Ryan Berke, Assistant Professor
Mechanical & Aerospace Engineering
4130 Old Main Hill; Logan, UT 84322-4130
office: (435)797-8184 | fax: (435)797-2417
ryan.berke@usu.edu | www.berkelab.com

EDUCATION

Postdoc, Aerospace Engineering, University of Illinois, Urbana-Champaign, IL. *Jan. 2013 – Sept. 2014*
Ultraviolet Digital Image Correlation (UV-DIC) for High Temperature Applications
Advisor: Professor John Lambros

PhD, Mechanical Engineering, The Ohio State University, Columbus, OH. *June 2008 – Jan. 2013*
Mechanical Characterization of Solid Oxide Fuel Cell Electrolytes with Honeycomb Support
Advisor: Professor Mark E. Walter

B.S., Mechanical Engineering, University of Maryland, College Park, MD. *Aug. 2003 – May 2008*
Minor in Physics, QUEST Honors Program, Concentration in Solid Mechanics

HONORS & AWARDS

1. MAE Outstanding Undergraduate Research Mentor of the Year, Utah State University, 2017.
2. MAE Outstanding Undergraduate Research Mentor of the Year, Utah State University, 2016.
3. Haythornthwaite Foundation Student Travel Award and Paper Competition, ASME-IMECE 2012.
4. Ray Travel Award, The Ohio State University Council of Graduate Students, Fall 2012.
5. NSF Student Travel Award and Poster Competition, Finalist, ASME-IMECE 2011.
6. General Topics Poster Competition, 3rd Place (of 95 participants), ASME-IMECE 2011.
7. Distinguished University Fellowship, Ohio State University, 2008-'09 & 2011-'12 academic years.

RESEARCH EXPERIENCE

Assistant Professor, Utah State University. *Jan. 2015 – Present*
- Director of the Mechanics at Extreme Temperatures Lab (www.berkelab.com)
- Studies mechanics of materials for extreme temperature environments, with applications to the energy, aerospace, and nuclear industries.

Postdoctoral Researcher, University of Illinois, Urbana-Champaign. *Jan. 2013 – Dec. 2014*
- Studied mechanical response of nickel superalloy at high temperatures (1100°C and above)
- Developed high-temperature stereo-DIC methods using filtered blue and UV light.
- Purchased and assembled optical equipment including cameras, lights, lenses, and filters.
- Designed and produced custom coils for an induction heating system.

Visiting Researcher, University of Liverpool, UK. *June 2014*
- Studied the vibrational response of nickel superalloy at elevated temperatures using stereo-DIC.
- Set up a custom quartz lamp heating system for heating planar surfaces during vibrational tests.

Graduate Research Associate, The Ohio State University. *June 2008 – Jan. 2013*
- Partnered with NexTech Materials to improve mechanical robustness of Solid Oxide Fuel Cells (SOFCs)
- Performed Finite Element simulations of SOFC components using ANSYS and ABAQUS
- Characterized mechanical properties of material samples using load frame experiments and resonance
- Prepared manuscripts for submission to scientific literature and presented at technical conferences

Co-Op Student, National Institute of Standards and Technology (NIST) *Jan. 2005 – Aug. 2007*
- Performed simulations to model the effects of building retrofits to reduce exposure to airborne toxins.
- Collected and analyzed field data to monitor tracer gases and energy use in a manufactured house.
- Calibrated field equipment, and redesigned the group's calibration procedures to be more precise.
- Performed Blower Door Tests to determine the estimated leakage area of zones.

RESEARCH INTERESTS

Solid Mechanics: Thermo-mechanical loading, fracture, fatigue, creep, environmental effects.
Advanced Material Systems: High temperature materials, multi-scale structures, advanced energy systems, aerospace vehicles, nuclear structural materials, accident tolerant fuels.
Experimental Methods: High-temperature measurements, in-situ methods, resonant ultrasound spectroscopy, 2-D and 3-D digital image correlation.
Education: Graduate and undergraduate research, participation of under-represented populations

TEACHING EXPERIENCE

As Assistant Professor at Utah State University:

MAE 3040: Mechanics of Solids (Junior Required Course)
- Fall 2016: 67 students, evaluation score 4.0/5.0
- Fall 2015: 57 students, evaluation score 3.6/5.0

MAE 5040: Experimental Solid Mechanics (Senior / Graduate Elective) – **New course** developed by me
- Fall 2016: 6 students, evaluation score 4.4/5.0 (as MAE 5930: Special Topics)
- Spring 2015: 11 students, evaluation score 3.2/4.0 (as MAE 5930: Special Topics)

