

Julie E. Steinbrenner

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ECME 126 | 1111 Engineering Drive
Boulder, Colorado

Education	Doctor of Philosophy in Mechanical Engineering Stanford University Thesis: Two-Phase Flow Phenomena in Fuel Cell Microchannels Advisor: Dr. Kenneth E. Goodson	March 2011 <i>Stanford, California</i>
	Master of Science in Mechanical Engineering Stanford University	January 2005 <i>Stanford, California</i>
	Bachelor of Science in Mechanical Engineering Valparaiso University Summa Cum Laude Christ College Associate (Interdisciplinary Honors College), French minor	May 2003 <i>Valparaiso, Indiana</i>
Faculty	Stockman Family Faculty Fellow	August 2023 – present
Fellowships	Wolenski/Roller Faculty Fellow	December 2017 – July 2023
Current Position	Senior Instructor / Associate Teaching Professor Instructor Adjunct Professor <i>Department of Mechanical Engineering, University of Colorado</i>	August 2019 – present August 2013 – July 2019 August 2012 – May 2013 <i>Boulder, Colorado</i>
	<ul style="list-style-type: none">Consistently employ active learning techniques, including team-based design/build/test projects, analysis projects, in-class workshops, hands-on laboratories, and concept-focused clicker questions for classes up to 283 studentsPrepare students for success after college by emphasizing career preparations, building connections with industry, developing professional skillsDevelop curriculum focused on practical application of fundamental conceptual understanding, and best practices for engineering analysis and decision-makingActively participate in the recruitment and management of industry sponsors for student projects	
	Graduate Courses: MCEN 5042: Graduate Heat Transfer	Fall 2013, 2014; Spring 2016
	Project-based design courses: ENEN 4600: Interdisciplinary Energy Engineering Projects MCEN 4045: ME Design Projects MCEN 4085: ME Design Projects II GEEN 1400: First Year Design Projects	Fall 2015, 2016 Fall 2012 - 2023 Spring 2013 - 2024 Spring 2014
	Other undergraduate courses: MCEN 2000: Mechanical Engineering as a Profession MCEN 3012: Thermodynamics MCEN 3032: Thermodynamics II MCEN 3022: Heat Transfer	Fall 2016 - 2020 Spring 2016, Spring 2020 Spring 2014 Spring 2013, 2023, 2024, Summer 2014, 2016, 2017, 2018
	MCEN 3021: Fluid Mechanics MCEN 4228: Thermofluids Laboratory	Fall 2013, Spring 2021 Spring 2017, 2018, 2019

New course development or major course redesign:

MCEN 4228: Thermofluids Laboratory

Developed course consisting of seven modules focused on real-world thermofluids systems, with each module emphasizing a real-world system, a measurement technique, and a technical communication method. Modules include an instrumented commercial AC unit, a purpose-built solar-thermal system, and a reconditioned optical engine.

MCEN 2000: Mechanical Engineering as a Profession

Redesigned course to introduce students to the profession of Mechanical Engineering, emphasizing professional skills, such as critical-thinking, problem-solving and communication. Improved career preparation elements by incorporating more industry connections through a Careers in ME Symposium, alumni-conducted mock interviews, student-driven informational interviews, and UROP-funded Research lunches

ENEN 4600: Interdisciplinary Energy Engineering Projects

Incorporated elements of project management, engineering economics, costing, risk assessment and uncertainty analysis into a semester-long analysis-based design project with Energy themes, such as “Alternatives to Gas Flaring in the North Dakota Bakken Oil Fields” and “Electrification of Rural Myanmar with Micro-grids”. Brought industry professionals in for guest lectures and brought students to industry for site visits.

Guest Lectures and Workshops:

Advanced Product Design: Setting Specifications	<i>Spring 22</i>
Advanced Product Design: Design interviewing	<i>Spring 15</i>
Graduate Seminar: Tips for giving a technical talk to a broad audience	<i>Spring 15</i>
Graduate Intro to Research Seminar: The Peer Review Process	<i>Fall 16</i>
Graduate Intro to Research Seminar: Technical Writing and Editing	<i>Fall 16</i>
Graduate Intro to Research Seminar: Ethics of responsible research conduct interactive workshop with case studies	<i>Fall 13, Fall 14, Fall 16</i>

