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Mechanical & Aerospace Engineering
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EDUCATION

- Postdoc, Aerospace Engineering, University of Illinois, Urbana-Champaign, IL. *Jan. 2013 – Sept. 2014*
Advisor: Professor John Lambros
- PhD, Mechanical Engineering, The Ohio State University, Columbus, OH. *June 2008 – Jan. 2013*
Advisor: Professor Mark E. Walter
- B.S., Mechanical Engineering, University of Maryland, College Park, MD. *Aug. 2003 – May 2008*

HONORS & AWARDS

1. MAE Faculty Researcher of the Year, 2022, Utah State University
2. Outstanding Graduate Research Mentor of the Year, Utah State University
 - a. Department of MAE Level 2020 & 2021
 - b. College of Engineering Level 2021
3. **AFOSR Young Investigator Award, FY2020.**
4. Outstanding Undergraduate Research Mentor of the Year, Utah State University
 - a. Department of MAE Level 2016, 2017, 2018, & 2019
 - b. College of Engineering Level 2019
 - c. University-wide Level 2019
5. AFRL Summer Faculty Fellowship Program, Wright-Patterson AFB, 2017, 2018, and 2021.
6. Haythornthwaite Foundation Student Travel Award and Paper Competition, ASME-IMECE 2012.
7. Ray Travel Award, The Ohio State University Council of Graduate Students, Fall 2012.
8. NSF Student Travel Award and Poster Competition, Finalist, ASME-IMECE 2011.
9. General Topics Poster Competition, 3rd Place (of 95 participants), ASME-IMECE 2011.
10. Distinguished University Fellowship, Ohio State University, 2008-'09 & 2011-'12 academic years.

RESEARCH EXPERIENCE

- Associate Professor, Utah State University. *July 2022 – Present*
- Director of the Mechanics at Extreme Temperatures Lab (www.berkelab.com)
- Director of the Thermal Hydraulics and Material Properties Center (<http://nuclear.usu.edu/>)
- Assistant Professor, Utah State University. *Jan. 2015 – June 2022*
- Visiting Researcher, Wright-Patterson AFB. *June-Aug. 2017, 2018, 2021*
- Postdoctoral Researcher, University of Illinois, Urbana-Champaign. *Jan. 2013 – Dec. 2014*
- Graduate Research Associate, The Ohio State University. *June 2008 – Jan. 2013*
- Co-Op Student, National Institute of Standards and Technology (NIST). *Jan. 2005 – Aug. 2007*

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, high-throughput techniques.

Education: Graduate and undergraduate research, participation of underrepresented populations

JOURNAL PUBLICATIONS (SUBMITTED OR PUBLISHED)¹***In Review (Experimental Mechanics Topics):***

1. *L.J. Rowley, T.Q. Thai, S.R. Jarrett, W.D. Craig, P. Dewanjee, R.B. Berke*, "Correcting for DIC Speckle Inversion at High Temperature using Color Cameras," *Applied Optics* (to be submitted April 2022).
2. *L.J. Rowley, T.Q. Thai, A. Dabb, B.D. Hill, B.A. Furman, R.B. Berke*, "High Speed Ultraviolet Digital Image Correlation (UV-DIC) for Dynamic Strains at Extreme Temperatures," *Review of Scientific Instruments* (submitted March 2022).

In Review (Education & Outreach Topics):

3. *H. Pradell, J. Parmenter, R.V. Galliher, R.B. Berke*, "LGBTQ+ Engineering Students' Recommendations for Sustaining and Supporting Diversity in STEM," *Journal of Women and Minorities in Science and Engineering* (submitted April 2022).
4. *M.A. Lea, W.D. Craig, R.B. Berke*, "The Metallurgy of Marvel: Omega Red and his Carbonadium Synthesizer," *Superhero Science & Technology* (submitted June 2021)
5. *J. Parmenter, R. Galliher, R. Berke, T. Barrett*, "Configurations of Sexual and Vocational Identity Processes among Sexual Minority College Students," *Journal of LGBTQ Issues in Counseling* (first submitted March 2021)

Published:

1. *S.R. Jarrett, T.Q. Thai, L.J. Rowley, W.D. Craig, R.B. Berke*, "Using Bit Depth to Extend Temperature Range in High Temperature DIC Measurement," *Journal of Sensors* (accepted May 2022).
2. *B.D. Hill, B.A. Furman, E.E. German, J.R. Rigby, R.B. Berke*, "Non-Contact Strain Measurement to Eliminate Strain Gauges in Vibration-based Fatigue Testing," *Journal of Strain Analysis in Engineering Design* (accepted Jan 2022).
3. *M. Castaneda-Kessel, R. Buss, I. Villanueva, R. Berke*, "Research Development and Early Career Faculty: Catalysts of Change for Diversity, Equity, and Inclusion in Stem," *Journal of Research Administration* (accepted Jan 2022)
4. *R.S. Hansen, K.Z. Burn, C.M. Rigby, E.K. Ashby, E.K. Nickerson, R.B. Berke*, "Digital Image Correlation at Long Working Distances: The Influence of Diffraction Limits," *Measurement* (accepted Nov 2021)
5. *A.J. Smith, H.L. Maxwell, H. Mirmohammad, O.T. Kingstedt, R.B. Berke*, "A Novel Variable Extensometer Method for Measuring Ductility Scaling Parameters from Single Specimens," *Journal of Applied Mechanics* (accepted Nov 2021)
6. *F.B. Van Leeuwen, W.D. Craig, S.R. Jarrett, R.S. Hansen, R.B. Berke*, "Stereo Digital Image Correlation with Improved Depth of Field using Tilt-Shift Photography," *Measurement Science & Technology* (accepted Sept 2021)
7. *T.Q. Thai, R.J. Rowley, R.S. Hansen, R.B. Berke*, "How Light Emitted at High Temperature Affects Common Digital Image Correlation Algorithms," *Measurement Science & Technology* (Accepted Sept 2021).
8. *W.D. Craig, F.B. Van Leeuwen, S.R. Jarrett, R.S. Hansen, R.B. Berke*, "Using Text as a Native Speckle Pattern in Digital Image Correlation," *Journal of Strain Analysis in Engineering Design* (Accepted August 2021)
9. *R.S. Hansen, D.W. Waldram, T.Q. Thai, R.B. Berke*, "Super Resolution Digital Image Correlation (SR-DIC): An Alternative to Image Stitching at High Magnification," *Experimental Mechanics* (accepted April 2021)
10. *T.Q. Thai, J. Ruesch, P.R. Gradl, T.T. Truscott, R.B. Berke*, "Speckle Pattern Inversion in High Temperature DIC Measurement," *Experimental Techniques* (accepted April 2021).
11. *B.A. Furman, B.D. Hill, E.E. German, O. Scott-Emuakpor, R.B. Berke*, "Shape Optimization of Rectangular Plates for Vibration-based Fatigue Testing," *Journal of Applied Mechanics* 88(9) (2021).