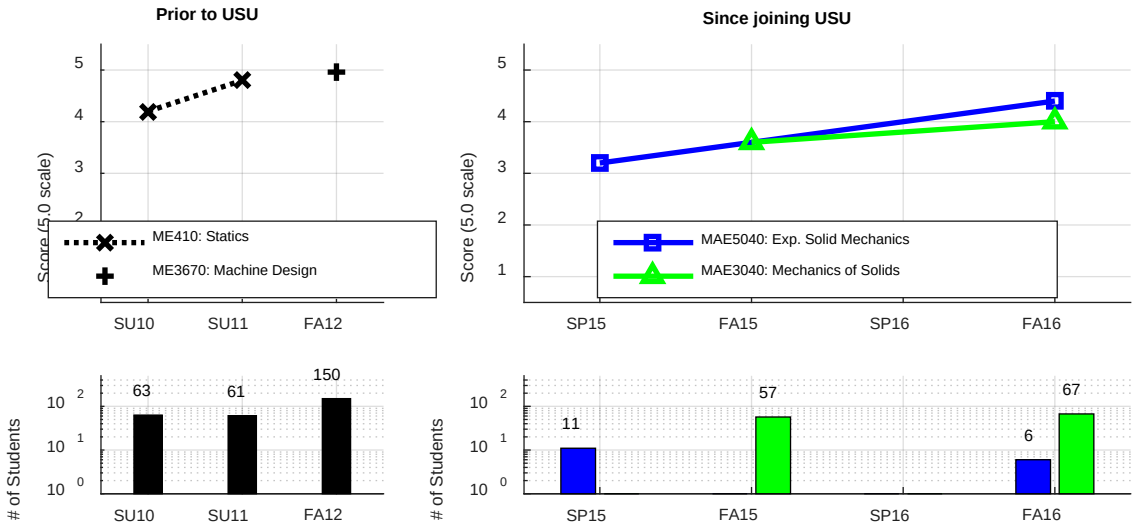
Other Teaching Activities:
- Currently mentor 3 graduate students and 11 undergraduates (4 seniors, 3 juniors, and 4 sophomores) – including 5 women, 1 Latina, and 2 LGBTQ+ students. *(Last Updated Jan. 2017)*
  - Five (5) admitted into USU's Engineering Undergraduate Research Program (EURP)
  - Five (5) admitted into USU's Undergraduate Research Fellows (URF) Program
  - One (1) recognized as 2017 MAE Outstanding Undergraduate Researcher of the Year
- 2016-17: Advised senior design team to build custom UV Zoom Lens for high temperature imaging.
- Fall 2016: Advised two Undergraduate Teaching Fellows (UTFs) to develop new lab activities for MAE 5040: Experimental Solid Mechanics.

Prior to joining Utah State University:

ME 410: Statics (Sophomore Required Course), The Ohio State University (as Instructor of Record)
- Summer 2011: 61 students, evaluation score 4.8/5.0
- Summer 2010: 63 students, evaluation score 4.2/5.0

ME 3670: Machine Design (Junior Required Course), The Ohio State University (as Graduate TA)
- Fall 2012: 150 students, evaluation score 4.95/5.00

ENES 190H: Intro to Quality & Design (Sophomore Elective), Univ of Maryland (as Undergrad TA)
- Fall 2005: 70 students, no evaluation score



PAST, CURRENT, AND PENDING SUPPORT

Past and Current Support (as PI)

1. Utah State University Office of Research and Graduate Studies, "High Temperature Vibrational Resonance of SiC Composites for Advanced Aerospace Applications," **$20,000**, 07/01/15 – 12/31/16.

2. Utah State University Office of Research and Graduate Studies, "Graduate Research Assistantship in Materials Characterization at Extreme Temperatures for Advanced Aerospace Applications," **$80,000**, 08/01/15 – 03/31/19.
3. USDOE Nuclear Energy University Program (NEUP), "Full Field Temperature and Strain Measurements at Extreme Temperatures," **$226,824**, 01/01/16 – 12/31/16.

TOTAL PAST AND CURRENT AS PI: $326,824

Past and Current Support (as co-PI)

1. Nuclear Regulatory Commission (NRC), "Faculty Development Program to Integrate New Faculty in Nuclear Engineering Research at Utah State University," **$329,779 (my responsibility: about $160,000)**, 08/31/15 – 08/30/18. (PI: Heng Ban).
2. USDOE Nuclear Energy University Program (NEUP), "Transient Reactor (TREAT) Experiments to Validate MBM Fuel Performance Simulations," **$5 Million (my responsibility: about $350,000)**, 10/01/16 – 09/30/20. (PI: Heng Ban).