Program
Development

Design Your Career Professional Development Program

2017 – 2023

Department of Mechanical Engineering, University of Colorado *Boulder, Colorado*

- Conceived and planned new Professional Development Program for Mechanical Engineering Students at CU Boulder, themed to encourage students to apply design thinking to career explorations, and incorporating multiple opportunities for student/industry connections, such as Explore ME Dinners, Industry Tours, and formal and informal one-on-one meetings with practicing engineers
- Proposed new program to undergraduate committee for successful adoption of program as new graduation requirement
- Hired and supervise new senior professional development advisor for department

Student Experiential Education Initiative Development

2018 – 2023

Department of Mechanical Engineering, University of Colorado *Boulder, Colorado*

- Conceived and planned new Professional Development Program for Mechanical Engineering Students at CU Boulder, themed to encourage students to apply design thinking to career explorations
- Designed experiences incorporating multiple opportunities for student/industry connections, such as Explore ME Dinners, Industry Tours, and formal and informal one-on-one meetings with practicing engineers

ME Alumni Connect Day**2016 – present***Department of Mechanical Engineering, University of Colorado**Boulder, Colorado*

- With committee comprised of department staff, advancement personnel, and department chair, organized and planned annual event to bring alumni to campus for networking lunch, in-class panels, and mock interviews with students

Leadership
Positions**Associate Chair, Undergraduate Education****Fall 2022 – present***Department of Mechanical Engineering, University of Colorado**Boulder, Colorado*

- Lead weekly meetings of faculty and staff members of Undergraduate Committee to discuss current and emerging issues related to undergraduate curriculum and operations
- Evaluate and establish department policies and structure to facilitate student learning and professional preparation
- Develop strategic initiatives and department strategies to respond to emerging challenges related to our undergraduate program, including changes to the first year experience and the growth of related programs such as Aerospace Engineering and Biomedical Engineering
- Participate in College of Engineering and Applied Science Undergraduate Education Council (CEAS UEC) meetings to provide input on college policies and curricular issues
- Participated in conversations with key educational partners regarding student success and foundational learning experiences in math and first year programming
- Facilitated department workshops related to strategic vision goals and drafted and edited strategy statements

External Relations Committee Chair**Summer 2017 – Spring 2022***Department of Mechanical Engineering, University of Colorado**Boulder, Colorado*

- Lead and coordinate marketing efforts to attract diverse students, facilitate maintenance and improvements to departmental website and social media
- Facilitate industry collaboration, including coordination of ME Partners, a department-wide industry
- Developed alumni engagement programs which bring over 100 alumni to campus annually to engage with over 600 students during two annual events
- Manage reporting for industry gift funds to the department
- Collaborate with department, college, and university administrators involved with advancement, alumni and industry relations, internship and professional development educational programming

Energy Engineering Minor, Inaugural Director**August 2014 – Summer 2017***University of Colorado**Boulder, Colorado*

- Develop curriculum and programming for first interdisciplinary minor within the College of Engineering and Applied Science
- Administrated interdisciplinary Energy Minor program for approximately 60 students with 5 different engineering majors
- Advertised program to undergraduate students, and planned events such as *Exploring Energy Engineering* industry connections panels/discussion
- Established and recruited new industry partners to the Energy Engineering Minor Advisory Panel (EEMAP) consisting of 10 energy industry professionals
- Conducted bi-annual meetings with Industry Advisory Panel and led meetings with faculty curriculum committee, and collaborated with energy-related

organizations on campus.

- Coordinated development of two new courses – Oil & Gas Processing and Wind Energy System Design
- Developed and taught new Energy Engineering Projects course for first two offerings

Honors and Awards

Sullivan-Carlson Innovation in Education Award, 2020 (nominated and selected by students from College of Engineering and Applied Science, 1 awarded per year)
Charles A. Hutchinson Memorial Teaching Award, 2019 (College of Engineering and Applied Science, 1 awarded per year)
College of Engineering and Applied Science Outstanding Faculty for Teaching, 2019 (1 awarded per year)
Wolenski/Roller Faculty Fellowship, 2017-present
Outstanding Service Award for Department of Mechanical Engineering, 2018
Outstanding Undergraduate Educator for Department of Mechanical Engineering, 2017
Outstanding Graduate Educator for Department of Mechanical Engineering, 2016
Chateaubriand Scientific Fellowship, 2007
Charles H. Kruger Stanford Graduate Fellowship in Science and Engineering, 2004-2007
Best Poster Award, HeatSET, 2005
Stanford Graduate Engineering Fellowship, 2004