¹ Names in *italics* denote students advised by me. Names which are also underlined denote students who were undergraduates at the time that they made their contribution to the paper.

12. **R.B. Berke**, B.A. Furman, C.M. Holycross, O. Scott-Emuakpor, "Damage Accumulation in a Novel High-Throughput Technique to Characterize High Cycle Fatigue," *Journal of Testing and Evaluation* **49**(1), pp. 297-312 (2021).
13. **T.Q. Thai**, **A.J. Smith**, **R.J. Rowley**, P.R. Gradl, **R.B. Berke**, "Change of Exposure Time Mid-Test in High Temperature DIC Measurement," *Measurement Science & Technology* **31**(7) (2020).
14. **R.S. Hansen**, T. Bird, R. Voie, K. Burn, **R.B. Berke**, "A High Magnification UV Lens for High Temperature Optical Strain Measurements," *Review of Scientific Instruments* **90**, 045117 (2019).
15. **T.Q. Thai**, **R.S. Hansen**, A.J. Smith, J. Lambros, **R.B. Berke**, "The Importance of Exposure Time on DIC Measurement Uncertainty at Extreme Temperatures," *Experimental Techniques* **43**(3) pp. 261-271 (2019).
16. **E.K. Nickerson** & **R.B. Berke**, "Ultraviolet Diffraction-Assisted Image Correlation (UV-DAIC) for Single-Camera 3D Strain Measurement at Extreme Temperatures," *Experimental Mechanics*, **58**(6), pp. 885-892 (2018).
17. **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)
18. **R.B. Berke** & M.E. Walter. "Using Specimen Geometry to Distinguish between Flexural and Torsional Modes when Determining Elastic Material Properties via Sonic Resonance." *Journal of Testing and Evaluation* **44**(1) (2016).
19. **R.B. Berke** & J. Lambros. "Ultraviolet Digital Image Correlation (UV-DIC) for High Temperature Applications." *Rev. Sci. Inst.* **85**, 045121 (2014).
20. **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).
21. **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 PROCEEDINGS

1. S.D. Burton, E.E. German, B.A. Furman, C.M. Holycross, O. Scott-Emuakpor, **R.B. Berke**. "Improved Measurement for High-Cycle Fatigue Examination," *Proceedings of the SEM Annual Conference and Exposition*, Reno, NV June 2019.
2. **R.J. Rowley**, **C. Stolinski**, W. Craig, O.T. Kingstedt, **R.B. Berke**, "Dynamic Interlaminar Fracture of 3D-Printed ABS Plastic," Extended Abstract. *Proceedings of the SEM Annual Conference and Exposition*, Reno, NV June 2019.
3. **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." *Proceedings of IMAC*, Orlando, FL. January 2016.
4. **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.
5. **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.
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." Extended Abstract. *Proceedings of the 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" Extended Abstract. *Proceedings of the SEM Annual Conference & Exposition on Experimental and Applied Mechanics*, Greenville, SC. June 2014.
8. **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.
9. **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.
10. **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 / KEYNOTE PRESENTATIONS

