelley, T., Sung, E. (2015, Summer). Using engineer's notebooks and design sketching in the classroom. Science Learning through Engineering Design Summer Institute 2015, West Lafayette, Indiana

Kelley, T., Capobianco, B., Nyquest, C., Lehman, J., & Pantich, A. (2014, January). *Facilitating an Integrated Approach to Elementary STEM Education through Engineering Design*. The Hawaii Conference on Education. Honolulu, Hawaii.

Epilson Pi Tau Exemplary Initiation team member.(2009). International Technology Education Association Conference, Louisville, KY.

Funded Research:

a) NSF-I-TEST: Teachers and Researcher Advancing Integrated Lessons in STEM (TRAILS). Total amount of award: $ 964,000.00, My Role: PI

b) Lilly Corporation: Integrated STEM Teacher Education. Total amount of award: $ 224,025.00, My Role: Co-PI

c) NASA/ STEM Educational Impacts Delivered through an Original Undergraduate Science Experiment in ISS. Total amount of award: $ 224,025.00, My Role: Co-PI

d) NSF-MSP: *Science Learning through Engineering Design (SLED)* Total amount of award: $6,778,549.84, Grant #0962840. My role: Co-Pi

e) Kelley, T. (PI) Strobel, J. (Co-PI) (2009). *PLTW and EPICS High: Curriculum Comparisons to Support of Problem Solving in the Context of Design*. This 45,000.00 seed grant was funded through the National Center for Engineering and Technology Education (NCETE), an NSF sponsored CLT. The project was managed through Purdue's Discovery Learning Center. Research Assistants: Brenner, D.C. & Pieper, J.T.

Professional Service:

2017- Present	Journal article reviewer, International Journal of STEM Education.
2015- Present	University Senate, Purdue Senator Polytechnic- TLI Representative.
2013-Present	Council on Technology Teacher Education Academic Yearbook Advisory Board, ITEEA Association.
2008-Present	Engineering and Technology Statewide Advisory Committee representative for the I-STEM Resource Network, Indiana
2008-2012	eTED Research Committee Chairman – Association for Career and Technology Education.
2008-2010	Professional Development Committee Member – Association for Career and Technology Education.
2007-2012	Technology and Children –International Technology Education Association.