Other Teaching Experience

Physics Instructor, Summer 2011
Summer Math And Science Honors (SMASH) Academy
Level Playing Field Institute San Francisco, California

- Taught a 6-week summer honors program for 23 high-achieving seniors from under-resourced high schools
- Developed curriculum, lecture materials, laboratory activities, and evaluation metrics for physics course focused on fundamental kinematics concepts and thermodynamic principles related to energy
- Co-developed a projects-based course in renewable and sustainable community development culminating in small group projects on energy efficiency analysis

Teaching Assistant

Department of Mechanical Engineering, Stanford University Stanford, California
Undergraduate Statics Fall 2008

- Taught and assisted with laboratory sessions to enhance undergraduate student comprehension of fundamental principles of statics, ethics, and design
- Held office hours to assist students with homework problems, wrote and graded exam questions, developed and presented a lecture to 150 students

Fundamentals of Heat Conduction Winter 2008

- Designed and taught problem sessions for 30 graduate students in a technical heat transfer course
- Held office hours to assist students with homework problems
- Wrote homework and exam questions, graded homework and exams

Teaching-Related Interests and Training

- Tutored high school and undergraduate engineering students
- Peer Mentor for freshmen engineering students, Valparaiso University

- Relevant coursework: science course design (1 quarter), Stanford University

Research
Experience

Research Staff Member 2011 – 2012
Palo Alto Research Center *Palo Alto, California*

- Experimentally analyzed particle-laden flows and phase-change phenomena in multi-scale environments applicable to printing technologies using various prototyping techniques and high-speed imaging, PIV, and shadowgraphy
- Developed Flow-3D general moving object (GMO) simulations of flow fields and particle dynamics in low-Reynolds number flows

Charles H. Kruger Stanford Graduate Fellow, Research Assistant 2003 – 2011
Microscale Heat Transfer Laboratory, Stanford University *Stanford, California*

- Developed two and three-dimensional techniques for white light and fluorescent visualization of two-phase flow regimes in rectangular microchannels relevant to fuel cell applications for comparison with numerical models of stratified films
- Designed and implemented control and measurement system for two phase air-water flow in microchannels

Scientific Chateaubriand Fellow 2007
Commissariat à l’Energie Atomique (CEA), Fuel Cell Laboratory *Grenoble, France*

- Developed and implemented techniques for local measurement of current density in the membrane electrode assembly of a proton exchange membrane fuel cell
- Developed tools for and performed characterization of anisotropic electrical properties of fuel cell components under variable mechanical strain

Research and Development Intern Summer 2003
Seagate Technologies, Inc. *Longmont, Colorado*

- Designed and constructed a test apparatus and LabVIEW control software to measure torque on actuator assembly of disk drive, with key design requirements including ease of use, accuracy, versatility for drives of various geometries

Research Stagiare Fall 2002
IMP-CNRS (French National Research Center) *Odeillo, France*

- Performed preliminary research for the development of an optical temperature measurement system for molten silicon under concentrated solar irradiation

NSF Undergraduate Research Student Summer 2002
Paul Scherrer Institut, Solar Technology Laboratory *Villigen, Switzerland*

- Experimentally determined the effect of carbon reactivity and reactant configuration on products obtained during carbothermic ZnO decomposition at temperatures near 2000K using a 45-kW solar concentrator
- Developed Fortran and MATLAB models to predict the temperature distribution within a solar reactor cavity using radiosity and Monte Carlo radiation modeling

**Multi-disciplinary Undergraduate Research in Turbulence
Team Member and Summer Research Student**

2000 - 2002

Valparaiso University

Valparaiso, Indiana

- Coordinated research activities and responsibilities among six engineering and meteorology students as research team leader
- Wrote Visual Basic program for high sample rate measurement of wind velocity using hot wire anemometers at the Atmospheric Boundary Layer Experiment facility in Whitewater, Kansas
- Prepared water flume for turbulent boundary layer testing, including development of an in-situ calibration rig to obtain velocity profiles in the turbulent boundary layer of water using hot-film probes

Engineering
Education
Research

J.E. Steinbrenner, D. Kotys-Schwartz, D. Knight, Teams, Tantrums, and Tears: Conflict Resolution in 2020, *2020 Capstone Design Conference*, submitted, then presented at *Capstone Design Conference 2022*, June 6-8, 2022, Dallas, Texas.