1. **R.B. Berke**, "Tradeoffs in Lighting when Performing Digital Image Correlation at High Magnifications, Long Working Distances, and Extreme Temperatures," University of Southampton, March 2022.
2. **R.B. Berke**, "Non Contact Deformation Measurements at Extreme Temperatures using Ultraviolet Digital Image Correlation (UV-DIC)," Gleeble Webinar Series, Dynamic Systems Inc., Dec 2021.
3. **R.B. Berke**, "The Role of Camera Sensitivity in Extreme Temperature Optical Strain Measurements," University of California, Santa Barbara CA, May 2019.
4. **R.B. Berke**, "KEYNOTE: Ultraviolet Image-based Measurement Techniques for Strain Measurement at Extreme Temperatures," 2nd International Symposium on Image-based Metrology, Maui, HI, Dec. 2017.
5. **R.B. Berke**, "Heterogeneous Strain Measurements at Extreme Temperatures with Ultraviolet Digital Image Correlation (UV-DIC)," Lehigh University, Bethlehem, PA, Nov. 2017.
6. **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.
7. **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.
8. **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.
9. **R. B. Berke**, "Full-Field Temperature and Strain Measurements at Extreme Temperatures using Ultraviolet Digital Image Correlation," Idaho National Lab, August 2015.
10. **R. B. Berke**, "Mechanical Characterization at Extreme Temperatures using Ultraviolet Digital Image Correlation (UV-DIC)," Idaho National Lab, Materials and Fuels Complex, July 2015.
11. **R. B. Berke**, "Ultraviolet Digital Image Correlation (UV-DIC) for Mechanical Characterization at Extreme Temperatures," University of Utah, Salt Lake City, UT, April 2015.
12. **R. B. Berke**, "Materials Characterization at Extreme Temperatures using Digital Image Correlation," Missouri University of Science & Technology, Rolla, MO, August 2014.
13. **R. B. Berke**, "Materials Characterization at Extreme Temperatures using Digital Image Correlation," Utah State University, Logan, UT, August 2014.
14. **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. *H.L. Maxwell, A.J. Smith, R.K. Singh, H. Mirmohammad, O.T. Kingstedt, R.B. Berke*, "A Variable Extensometer Method to Characterize Ductility at Elevated Temperatures," *Annual Meeting of the Society for Experimental Mechanics*, Pittsburgh, PA, June 2022.
2. *M.W. Estrada, P. Dewanjee, M.A. Lea, R.B. Berke*, "Directional Reflectance Microscopy (DRM) as an Alternative to EBSD when Mapping DIC Against Microstructure," *Annual Meeting of the Society for Experimental Mechanics*, Pittsburgh, PA, June 2022.
3. *W.D. Craig, S.R. Jarrett, M.W. Estrada, R.K. Singh, P. Dewanjee, R.B. Berke*, "Simultaneous Multi-Scale DIC Measurement with Colored Speckle Pattern and Color Cameras," *Annual Meeting of the Society for Experimental Mechanics*, Pittsburgh, PA, June 2022.
4. *B.D. Hill, B.A. Furman, J.R. Rigby, A.M. Loftin, E.M. Santana, R.B. Berke*, "DIC Strain-Velocity Calibration Curves to Eliminate Strain Gauges in Vibration-based Fatigue Testing," *Annual Meeting of the Society for Experimental Mechanics*, Pittsburgh, PA, June 2022.
5. *B.A. Furman, B.D. Hill, A.M. Loftin, J.R. Rigby, E.M. Santana, R.B. Berke*, "Measurement of Damage-Induced Mode Shape Changes using DIC Coupled with a Robust Phase-Locking Algorithm," *Annual Meeting of the Society for Experimental Mechanics*, Pittsburgh, PA, June 2022.
6. *L.J. Rowley, T.Q. Thai, S.R. Jarrett, P. Dewanjee, R.B. Berke*, "Mitigation of Speckle Pattern Inversion at Extreme Temperature using Color Cameras," *Annual Meeting of the Society for Experimental Mechanics*, Pittsburgh, PA, June 2022.
7. *W.D. Craig, A.J. Smith, R.B. Berke*, "A High-throughput Method to Accelerate Thermo-Mechanical Fatigue Testing," *ASME International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2021.

8. *B.D. Hill, B.A. Furman, A.M. Loftin, E.M. Santana, L. Rowley, J.R. Rigby, **R.B. Berke** "DIC Strain-Velocity Calibration Curves to Inform Vibration-based Fatigue Testing," ASME *International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2021.*
9. *R.S. Hansen, K.Z. Burn, C.M. Rigby, E.K. Ashby, E.K. Nickerson, **R.B. Berke**, "Airy Disks vs Subset Size in Digital Image Correlation at Long Working Distances and High Magnifications," ASME *International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2021.*
10. *R.S. Hansen, M.G. Estrada, **R.B. Berke** "Pairing Hydride Maps with Displacement Fields in Hoop Tension Tests of Aged Nuclear Fuel Cladding," ASME *International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2021.*
11. *B.A. Furman, B.D. Hill, A.M. Loftin, **R.B. Berke** "A New Phase Locked Camera Triggering Method and its Application to a High Frequency Vibration-based Fatigue Test," ASME *International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2021.*
12. *B.D. Hill, B.A. Furman, E.E. German, E.A. Chamberlain, J.R. Rigby, **R.B. Berke** "Phase Locked Stereo-DIC to Inform Vibration-based Fatigue Testing," *Annual Meeting of the Society for Experimental Mechanics*, Virtual Conference, June 2021.*
13. *B.A. Furman, E.E. German, B.D. Hill, L.J. Rowley, **R.B. Berke**, "Vibration-based Fatigue Testing at High Temperatures," *Annual Meeting of the Society for Experimental Mechanics*, Virtual Conference, June 2021.*
14. *W.D. Craig, A.J. Smith, **R.B. Berke**, "A Novel High-throughput Method to More Quickly Characterize Low Cycle Fatigue," *Annual Meeting of the Society for Experimental Mechanics*, Virtual Conference, June 2021.*
15. ***R.B. Berke**, A.J. Smith, H.L. Maxwell, "A Variable Extensometer Method to Characterize Ductility Scaling Relationships," *Annual Meeting of the Society for Experimental Mechanics*, Virtual Conference, June 2021.*
16. *R.S. Hansen, M.G. Estrada, **R.B. Berke** "High Magnification DIC in Hoop Direction Tension Testing of Hydrided Nuclear Fuel Cladding," *Annual Meeting of the Society for Experimental Mechanics*, Virtual Conference, June 2021.*
17. *S.R. Jarrett, L.J. Rowley, T.Q. Thai, **R.B. Berke**, "Using Increased Bit Depth to Improve High Temperature DIC Measurements," *Annual Meeting of the Society for Experimental Mechanics*, Virtual Conference, June 2021.*
18. ***R.B. Berke**, T.Q. Thai, R.J. Rowley, S.R. Jarrett, R.S. Hansen, "Always use the ZNSSD Correlation Function when Performing DIC at Extreme Temperatures," *Annual Meeting of the Society for Experimental Mechanics*, Virtual Conference, June 2021.*
19. *E.A. Chamberlain, B.A. Furman, E.E. German, B.D. Hill, J.R. Rigby, **R.B. Berke**, "Experimental Validation of Scaling Relationships of Vibration-Based Fatigue Testing," ASME *International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2020.*
20. *B.D. Hill, B.A. Furman, E.E. German, E.A. Chamberlain, J.R. Rigby, **R.B. Berke**, "Stereo DIC Measurements During Vibration-Based Fatigue Testing," ASME *International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2020.*
21. *B.A. Furman, E.E. German, B.D. Hill, E.A. Chamberlain, J.R. Rigby, **R.B. Berke**, "Fatigue Life Assessment for Specimens Subjected to Varying Load Levels in a High-Throughput Method for Vibration-Based Fatigue," ASME *International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2020.*
22. *B.A. Furman, E.E. German, B.D. Hill, E.A. Chamberlain, J.R. Rigby, **R.B. Berke**, "Modal Analysis of a High-Throughput Vibration-Based Fatigue Testing Assembly," ASME *International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2020.*
23. *W.D. Craig, R.S. Hansen, F.B. Van Leeuwen, S.R. Jarrett, **R.B. Berke**, "Using Text as a Native Speckle Pattern in Digital Image Correlation," ASME *International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2020.*
24. *H. Cragun, M. Lea, J. Parmenter, R.V. Galliher, **R.B. Berke**, "Career Identity Development of LGBTQ+ Engineering College Students," ASME *International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2020.*
25. ***R.B. Berke**, T.Q. Thai, R.J. Rowley, R.S. Hansen, "Insights of Correlation Functions in DIC Measurement at Extreme Temperature," ASME *International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2020.*