TOTAL PAST AND CURRENT AS CO-PI: $5,329,779 (my responsibility: about $510,000)

Pending Support (as PI) – *Last Updated January 2017*

1. National Science Foundation (NSF), "CAREER: Examining Micro-mechanisms of Thermo-Mechanical Fatigue in Extreme Temperature Environments," **$500,000**, 01/01/17 – 12/31/21.
2. Air Force Research Lab (AFRL), "Characterizing Full-Field Vibration Fatigue Strain at Elevated Temperatures," **$37,125**, 06/05/17 – 07/28/17.
3. Oak Ridge Associated Universities (ORAU), "Heterogeneous Creep Measurements in Nuclear Fuel Cladding Materials," **$10,000**, 06/01/17 – 05/31/18.
4. National Science Foundation (NSF), "Influence of Phase-Lag on Thermo-mechanical Fatigue Near Crossover Strains," **$247,255**, 09/01/17 – 8/31/20.
5. USDOE Nuclear Energy University Program (NEUP), "Full-Field Microstructural Temperatures and Strains for MARMOT Validation," **$800,000**, 10/1/17 – 9/30/20.

TOTAL PENDING AS PI: $1,594,380

Pending Support (as Co-PI) – *Last Updated January 2017*

1. USDOE Nuclear Energy University Program (NEUP), "Focused Ion Beam for Advanced Specimen Preparation, 3D Microstructural Characterization, and Simulated Irradiation," **$300,000**, 10/1/17 – 9/30/18. (PI: Nick Roberts)
2. USDOE Nuclear Energy University Program (NEUP), "Experiment and Multiscale Modeling of Slow Crack Growth of SiC/SiC Composites in Operating Reactor Environments," **$800,000**, 10/1/17 – 9/30/20. (PI: Ling Liu)

TOTAL PENDING AS CO-PI: $1,100,000

BOOKS PUBLISHED

1. Alan T. Zehnder, Jay Carroll, Kavan Hazeli, **Ryan B. Berke**, Garrett Pataky, Matthew Cavalli, Allison M. Beese, Shuman Xia (editors), "Fracture, Fatigue, Failure, and Damage Evolution," Volume 8, *Proceedings of the 2016 Annual Conference on Experimental and Applied Mechanics*. Orlando, FL. June 2016.

JOURNAL PUBLICATIONS

1. **R.B. Berke**, C.M. Sebastian, R. Chona, E.A. Patterson, & J. Lambros. "High Temperature Vibratory Response of Hastelloy-X: Stereo-DIC Measurements and Image Decomposition Analysis." *Experimental Mechanics* **56**(2), pp. 231-243 (2016)
2. **R.B. Berke** & M.E. Walter. "Using Specimen Geometry to Distinguish between Flexural and Torsional Modes when Determining Elastic Material Properties via Sonic Resonance." *ASTM J. Test Eval.* **44**(1) (2016).
3. **R.B. Berke** & J. Lambros. "Ultraviolet Digital Image Correlation (UV-DIC) for High Temperature Applications." *Rev. Sci. Inst.* **85**, 045121 (2014).

4. **R.B. Berke** & M.E. Walter. "Mesoscale Stress Response of Thin Ceramic Membranes with Honeycomb Support." *Int. J. Mech. Mater. Des.* **10**(1), pp. 53-64 (2014).
5. **R.B. Berke** & M.E. Walter, "Mechanical Characterization of Thin SOFC Electrolytes with Honeycomb Support." *J. Fuel Cell Sci. Technol.* **10**(1), pp. 1-7 (2013).