K. McConnell, **J. Steinbrenner**, J. Blacklock, M. Gordon, M. Darbeheshti, Workshop Proposal: Mechanical Engineering Roundtables, *ASEE Rocky Mountain Section Regional Conference 2020*, submitted, not presented due to COVID.

A. Scott, M. Kern, **J.E. Steinbrenner**, Increasing communication avenues between Mechanical Engineering doctoral students, faculty and the administration, *2020 ASEE Virtual Annual Conference & Exposition*, June 22-26, 2020.

K. Pickens McConnell, **J.E. Steinbrenner**, From Theory to Impact: A Mixed Media Approach to Shifting Student Perceptions of Faculty Research, *2020 ASEE Annual Conference & Exposition*, submitted, not presented due to COVID.

K. Pickens McConnell, D. Knight, and **J.E. Steinbrenner**, Push and Pull: Integrating Industry Across the Student Experience, *2019 ASEE Annual Conference & Exposition*, June 15-19, 2019, Tampa, FL.

D. Kotys-Schwartz, D. Knight, **J.E. Steinbrenner**, A Qualitative Investigation of Success and Challenges with Team Roles in Capstone Design, *2018 Capstone Design Conference*, June 4-6, 2018, Rochester, NY.

Other
Publications

R.K. Cole, A.D. Draper, P. J. Schroeder, C.M. Casby, A.S. Makowiecki, S.C. Coburn, **J.E. Steinbrenner**, N. Hoghooghi, and G.B. Rieker. "Demonstration of a uniform, high-pressure, high-temperature gas cell with a dual frequency comb absorption spectrometer." *Journal of Quantitative Spectroscopy and Radiative Transfer* 268 (2021): 107640.

A. Makowiecki, **J.E. Steinbrenner**, N. Wimer, J. Glusman, C. LaPointe, J. Daily, P. Hamlington, and G. Rieker, Dual Frequency Comb Spectroscopy of Solid Fuel Pyrolysis and Combustion: Quantifying the Influence of Moisture Content in Douglas Fir, *Fire Safety Journal*. September 2020; vol.116, p.103185.

J.E. Steinbrenner, E.S. Lee, C.H. Hidrovo, J.K. Eaton, K.E. Goodson, Impact of channel geometry on two-phase flow in fuel cell microchannels, *J. Power Sources*. June 2011; vol.196, no.11, p.5012-5020.

A. Rogacs, **J.E. Steinbrenner**, J.A. Rowlette, J.M. Weisse, X.L. Zheng, K.E. Goodson. Characterization of wettability of thin nanostructured films in the presence of evaporation. *J. Colloid Interface Science*. September 2010; vol.349, no.1, p.354-360.

C. Fang, **J.E. Steinbrenner**, F.-M. Wang, K.E. Goodson. Impact of wall

hydrophobicity on condensation flow and heat transfer in silicon microchannels. *J. Micromechanics Microengineering*. April 2010; vol.20, no.4, 045018.

J.E. Steinbrenner, C.H. Hidrovo, F.-M. Wang, E.S. Lee, S. Vigneron, T.A. Kramer, C.H. Cheng, J.K. Eaton, K.E. Goodson. Measurement and Modeling of Liquid Film Thickness Evolution in Stratified Two-Phase Microchannel Flows. *Applied Thermal Engineering*. July 2007; vol.27, no.10, p.1722-7.

F.-M. Wang, **J.E. Steinbrenner**, C.H. Hidrovo, T.A. Kramer, E.S. Lee, S. Vigneron, J.K. Eaton, K.E. Goodson. Investigation of Two-Phase Transport Phenomena in Microchannels Using a Microfabricated Experimental Structure. *Applied Thermal Engineering*, July 2007; vol.27, no.10, p.1728-1733.

C.H. Hidrovo, T.A. Kramer, E.N. Wang, S. Vigneron, **J.E. Steinbrenner**, J.M. Koo, F.M. Wang, D.W. Fogg, R.D. Flynn, E.S. Lee, C.H. Cheng, T.W. Kenny, J.K. Eaton, K.E. Goodson. Two-Phase Microfluidics for Semiconductor Circuits and Fuel Cells. *ICMM2005: 3rd International Conference on Microchannels and Minichannels*, June 13-15, 2005, Toronto, Ontario, Canada (keynote paper). *Heat Transfer Engineering*, May 2006; v.27, no.4, p.53-63.