26. *R.S. Hansen, D. Waldram, T.Q. Thai, R.B. Berke*, "Enhancing Micro-scale Displacement Measurements Using Super Resolution Digital Image Correlation (SR-DIC)," *ASME International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2020.
27. *R.J. Rowley, A.J. Smith, T.Q. Thai, R.B. Berke*, "Correcting for Speckle Pattern Inversion During Digital Image Correlation at Extreme Temperatures," *ASME International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2020.
28. *R.J. Rowley, A. Dabb, B.D. Hill, T.Q. Thai, R.B. Berke*, "Demonstration of UV-DIC at High Speeds and Extreme Temperatures," *ASME International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2020.
29. *A.J. Smith, R.J. Rowley, T.Q. Thai, O.T. Kingstedt, R.B. Berke*, "A Variable Extensometer Method for Characterizing the Multi-Scale Ductility of OFHC Copper," *ASME International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2020.
30. *R.B. Berke, B.A. Furman, E.E. German, B.D. Hill, C.M. Holycross, O. Scott-Emuakpor*, "Damage Accumulation in a Novel High-Throughput Method to Characterize High Cycle Fatigue," *Annual Meeting of the Society for Engineering Sciences (SES)*, Virtual Conference, Sept 2020.
31. *R.B. Berke*, "High-Throughput Characterization of High Cycle Fatigue for Extreme Temperature Aerospace Environments," *Agile Science of Test and Evaluation Program Review*, AFOSR, Virtual Meeting, Sept 2020.
32. *F.B. Van Leeuwen, E.E. German, R.B. Berke*, "Rotating the Image Plane with Scheimpflug Lenses to Improve Stereo-DIC," *SEM XIV International Congress*, Virtual Conference, Sept 2020.
33. *B.A. Furman, C.M. Holycross, O. Scott-Emuakpor, R.B. Berke*, "Damage Accumulation in a Novel High-Throughput Method to Characterize High Cycle Fatigue," *SEM XIV International Congress*, Virtual Conference, Sept 2020.
34. *B.A. Furman, E.E. German, B.D. Hill, R.B. Berke*, "Validation of an Optimized High-Throughput Carrier Plate for Vibration-based Fatigue Testing," *SEM XIV International Congress*, Virtual Conference, Sept 2020.
35. *W.D. Craig, E.E. German, F.B. Van Leeuwen, R.B. Berke*, "Which Seminal DIC Document Makes the Best Speckle Pattern?," *SEM XIV International Congress*, Virtual Conference, Sept 2020.
36. *T.Q. Thai, R.J. Rowley, P.R. Gradl, R.S. Hansen, R.B. Berke*, "Competition of Reflected and Emitted Speckle Pattern during DIC Measurements at High Temperature," *SEM XIV International Congress*, Virtual Conference, Sept 2020.
37. *R.S. Hansen, David Kamerman, R.B. Berke*, "Finite Element Modeling to Inform Anisotropic Testing of Nuclear Fuel Cladding," *SEM XIV International Congress*, Virtual Conference, Sept 2020.
38. *R.S. Hansen, D. Waldram, R.B. Berke*, "Super Resolution Imaging for In-Situ Digital Image Correlation," *SEM XIV International Congress*, Virtual Conference, Sept 2020.
39. *A.J. Smith, R.B. Berke*, "A Study on Phase Angle Deviation During Thermomechanical Fatigue of Hastelloy X," Utah State University (USU) Spring Research Symposium (SRS), Logan, UT April 2020.
40. *R.C.V. Galliher, J. Parmenter, R.B. Berke, H. Cragun, K. Craig*, "Patterns of career and sexual identity development among LGBTQ+ college students," *Society fo Research on Adolescence*, March 2020.
41. *R.B. Berke, K.Z. Burn, C.M. Rigby, E.K. Nickerson*, "DIC at Long Working Distances: the Effect of Aperture," *ASME International Mechanical Engineering Congress & Exposition*, Salt Lake City, UT, Nov. 2019.
42. *R.S. Hansen, D. Kamerman, R.B. Berke*, "Testing Methodologies for Anisotropic Circumferential Properties of Nuclear Fuel Cladding," *ASME International Mechanical Engineering Congress & Exposition*, Salt Lake City, UT, Nov. 2019.
43. *R.S. Hansen, D. Waldram, R.B. Berke*, "Digital Image Correlation using Super Resolution Techniques," *ASME International Mechanical Engineering Congress & Exposition*, Salt Lake City, UT, Nov. 2019.
 - a. Third place, Student Competition in Experimental Mechanics
44. *T.Q. Thai, J. Ruesch, P. Gradl, T.T. Truscott, R.B. Berke*, "Competition of Reflected and Emitted Light in High Temperature DIC Measurements," *ASME International Mechanical Engineering Congress & Exposition*, Salt Lake City, UT, Nov. 2019.