CONFERENCE PUBLICATIONS

1. **R.B. Berke**, C.M. Sebastian, A. Ding, R. Chona, E.A. Patterson, & J. Lambros. "Stereo-DIC Measurements of Thermal Gradient Effects on the Vibratory Response of Metals." *Proceeding of IMAC*, Orlando, FL. January 2016.
2. **R. B. Berke**, "Full-Field Strain Measurements at Extreme Temperatures using Ultraviolet Digital Image Correlation (UV-DIC)" Extended Abstract. Proceedings of the *Winter Meeting of the American Nuclear Society*, Washington D.C., Nov. 2015.
3. **R. B. Berke**, J. Lambros. "Ultraviolet Digital Image Correlation (UV-DIC) for Creep Measurement at High Temperatures" Extended Abstract. Proceedings of the *US National Congress on Theoretical and Applied Mechanics (USNCTAM)*, East Lansing, MI. June 2014.
4. **R. B. Berke**, C. M. Sebastian, E. A. Patterson, J. Lambros. "High Temperature Vibration Response of a Nickel-based Superalloy Validated Using stereo-DIC measurements." Extended Abstract. Proceedings of the *SEM Annual Conference & Exposition on Experimental and Applied Mechanics*, Greenville, SC. June 2014.
5. **R. B. Berke**, J. Lambros. "Ultraviolet Digital Image Correlation (UV-DIC) at High Temperatures" Extended Abstract. Proceedings of the *SEM Annual Conference & Exposition on Experimental and Applied Mechanics*, Greenville, SC. June 2014.
6. **R. Berke** & M. Walter, "Mechanical Characterization and Modeling of Corrugated Metal Foams for SOFC Applications." Proceedings for *ASME International Mechanical Engineering Congress & Exposition,* Denver, CO. Nov. 2011.
7. **R. Berke** & M. Walter. "Mechanical Characterization and Modeling of Solid Oxide Fuel Cells and Stacks." Proceedings for *SEM Annual Conference & Exposition on Experimental and Applied Mechanics*, Mohegan Sun, Conn. June 2011.
8. **R. Berke**, A. Suresh, & M. Walter. "Mechanical Characterization and Modeling of Electrolyte Membranes in Electrolyte-Supported SOFCs." Proceedings for *SEM Annual Conference & Exposition on Experimental and Applied Mechanics*, Indianapolis, Ind. June 2010.

INVITED PRESENTATIONS

1. **R. B. Berke.** "Thermo-acoustic Response of Hastelloy X measured with Ultraviolet Digital Image Correlation (UV-DIC)," Oak Ridge National Lab, Oak Ridge, TN, Feb. 2016.
2. **R. B. Berke.** "Extreme Temperature Vibration Response of Hastelloy-X measured with Ultraviolet Digital Image Correlation (UV-DIC)," Army Research Lab, Aberdeen, MD, Nov. 2015.
3. **R. B. Berke.** "Vibration of Hastelloy-X at Extreme Temperatures measured with Ultraviolet Digital Image Correlation (UV-DIC)," National Institute of Standards and Technology (NIST), Gaithersburg, MD, Nov. 2015.
4. **R. B. Berke.** "Full-Field Temperature and Strain Measurements at Extreme Temperatures using Ultraviolet Digital Image Correlation," Idaho National Lab, August 2015.
5. **R. B. Berke.** "Mechanical Characterization at Extreme Temperatures using Ultraviolet Digital Image Correlation (UV-DIC)," Idaho National Lab, Materials and Fuels Complex, July 2015.
6. **R. B. Berke.** "Ultraviolet Digital Image Correlation (UV-DIC) for Mechanical Characterization at Extreme Temperatures," University of Utah, Salt Lake City, UT, April 2015.
7. **R. B. Berke**. "Materials Characterization at Extreme Temperatures using Digital Image Correlation," Missouri University of Science & Technology, Rolla, MO, August 2014.
8. **R. B. Berke**. "Materials Characterization at Extreme Temperatures using Digital Image Correlation," Utah State University, Logan, UT, August 2014.
9. **R. B. Berke**. "Mechanical Characterization of Solid Oxide Fuel Cell Electrolytes with Honeycomb Support," University of Illinois at Urbana-Champaign, Urbana, IL, October 2012.

CONFERENCE PRESENTATIONS

1. **R. B. Berke**, E. Nickerson, T. Thai. "Full-Field Thermal Strain Measurements on Graphite at Extreme Temperatures," ASME *International Mechanical Engineering Congress & Exposition*, Phoenix, AZ, Nov. 2016.
2. **R. B. Berke**, E. Nickerson, T. Thai. "Measuring Full-Field Strains on Graphite in Extreme Temperatures using Ultraviolet Digital Image Correlation (UV-DIC)," *SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Orlando, FL, June 2016.