A.P. Freid, P.K. Johnson, M. Musella, R. Müller, **J.E. Steinbrenner**, R.D. Palumbo. Solar Blind Pyrometer Temperature Measurements in High Temperature Solar Thermal Reactors: A Method for Correcting the System-Sensor Cavity Reflection Error. *J. Solar Energy Engineering*. Feb. 2005; vol.127, no.1, p.86-93.

Media Stories

ASME Magazine, *Universities Educating from a Distance*, by Carlos M. Gonzalez, Dec 2020 <https://www.asme.org/topics-resources/content/universities-educating-from-a-distance>

Colorado Engineer Magazine, *Producing a Prototype during the Pandemic*, Spring 2020 <https://www.colorado.edu/studentgroups/colorado-engineer/>

Mechanical Engineering Projects Showcase Week 2020, April 27 2020, <https://www.colorado.edu/mechanical/2020/04/24/mechanical-engineering-projects-showcase-week-2020>

ME educators recognized by college for supporting students beyond the classroom, by Oksana Schuppan, January 24, 2020 <https://www.colorado.edu/mechanical/2020/01/24/me-educators-recognized-college-supporting-students-beyond-classroom>

Student Experiential Education transforms professional development for mechanical engineers at CU Boulder, by Oksana Schuppan, January 24, 2020 <https://www.colorado.edu/mechanical/2020/01/24/student-experiential-education-transforms-professional-development-mechanical-engineers>

Connecting beyond the classroom at annual ME Alumni Connect Day, Nov. 13, 2019 <https://www.colorado.edu/mechanical/2019/11/13/connecting-beyond-classroom-annual-me-alumni-connect-day>

Veterans challenge CU Boulder capstone students to design for improved quality of life, April 22, 2019 <https://www.colorado.edu/mechanical/2019/04/22/veterans-challenge-cu-boulder-capstone-students-design-improved-quality-life>

Alumni impart wisdom at Careers in ME Symposium, October 8, 2018

<https://www.colorado.edu/mechanical/2018/10/08/alumni-impart-wisdom-careers-me-symposium>

Students design microsatellite launcher for Lockheed Martin, July 25, 2016
<https://www.colorado.edu/mechanical/2016/07/25/students-design-microsatellite-launcher-lockheed-martin>

Departmental
Committees

Chair, Undergraduate Committee, AY 22/23, AY 23/24
ME Department Executive Committee, AY 17/18, 18/19, 19/20, 20/21, 21/22, 22/23
Chair, External Relations Committee, AY 17/18, 18/19, 19/20, 20/21, 21/22
Member of the Graduate Committee, AY 13/14, 14/15, 16/17

Other
departmental
Service

Active participant in departmental functions: faculty search visits, instructor search visits, department meetings, department retreats, Distinguished Seminar Speaker series, and strategic planning
SEE Initiative planning and execution meetings, AY 17/18, 18/19, 19/20
Client for a CMCI Capstone course focusing on marketing strategy for the Department of Mechanical Engineering, 2018
Wrote sections of ABET report for MCEN 2000 continuous improvement and met with ABET evaluator, 2017
Wrote outreach section of ARPAC report and met with ARPAC reviewers, 2017, 2018
Organized Instructor Search, resulting in hire of Dr. Jenifer Blacklock, 2017
Coordinated Fluids Preliminary Exam, 2017, 2018
Coordinated Heat Transfer Preliminary Exam, 2016
Mentor for Lead TA, Adrienne Scott, in Mechanical Engineering, AY 18/19
Mentor for Lead TA, Tim Morrissey, in Mechanical Engineering, AY 16/17, 17/18
Client for WRTG 3035 projects related to student professional development, 2016, 2019
Task force for Senior Design program expansion, 2016
Presented at Fall IAC meeting task force discussion, 2015
Task force for Heat Transfer course review, 2015
FE Review session for Heat Transfer and Fluid Mechanics, AY 12/13, 13/14
Intro to Research Seminar Coordination, F 13, F 14
GEARRS presentation critiques and participation, S 13 – 19