45. *A.J. Smith, R.S. Hansen, T.Q. Thai, R.B. Berke*, "Characterizing the Impact of Phase Angle on Thermo-Mechanical Fatigue Behavior," *ASME International Mechanical Engineering Congress & Exposition*, Salt Lake City, UT, Nov. 2019.
 - a. Second place, Student Competition in Experimental Mechanics
46. *B.A. Furman, E.E. German, B. Hill, M. Calvin, R.B. Berke*, "Parametric Analysis of Specimen Geometry for Vibration-based Fatigue Testing," *ASME International Mechanical Engineering Congress & Exposition*, Salt Lake City, UT, Nov. 2019.
47. *W. Craig, R.J. Rowley, C. Stolinski, O.T. Kingstedt, R.B. Berke*, "Dynamic Interlaminar Crack Propagation in 3D-Printed ABS Plastic," *ASME International Mechanical Engineering Congress & Exposition*, Salt Lake City, UT, Nov. 2019.
48. *E.E. German, S.D. Burton, B.A. Furman, D.A. Celli, C.M. Holycross, O. Scott-Emuakpor, R.B. Berke*, "A Multi-Insert Assembly for High-Throughput Fatigue Characterization," *ASME International Mechanical Engineering Congress & Exposition*, Salt Lake City, UT, Nov. 2019.
49. *T.Q. Thai, A.J. Smith, A. Dabb, R.B. Berke*, "How Alteration of Exposure Time Mid-Test affects UV-DIC at Extreme Temperatures," *SEM Annual Conference on Experimental and Applied Mechanics*, Reno, NV, June 2019.
50. *R.S. Hansen, T.J. Bird, R. Voie, K. Burn, D. Waldram, R.B. Berke*, "High-Magnification In-Situ Optical Strain Measurements at Elevated Temperatures," *SEM Annual Conference on Experimental and Applied Mechanics*, Reno, NV, June 2019.
51. *A.J. Smith, R.S. Hansen, T.Q. Thai, R.B. Berke*, "The Effect of Phase-Lag on Materials Undergoing Thermo-Mechanical Fatigue," *SEM Annual Conference on Experimental and Applied Mechanics*, Reno, NV, June 2019.
52. *R.J. Rowley, C. Stolinski, W. Craig, O.T. Kingstedt, R.B. Berke*, "Dynamic Interlaminar Fracture of 3D-Printed ABS Plastic," *SEM Annual Conference on Experimental and Applied Mechanics*, Reno, NV, June 2019.
53. *W. Craig, C. Stolinski, R.J. Rowley, O.T. Kingstedt, R.B. Berke*, "Interlaminar Crack Propagation in 3D-Printed Plastics with High Speed DIC," *SEM Annual Conference on Experimental and Applied Mechanics*, Reno, NV, June 2019.
54. *B. Furman, R.B. Berke*, "Shape Optimization for Vibration-based Fatigue Specimens," *SEM Annual Conference on Experimental and Applied Mechanics*, Reno, NV, June 2019.
55. *S.D. Burton, E.E. German, B.A. Furman, C.M. Holycross, O. Scott-Emuakpor, R.B. Berke*, "Improved High-Throughput Measurement of High Cycle Fatigue Examination," *SEM Annual Conference on Experimental and Applied Mechanics*, Reno, NV, June 2019.
56. Galliher, R. V., Parmenter, J. G., **Berke, R.**, *Craig, K.*, & *Cragun, H.* "Navigation of Career and Sexual/Gender Identity Development among LGBTQ+ College Students." *Biannual meeting of International Society for Research on Identity*. Naples, Italy, May 2019.
57. *R.S. Hansen, T.J. Bird, R. Voie, R.B. Berke*, "A Customized UV Lens for In-Situ Measurements at High Temperatures and High Magnifications," *ASME International Mechanical Engineering Congress & Exposition*, Pittsburgh, PA, Nov. 2018.
58. *T.Q. Thai, R.S. Hansen, A.J. Smith, P. Gradl, R.B. Berke*, "Effect of Exposure Time on Ultraviolet DIC at Extreme Temperatures," *ASME International Mechanical Engineering Congress & Exposition*, Pittsburgh, PA, Nov. 2018.
59. **R. B. Berke**, *M. E. Nelson, S. Burton*, "Full-Field Vibration Fatigue Strains at Extreme Temperatures," *SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Greenville, SC, June 2018.
60. **R. B. Berke**, *T. Thai, A. Dabb, A. Smith*, "Speckle Pattern Inversion in DIC at Extreme Temperatures," *SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Greenville, SC, June 2018.
61. **R. B. Berke**, *K. Burn, E. K. Nickerson*, "DIC at Long Working Distances: The Influence of Diffraction Limits," *SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Greenville, SC, June 2018.
62. **R. B. Berke**, *E. Nickerson*. "Ultraviolet Diffraction-Assisted Image Correlation (UV-DAIC) for Single-Camera Stereo-DIC at Extreme Temperatures," *ASME International Mechanical Engineering Congress & Exposition*, Tampa, FL, Nov. 2017.
63. **R. B. Berke**, *E. Nickerson*. "Single-Camera Stereo-DIC at Extreme Temperatures with Ultraviolet Diffraction-Assisted Image Correlation (UV-DAIC)," *SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Indianapolis, IN, June 2017.