3. **R. B. Berke.** "Ultraviolet Digital Image Correlation (UV-DIC) for Measuring Full-Field Strains at Extreme Temperatures," *TMS Annual Conference*, Nashville, TN, Feb. 2016.
4. **R. B. Berke**. "Full-Field Strain Measurements at Extreme Temperatures using Ultraviolet Digital Image Correlation (UV-DIC)." *Winter Meeting of the American Nuclear Society*, Washington, D.C., Nov. 2015.
5. **R. B. Berke**, J. Lambros. "Ultraviolet Digital Image Correlation (UV-DIC) for Creep Measurement at High Temperatures." *US National Congress on Theoretical and Applied Mechanics (USNCTAM)*, East Lansing, MI. June 2014.
6. **R. B. Berke**, C. M. Sebastian, E. A. Patterson, J. Lambros. "High Temperature Vibration Response of a Nickel-based Superalloy Validated Using stereo-DIC measurements." *SEM Annual Conference & Exposition on Experimental and Applied Mechanics*, Greenville, SC. June 2014.
7. **R. B. Berke**, J. Lambros. "Ultraviolet Digital Image Correlation (UV-DIC) at High Temperatures" *SEM Annual Conference & Exposition on Experimental and Applied Mechanics*, Greenville, SC. June 2014.
8. **R. Berke**, M. Walter, S. Monfort, G. Arkenberg. "Mechanical Characterization and Modeling of Next-Generation Electrolyte-Supported SOFC Stacks." *ASME International Mechanical Engineering Congress & Exposition,* Houston, TX. Nov. 2012
9. S. Akanda, M. Walter, **R. Berke**, N. Kidner, M. Seabaugh "Lifetime Predictions of MCO Coatings on Metallic Interconnects." *ASME International Mechanical Engineering Congress & Exposition,* Houston, TX. Nov. 2012
10. **R. Berke**, M. Walter, "Mechanical Characterization and Modeling of Corrugated Metal Foams for SOFC Applications." *ASME International Mechanical Engineering Congress & Exposition,* Denver, CO. Nov. 2011
11. **R. Berke**, M. Walter, "Mechanical Characterization and Modeling of Next-Generation Solid Oxide Fuel Cells and Stacks." *Material Science & Technology 2011 Conference & Exposition*, Columbus, OH. Oct. 2011
12. **R. Berke**, M. Walter. "Mechanical Characterization and Modeling of Corrugated Metal Foams for SOFC Applications." *Department of Mechanical and Aerospace Engineering Graduate Student Research Day*, Columbus, OH. Oct. 2011.
13. M. Walter, B. Dev, & **R. Berke**. "Mechanical Characterization and Modeling of Solid Oxide Fuel Cells and Stacks." *SEM Annual Conference & Exposition on Experimental and Applied Mechanics*, Mohegan Sun, Conn. June 2011.
14. **R. Berke**, B. Dev, & M. Walter. "Mechanical Characterization and Modeling of Solid Oxide Fuel Cells and Stacks." *ASME Applied Mechanics and Materials Conference (McMAT)*, Chicago, Ill. May 2011.
15. **R. Berke**, A. Suresh, & M. Walter. "Mechanical Characterization of Electrolyte-Supported Solid Oxide Fuel Cells." *Department of Mechanical and Aerospace Engineering Graduate Student Research Day*, Columbus, OH. Oct. 2010.
16. **R. Berke**, A. Suresh, & M. Walter. "Mechanical Characterization and Modeling of Electrolyte Membranes in Electrolyte-Supported SOFCs." *SEM Annual Conference & Exposition on Experimental and Applied Mechanics*, Indianapolis, Ind. June 2010.
17. M. Walter, **R. Berke**, & A. Suresh. "Two-Scale Characterization and Modeling of Electrolytes in Electrolyte-Supported Solid Oxide Fuel Cells." *ASME International Mechanical Engineering Congress & Exposition,* Lake Buena Vista, Fla. Nov. 2009
18. **R. Berke**, A. Suresh, & M. Walter. "Two-Scale Modeling of Thin Layers in Electrolyte-Supported Planar Solid Oxide Fuel Cells." *U.S. National Congress on Computational Mechanics,* Columbus, Ohio. July 2009.

POSTER SESSIONS

1. T. Bird, S. Ames, & **R. Berke**. "Modal Identification in Flat Plates during Vibrational Resonance at High Temperatures," *ASME International Mechanical Engineering Congress & Exposition,* Phoenix, AZ, Nov. 2016.
2. E. Nickerson, J. Schulthess, & **R. Berke**. "Distortion Correction for Digital Image Correlation at HFEF." *Idaho National Laboratory's 2016 Intern Expo*, Aug. 2016.
    a. World's Nuclear Energy Future poster competition, 2nd place
3. **R. Berke**, B. Dev, M. Walter, M. Jansen, M. Day, & S. Swartz. "Characterization of SOFC Electrolytes for Improved Mechanical Robustness." *Department of Mechanical and Aerospace Engineering Graduate Open House*, Columbus, OH. Feb. 2012.