College-level
Committees

Undergraduate Education Council Member, AY 15/16, 16/17, 22/23, 23/24
COVID-19 working group for project/lab classes, Spring/Summer 20
Search Committee for CEAS Senior Director of Student Professional Development, F 18
CEAS Internship Working Group, AY 18/19
Faculty Advisor, Engineering Excellence Fund (EEF) Committee, AY 16/17, 17/18, F 18
Undergraduate Education Council Task Force on Writing in the Curriculum, 2016
Faculty Director of CEAS Energy Engineering Minor, AY 15/16, 16/17
Energy Engineering Minor Task Force, AY 14/15

Other college-level service	<p>Discussion groups for entrepreneurial and off-cycle interdisciplinary capstone, 2020</p> <p>Development of COVID protocols for Capstone courses, Summer 2020</p> <p>Participate in BOLD coffee hours with students, 2017</p> <p>BOLD S-STEM mentor, 2017, 2018, 2019, 2020, 2021</p> <p>Meetings to coordinate ME/EE Interdisciplinary Capstone Exchanges, AY 17/18, 18/19, 19/20, 20/21</p> <p>Meetings to coordinate ME/CS Interdisciplinary Capstone Exchanges, AY 22/23</p> <p>Client for WRTG 3035 project examining Energy Engineering Minor, 2017</p> <p>Participant in Advancement meetings with industry partners, advisory board members</p> <p>Faculty facilitator for Freshman Orientation Presentation: Growth Mindset, F 17</p> <p>Recruited female undergraduate students at BOLD Mocktails event, F 15, F 17, F 18</p> <p>Faculty Student Mentorship Program, AY 14/15</p> <p>College of Engineering Strategic Planning Retreat, F 13</p>
University-level service	<p>Participant in Faculty Leadership Institute, AY 2023/2024</p> <p>Member of Faculty Affairs Advisory Board (FAAB), AY 2023/2024</p> <p>Participant in AcuMENT mentorship circle, AY 2023/2024</p> <p>Participant in 17th Annual Academic Leaders Mini-Conference: <i>CU Undergraduate Retention: Understanding the Problem and What Academic Leaders Can Do</i>, August 18, 2023</p>
Student Advising	<p>Technical Writing consults: Chelsea Cheveran, Paul Schroder, Torrey Hayden</p> <p>Resume advising and job search and career discussions, dozens of students annually.</p> <p>Letters of Recommendation, typically over 10 students annually.</p> <p>Thermofluids Laboratory Module Development: Alexander Khaldy, Kaiyang Zheng, Griff Wendland, Scott Oubre, Daniel Navarro, Majed Al Hulayel, Eric Witter, Winston Mosley, Nasha Nasry, Mirza Fatini Mohd Rosidi</p> <p>Independent study: Technical Writing, Simon Hafner, BS/MS Student in Mechanical Engineering, 2018, 2019</p> <p>Independent study: Thermo-fluid system modeling using commercial software, Alexander Thompson, BS/MS Student in Mechanical Engineering, 2017</p> <p>Independent study: Thermo-fluid system modeling using commercial software, Alexander Enright, BS/MS Student in Mechanical Engineering, 2017</p> <p>Independent study: Thermal modeling of Solar Thermal Water Heater (with NREL), Chinmay Morankar, MS Student in Mechanical Engineering, 2016</p> <p>Independent Study: Redesign of a dynamometer for high-mileage vehicle diagnostics, Jeffrey Gonzales and Sam Orzinski, BS Students in Mechanical Engineering, 2015</p>
Dissertation Committee Member	<p>Bryn Grunwald, MS student in Mechanical Engineering, 2020</p> <p>Steven Isaacs, PhD student in Mechanical Engineering, 2020</p> <p>Kyle Karber, PhD student in Mechanical Engineering, 2018</p> <p>Shanshan Xu, PhD student in Mechanical Engineering, 2017</p> <p>Amanda Luketa, MS student in Mechanical Engineering, 2015</p> <p>Miles Abarr, PhD student in Mechanical Engineering, 2015</p> <p>Berkeley Almand-Hunter, PhD student in Mechanical Engineering, 2015</p> <p>Qian Li, PhD student in Mechanical Engineering, 2014</p>