64. **R. B. Berke**, *T. Thai*, A. Ding, J. Lambros. "Full-Field Strain Measurements up to 1700C with Ultraviolet Digital Image Correlation," *SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Indianapolis, IN, June 2017.
65. **R. B. Berke**, *T. Bird*, *S. Ames*. "Parametric Study of Resonating Plates at Extreme Temperatures," *SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, Indianapolis, IN, June 2017.
66. *T. Bird*, **R. Berke**, "Resonant Response of Flat Plates at High Temperatures," USU Student Research Symposium, Logan, UT, April 2017.
 - a. First Place Undergraduate Engineering category
67. **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.
68. **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.
69. **R. B. Berke**. "Ultraviolet Digital Image Correlation (UV-DIC) for Measuring Full-Field Strains at Extreme Temperatures," *TMS Annual Conference*, Nashville, TN, Feb. 2016.
70. **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.
71. **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.
72. **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.
73. **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.
74. **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
75. 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
76. **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
77. **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
78. **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.
79. 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.
80. **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.
81. **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.
82. **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.

83. 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
84. **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. R.K. Singh, R. Maxwell, C. Ashby, H. Daniel, **R.B. Berke**, "A Novel High-Throughput Method for Performing Multiple Creep Tests Simultaneously," *Utah State University (USU) Spring Research Symposium (SRS)*, Logan, UT April 2022.
2. H.L. Maxwell, A.J. Smith, H. Mirmohammad, O.T. Kingstedt, **R.B. Berke**, "A Variable Extensometer Technique to Measure Ductility Scaling Relationships," *Utah State University (USU) Spring Research Symposium (SRS)*, Logan, UT April 2022.
3. E.A. Chamberlain, B.A. Furman, E.E. German, B.D. Hill, J.R. Rigby, **R.B. Berke**, "Experimental Validation of Scaling Relationships of Vibration-Based Fatigue Testing," *ASME International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2020.
 - a. ASME International Undergraduate Research and Design Expo
 - b. General Poster Session: Mechanics of Solids, Structures, and Fluids
4. B.D. Hill, B.A. Furman, E.E. German, E.A. Chamberlain, J.R. Rigby, **R.B. Berke**, "Stereo DIC Measurements During Vibration-Based Fatigue Testing," *ASME International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2020.
5. M. Lea, H. Cragun, J. Parmenter, R.V. Galliher, **R.B. Berke**, "Career Identity Development of LGBTQ+ Engineering College Students," *ASME International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2020.
 - a. ASME International Undergraduate Research and Design Expo
 - b. General Poster Session: Mechanics of Solids, Structures, and Fluids
6. F.B. Van Leeuwen, W.D. Craig, S.R. Jarrett, R.S. Hansen, **R.B. Berke**, "Stereo Digital Image Correlation with Scheimpflug Adjustment," *ASME International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2020.
 - a. ASME International Undergraduate Research and Design Expo
 - b. General Poster Session: Mechanics of Solids, Structures, and Fluids
7. R.S. Hansen, D. Waldram, T.Q. Thai, **R.B. Berke**, "Enhancing Micro-scale Displacement Measurements Using Super Resolution Digital Image Correlation (SR-DIC)," *ASME International Mechanical Engineering Congress & Exposition*, Virtual Conference, Nov. 2020.
8. E.E. German, B.A. Furman, S.D. Burton, D. Celli, C.M. Holycross, O. Scott-Emuakpor, **R.B. Berke**, "Two-Insert Assembly for High-Throughput Vibration-Based Fatigue," *Utah State University (USU) Spring Research Symposium (SRS)*, Logan, UT April 2020.
9. B.D. Hill, B.A. Furman, **R.B. Berke**, "Virtual Strain Gauge (VSG) Study to Optimize Optical Strain Measurements," *Utah State University (USU) Spring Research Symposium (SRS)*, Logan, UT April 2020.
10. A. Buxton, J. Ahmed, A.J. Smith, R.J. Rowley, O.T. Kingstedt, **R.B. Berke**, "Validating Ductility Scaling Relationships using Digital Image Correlation," *Utah Council for Undergraduate Research (UCUR)*, Logan, UT Feb 2020.
11. H. Cragun, J. Parmenter, R.V. Galliher, **R.B. Berke**, "Perceived Barriers of LGBTQ+ College Students Achieving their Career Goals," *Utah Council for Undergraduate Research (UCUR)*, Logan, UT Feb 2020.
12. F. Van Leeuwen, E.E. German, **R.B. Berke**, "Stereo Digital Image Correlation Improved by the Scheimpflug (aka Tilt-Tip) Principle," *Utah Council for Undergraduate Research (UCUR)*, Logan, UT Feb 2020.
13. E.E. German, S.D. Burton, B.A. Furman, D.A. Celli, C.M. Holycross, O. Scott-Emuakpor, **R.B. Berke**, "Improved Assembly for High-Throughput Vibration-Based Fatigue Testing," 2019 Annual Meeting of Out in Science, Technology, Engineering and Mathematics, Detroit, MI, Nov 2019.