4. **R. Berke**, M. Walter, "Mechanical Characterization and Modeling of Corrugated Metal Foams for SOFC Applications." *ASME International Mechanical Engineering Congress & Exposition,* Denver, CO. Nov. 2011
    a. General Topics Poster Competition, 3rd place (of 95 participants)
    b. NSF Student Poster Competition, Finalist
5. **R. Berke**, B. Dev, M. Walter, M. Jansen, M. Day, & S. Swartz. "Characterization of SOFC Electrolytes for Improved Mechanical Robustness." *Department of Mechanical and Aerospace Engineering Graduate Student Research Day*, Columbus, OH. Oct. 2011.
6. M. Walter, **R. Berke**, B. Dev, M. Jansen, M. Day, & S. Swartz. "Characterization of SOFC Electrolytes for Improved Mechanical Robustness." *12th Annual Solid State Energy Conversion Alliance Workshop*, Pittsburgh, PA. July 2011.
7. **R. Berke**, M. Walter, A. Suresh, P. Matter, M. Day, K. Chenault, & S. Swartz. "Mechanical Characterization and Modeling of Electrolyte Membranes in Electrolyte-Supported SOFCs." *Department of Mechanical and Aerospace Engineering Open House*, Columbus, OH. Feb. 2011.
8. **R. Berke**, M. Walter, A. Suresh, P. Matter, M. Day, K. Chenault, & S. Swartz. "Mechanical Characterization and Modeling of Electrolyte Membranes in Electrolyte-Supported SOFCs." *Department of Mechanical and Aerospace Engineering Graduate Student Research Day*, Columbus, OH. Oct. 2011.
9. M. Walter, A. Suresh, **R. Berke**, P. Matter, M. Day, K. Chenault, & S. Swartz. "Mechanical Characterization and Modeling of Electrolyte Membranes in Electrolyte-Supported SOFCs." *11th Annual Solid State Energy Conversion Alliance Workshop*, Pittsburgh, PA. July 2010.
10. **R. Berke**, M. Walter. "Application of Experimental Mechanics and Microstructural Analysis for Multi-Scale Materials Characterization." *Department of Mechanical Engineering Open House*, Columbus, OH. Feb. 2010.
11. **R. Berke**, T. Gatts, M. Walter. "Investigation of the Heating and Cooling of Composite Glass Seals for SOFCs." *Department of Mechanical Engineering Graduate Student Research Day,* Columbus, OH. Oct. 2010.
12. **R. Berke**, M. Walter. "Application of Experimental Mechanics and Microstructural Analysis for Multi-Scale Materials Characterization." *Department of Mechanical Engineering Open House*, Columbus, OH. Feb. 2009.
13. **R. Berke**, T. Gatts, M. Walter. "Investigation of the Heating and Cooling of Composite Glass Seals for SOFCs." *Department of Mechanical Engineering Graduate Student Research Day,* Columbus, OH. Oct. 2009.