Suraj Thiagarajan, PhD student in Mechanical Engineering, 2014

Comprehensive Exam Reviewer Steven Isaacs, PhD student in Mechanical Engineering, 2017
Kyle Karber, PhD student in Mechanical Engineering, 2017
Shanshan Xu, PhD student in Mechanical Engineering, 2016
Didier Muvandimwe, PhD student in Mechanical Engineering, 2014
Berkeley Almand, PhD student in Mechanical Engineering, 2014
Qian Li, PhD student in Mechanical Engineering, 2013
Suraj Thiagarajan, PhD student in Mechanical Engineering, 2013

Ph.D. Qualifying Examination Committee Ablimit Aili, PhD student in Mechanical Engineering, 2018
Julian Quick, PhD student in Mechanical Engineering, 2018
Corey Trujillo, PhD student in Mechanical Engineering, 2018
Alex Rybchuk, PhD student in Mechanical Engineering, 2018
Elizabeth Strong, PhD student in Mechanical Engineering, 2018
Mike Meehan, PhD student in Mechanical Engineering, 2018
Skyler Kern, PhD student in Mechanical Engineering, 2018
Jeff Glusman, PhD student in Mechanical Engineering, 2018
Ryan Cole, PhD student in Mechanical Engineering, 2017
Sam Whitman, PhD student in Mechanical Engineering, 2017
Xinpeng Zhao, PhD student in Mechanical Engineering, 2017
Olga Doronina, PhD student in Mechanical Engineering, 2017
Elise Mesenbring, PhD student in Mechanical Engineering, 2016
Caelen Lapointe, PhD student in Mechanical Engineering, 2016, 2017
Nathan Malarich, PhD student in Mechanical Engineering, 2016
David Pfothenauer, PhD student in Mechanical Engineering, 2016
Andres Villada, PhD student in Mechanical Engineering, 2016
Tim Ritter, PhD student in Mechanical Engineering, 2016
Nathan Malarich, PhD student in Mechanical Engineering, 2016
Aaron Lampaugh, PhD student in Mechanical Engineering, 2016
Steven Issacs, PhD student in Mechanical Engineering, 2016
Yao Zhai, PhD student in Mechanical Engineering, 2015/2016
Alec Thomas, PhD student in Mechanical Engineering, 2015
Xin Qian, PhD student in Mechanical Engineering, 2015
Shanshan Xu, PhD student in Mechanical Engineering, 2014
Kyle Karber, PhD student in Mechanical Engineering, 2014

Invited Reviewer Scientific Reports

Professional Development Workshops Attended	<p>Toward a More Inclusive College, BOLD Workshop, 2017</p> <p>Inclusive Pedagogy with Dr. Saundra McGuire, 2017</p> <p>Teaching your First Day of Class, FTEP workshop, 2015</p> <p>Effective Use of Clickers, FTEP workshop, 2013</p> <p>What do you want them to learn today?: learning goals and formative assessment, FTEP workshop, 2013</p> <p>Writing Effective Clicker Questions, FTEP workshop, 2013</p>
Grants	<p>UROP Development Grant for Research Lunches in MCEN 2000: Mechanical Engineering as a Profession, 2018</p> <p>Gift funding in support of SEE Initiative, \$100k+, 2018</p> <p>EEF Grant for Module Development for Thermofluids Laboratory Course, \$33.5k, 2016</p>
Patents	<p>United States Patent 9,819,134, <i>Tool for stripping and crimping a wire</i>, November 14, 2017.</p> <p>United States Patent 9,211,703, <i>Temperature dependent shape elements for void control in ink jet printers</i>, December 15, 2015</p>
Community Involvement	<p>Faculty Mentor for Science Research Seminar student design team from Monarch High School studying Double Wishbone Suspension Dynamics, AY 15/16</p> <p>University of Colorado – Boulder Lutheran Campus Ministry Board, 2012 – present</p> <p>El Camino Colorado mentor, 2014-2016</p> <p>Judge for Northglenn High School Physics Project-Based Learning Course Fair, 2015</p> <p>Tau Beta Pi – Engineering Honor Society, 2000-2002: Vice-President of Valparaiso Chapter, 2001-2002</p> <p>Society of Women Engineers – VU Student Chapter, 1998-2002. President, 1999/2000. Treasurer, 1998</p> <p>Dean's Student Advisory Committee for the Valparaiso University College of Engineering, 1999-2002</p>
Languages	<p>English (native), French (proficient)</p>