14. H. Cragun, K. Craig, J. Parmenter, R.V. Galliher, **R.B. Berke**, "Career Development of LGBTQ STEM College Students: Barriers to Career Goals," 2019 Annual Meeting of Out in Science, Technology, Engineering and Mathematics, Detroit, MI, Nov 2019.
15. K. Craig, H. Cragun, J. Parmenter, R.V. Galliher, **R.B. Berke**, "Career Development of LGBTQ STEM College Students: Career Goals," 2019 Annual Meeting of Out in Science, Technology, Engineering and Mathematics, Detroit, MI, Nov 2019.
16. T.Q. Thai, R.S. Hansen, A.J. Smith, R.J. Rowley, **R.B. Berke**, "Camera Sensitivity for Non-Contacting Full-Field Strain Measurement up to 1600°C," ASME *International Mechanical Engineering Congress & Exposition*, Salt Lake City, UT, Nov. 2019.
17. W. Craig, R.J. Rowley, C. Stolinski, O.T. Kingstedt, **R.B. Berke**, "Dynamic Interlaminar Crack Propagation in 3D-Printed ABS Plastic," ASME *International Mechanical Engineering Congress & Exposition*, Salt Lake City, UT, Nov. 2019.
 - a. ASME International Undergraduate Research and Design Expo
 - b. General Poster Session: Mechanics of Solids, Structures, and Fluids
18. E.E. German, S.D. Burton, B.A. Furman, D.A. Celli, C.M. Holycross, O. Scott-Emuakpor, **R.B. Berke**, "Improved Assembly for High-Throughput Vibration-Based Fatigue Testing," ASME *International Mechanical Engineering Congress & Exposition*, Salt Lake City, UT, Nov. 2019.
 - a. ASME International Undergraduate Research and Design Expo
 - b. General Poster Session: Mechanics of Solids, Structures, and Fluids
19. F.B. Van Leeuwen, E.E. German, **R.B. Berke**, "Scheimpflug (aka Tilt-Tip) Principle Applied to Solid Mechanics with Stereo DIC," ASME *International Mechanical Engineering Congress & Exposition*, Salt Lake City, UT, Nov. 2019.
20. A. Buxton, J. Ahmed, A.J. Smith, O.T. Kingstedt, **R.B. Berke**, "Validating Ductility Scaling Relationships Using DIC," ASME *International Mechanical Engineering Congress & Exposition*, Salt Lake City, UT, Nov. 2019.
21. **R.B. Berke**, R.V. Galliher, J. Parmenter, H. Cragun, K. Craig, "Comparing the Sexual Identity and Career Development of LGBTQ+ Students in STEM," *NSF EEC Grantees Conference*, Alexandria, VA, Oct 2019.
22. T.Q. Thai, A.J. Smith, R.S. Hansen, R.J. Rowley, **R.B. Berke**, "Selection of Camera Sensitivity in High Temperature Optical Strain Measurements," *First Annual USU College of Engineering Poster Competition to celebrate Research Week*, Logan, UT, April 2019.
23. E.E. German, **R.B. Berke**, "Relative Errors of Motion Blur vs Depth of Field in Image-based Vibration Measurements," 2018 Annual Meeting of Out in Science, Technology, Engineering and Mathematics, Houston, TX, Nov 2018.
24. 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.
25. 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
26. **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.
27. **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
28. **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.
29. 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.

30. **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.
31. **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.
32. 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.
33. **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.
34. **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.
35. **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.
36. **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.

BOOKS PUBLISHED (CONFERENCE PROCEEDINGS)

1. Vijay Chalivendra, Allison M. Beese, **Ryan B. Berke** (editors), "Mechanics of Composite, Hybrid, and Multifunctional Materials, Fracture, Fatigue, Failure, and Damage Evolution," Volume 3, *Proceedings of the 2021 Annual Conference on Experimental and Applied Mechanics*. Virtual Conference, Sept 2021.
2. Shuman Xia, Allison M. Beese, **Ryan B. Berke**, Garrett J. Pataky (editors), "Fracture, Fatigue, Failure, and Damage Evolution," Volume 3, *Proceedings of the 2020 Annual Conference on Experimental and Applied Mechanics*. Virtual Conference, Sept 2020.
3. Meredith Silberstein, Alireza Amirkhizi, Shuman Xia, Allison M. Beese, **Ryan B. Berke**, Garrett J. Pataky (editors), "Challenges in Mechanics of Time Dependent Materials, Fracture, Fatigue, Failure, and Damage Evolution," Volume 2, *Proceedings of the 2019 Annual Conference on Experimental and Applied Mechanics*. Reno, NV. June 2019.
4. Jay Carroll, Shuman Xia, Allison M. Beese, **Ryan B. Berke**, Garrett J. Pataky (editors), "Fracture, Fatigue, Failure, and Damage Evolution," Volume 6, *Proceedings of the 2018 Annual Conference on Experimental and Applied Mechanics*. Greenville, SC. June 2018.
5. Jay Carroll, Shuman Xia, Allison M. Beese, **Ryan B. Berke**, Garrett J. Pataky (editors), "Fracture, Fatigue, Failure, and Damage Evolution," Volume 7, *Proceedings of the 2017 Annual Conference on Experimental and Applied Mechanics*. Indianapolis, IN. June 2017.
6. 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.