STUDENTS ADVISED

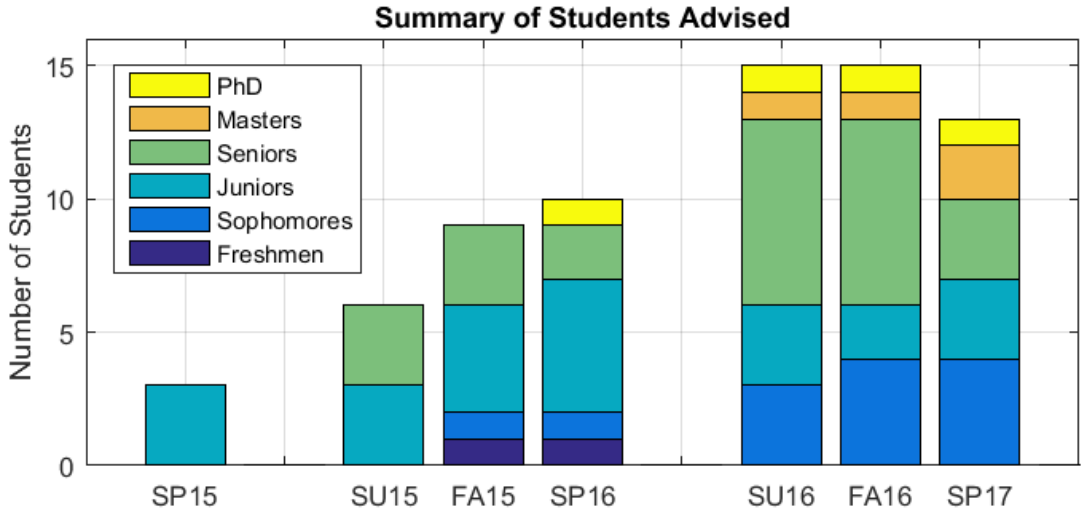
Graduate Students

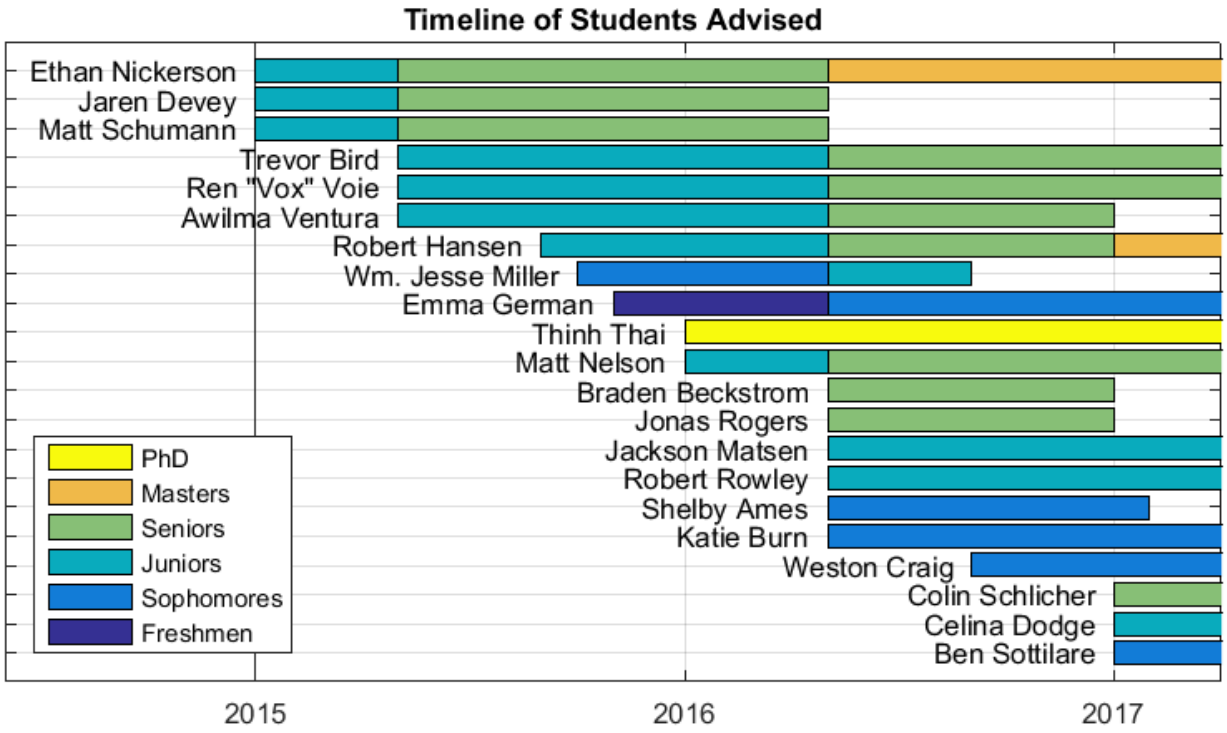
1. Thinh Q. Thai, PhD Student (current)
2. Ethan Nickerson, M.S. Student (current)
3. Robert Hansen, M.S. Student (current)
4. Matt Nelson, PhD Student (beginning May 2017)
5. Ren "Vox" Voie, M.S. Student (beginning May 2017)

Undergraduate Students

1. Weston Craig, B.S. Mechanical Engineering (expected graduation Dec 2019)
2. Katie Burn, B.S. Mechanical Engineering (expected graduation May 2019)
3. Emma German, B.S. Mechanical Engineering (expected graduation May 2019)
4. Ben Sottilare, B.S. Mechanical Engineering (expected graduation May 2019)
5. Jackson Matsen, B.S. Mechanical Engineering (expected graduation Dec 2018)
6. Celina Dodge, B.S. Mechanical Engineering (expected graduation May 2018)
7. Robert Rowley, B.S. Mechanical Engineering (expected graduation May 2018)
8. Braden Beckstrom, B.S. Mechanical Engineering (expected graduation May 2017)
9. Trevor Bird, B.S. Mechanical Engineering (expected graduation May 2017)
10. Matt Nelson, B.S. Mechanical Engineering (expected graduation May 2017)
11. Jonas Rogers, B.S. Mechanical Engineering (expected graduation May 2017)
12. Colin Schlicher, B.S. Mechanical Engineering (expected graduation May 2017)
13. Awilma Ventura, B.S. Mechanical Engineering (expected graduation May 2017)
14. Ren "Vox" Voie, B.S. Mechanical Engineering (expected graduation May 2017)
15. Shelby Ames, Mechanical Engineering Student, 2016-2017
16. Robert Hansen, B.S. Mechanical Engineering 2016 (currently M.S.)
17. Wm. Jesse Miller, Mechanical Engineering Student, 2015-2016

18. Jaren Devey, B.S. Mechanical Engineering 2016
19. Ethan Nickerson, B.S. Mechanical Engineering 2016 (currently M.S.)
20. Matt Schumann, B.S. Mechanical Engineering 2016





SERVICE ACTIVITIES

USU Engineering Undergraduate Research Program (EURP) Committee — *Fall 2016 – Present*

USU MAE Undergraduate Studies Committee — *Fall 2015 – Summer 2016*

USU Native American STEM Mentorship Program (NASMP) — *Summer 2016*
USU Allies on Campus — *Spring 2016 – Present*
USU Interfaith Initiative — *Spring 2016 – Present*

Society for Experimental Mechanics (SEM) — *Spring 2010 – Present*
Fracture and Fatigue Committee

2016 SEM Annual Conference, Orlando, FL

1. Paper Reviewer for Fracture and Fatigue Sessions (with Garrett Pataky)
2. Session Organizer: “In-situ Techniques for Fracture and Fatigue” (with Allison Beese and Garrett Pataky)
3. Session Organizer: “Fracture and Fatigue in Extreme Environments” (with Kavan Hazeli)
4. Session Organizer: “General Topics in Fracture and Fatigue” (with Garrett Pataky)
5. Session Organizer: “Damage Detection in Fracture and Fatigue” (with Shuman Xia and Xueju Wang)
6. Session Co-chair: “Interfacial Effects in Fracture and Fatigue” (with Vikas Tomar and Garrett Pataky)

2017 SEM Annual Conference, Indianapolis, IN

1. Paper Reviewer for Fracture and Fatigue Sessions (with Garrett Pataky)
2. Session Organizer: “In-situ Techniques for Fracture and Fatigue” (with Omer Ozgur Capraz)
3. Session Organizer: “Fracture and Fatigue in Extreme Environments” (with Kavan Hazeli)
4. Session Organizer: “Vibration Effects in Fracture and Fatigue” (with Onome Scott-Emuakpor)
5. Session Organizer: “Brittle Fracture” (with Garrett Pataky)

American Society of Mechanical Engineers (ASME) *Fall 2003 – Present*

Applied Mechanics Division > Experimental Mechanics Committee

Vice Chair Nov. 2016-Present

2016 IMECE Annual Conference, Phoenix, AZ

1. Topic Organizer: “12-31: Mechanical Characterization in Extreme Temperature Environments” (with Natasha Vermaak)

2017 IMECE Annual Conference, Tampa, FL

1. Topic Organizer: “12-XX: Mechanical Characterization in Extreme Temperature Environments” (with Natasha Vermaak)
2. Topic Organizer: “12-XX: Quantitative Visualization of Fracture and Failure” (with Leslie Lamberson and Natasha Vermaak)
3. Topic Organizer: “12-XX: In Situ Techniques in Experimental Mechanics of Fracture and Failure” (with Charles Wojnar)

American Nuclear Society (ANS), Materials Science and Technology Division *Winter 2015 – Present*

Proposal reviewer for DOE Consolidated Innovative Nuclear Research (CINR) *FY 2015-2017*

Journal reviewer for Experimental Mechanics, I.J. Mechanics and Materials in Design, J. Strain Analysis, Measurement Science and Technology, and Review of Scientific Instruments. *2015 – Present*

Prior to joining Utah State University:

American Society for Engineering Education (ASEE) *Spring 2010 – Spring 2013*

Student Chapter President, 2010-’11 & 2011-‘12 Academic Years (Reelected)

Ohio State Mechanical Engineering Grad Student Association (MEGA) *Fall 2008 – Fall 2012*

Chapter President, 2011-’12 Academic Year

Ohio State Mechanical Engineering Graduate Studies Committee

Student Representative *Fall 2011 – Fall 2012*

Ohio State Design & Manufacturing Interest Group Committee

Student Representative *Fall 2012*