PAST AND CURRENT SUPPORT

External Funding (awarded as PI)

1. AFRL Summer Faculty Fellowship Program (SFFP), "Identifying Failed Specimens in High-Throughput Measurements of High Cycle Fatigue" **\$33,063**, Summer 2021.
2. USDOE Nuclear Energy University Program (NEUP), "A Customized Creep Frame to Enable High-Throughput Characterization of Creep Mechanism Maps," **\$160,000**, 10/01/20 – 09/3/21.
3. AFRL/RQTI, Supplemental "within-scope" funding for "High Temperature Optical Strain Measurements for Vibration-based Fatigue Testing," **\$28,117**, 09/01/20 – 03/26/21.
4. **AFOSR Young Investigator Award**, "High Throughput Characterization of High Cycle Fatigue for Extreme Temperature Aerospace Applications," **\$450,000**, 01/01/20 – 12/31/22.

5. AFRL/RQTI, "High Temperature Optical Strain Measurements for Vibration-based Fatigue Testing," **\$25,531**, 09/01/19 – 08/31/20.
6. NRC, "Graduate Fellowship Program to Promote Nuclear Engineering Research at Utah State University," **\$400,000**, 08/30/19 – 08/29/23.
7. ASME TEC Development Funds, "2019 IMECE Student Paper Competition for Experimental Mechanics," **\$5,250**, 07/01/19 – 06/30/20.
8. NSF Broadening Participation in Engineering, "Investigating the Career Development and Professional Trajectories of Disadvantaged Students in Engineering," **\$335,933**, 10/01/18 – 09/30/21.
9. AFRL/RQTI, "Damage Accumulation in a Novel High-Throughput Method to Measure High Cycle Fatigue," **\$19,845**, 09/01/18 – 08/31/19.
10. AFRL Summer Faculty Fellowship Program (SFFP), "Improved High-Throughput Measurements for High Cycle Fatigue at Extreme Temperatures" **\$43,500**, Summer 2018.
11. AFRL/RQTI, "Benchmark Simulations of Improved High-Throughput Method to Measure High Cycle Fatigue," **\$6,771**, 01/08/18 – 08/24/18.
12. NASA MSFC Cooperative Agreement Notice, "Heterogeneous Strain Measurement during Hot-Fire Testing of Carbon-Carbon Rocket Nozzles," **\$120,973**, 01/01/18 – 8/27/20.
13. AFRL Summer Faculty Fellowship Program (SFFP), "Characterizing Full-Field Vibration Fatigue at Elevated Temperatures," **\$37,125**, Summer 2017.
14. USDOE Nuclear Energy University Program (NEUP), "Full Field Temperature and Strain Measurements at Extreme Temperatures," **\$226,824**, 01/01/16 – 12/31/16.

TOTAL EXTERNAL FUNDING AS PI: \$1,892,932

External Funding (administered as PI)

1. USDOE Nuclear Energy University Program (NEUP), "Transient Reactor (TREAT) Experiments to Validate MBM Fuel Performance Simulations," **\$5 Million**, 10/01/16 – 01/31/22.
 ⇒ This grant was awarded to Heng Ban as PI with me as a co-PI (see below). Heng remained the technical lead when he later moved to the University of Pittsburgh but the grant stayed with USU where I was tasked to administer it.
2. USDOE Nuclear Energy University Program (NEUP), "NEUP Fellowship and Scholarship Support," **\$1.325 Million**, 8/20/10 – 06/30/32.
 ⇒ These were collectively awarded to various undergraduate and graduate students, but I administer them by submitting annual reports.

External Funding (awarded as co-PI)

1. USDOE Nuclear Energy University Program (NEUP), "Location-specific Material Characterization of LPBF SS316L & IN718 TCR Core Structural Materials," **\$800,000 (my responsibility: about \$200,000)**, 10/01/21 – 09/30/23. (PI: Nadia Kouraytem, USU).
2. INL, "Full-Field Measurements of Heterogeneous Fuel Swelling to Validate Microstructural Models in MARMOT," **\$500,000 (my responsibility: about \$185,500)**, 3/1/19 - 12/31/19. (PI: Jason Schulthess, INL)
3. USDOE Nuclear Energy University Program (NEUP), "Benchmarking Microscale Ductility Measurements," **\$776,669 (my responsibility: \$200,000)**, 10/01/18 – 09/30/22. (PI: Owen Kingstedt, University of Utah).
4. USDOE Nuclear Energy University Program (NEUP), "Focused Ion Beam for Advanced Specimen Preparation, 3D Microstructural Characterization, and Simulated Irradiation," **\$300,000**, 10/01/17 – 09/30/18. (PI: Nick Roberts, USU).
5. USDOE Nuclear Energy University Program (NEUP), "Transient Reactor (TREAT) Experiments to Validate MBM Fuel Performance Simulations," **\$5 Million (my responsibility: \$706,157)**, 10/01/16 – 09/30/21. (PI: Heng Ban, USU).
6. 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, USU).

TOTAL EXTERNAL FUNDING AS CO-PI: \$7,706,448 (my responsibility: about \$1,451,657)

External Funding (awarded as Key Personnel)

1. US Economic Development Administration (EDA), "Utah's High Growth Next-Generation Fast-Track in STEM Careers," **\$493,124**, 10/01/22 – 09/30/24. (PI: Ning Fang, USU).

TOTAL EXTERNAL FUNDING AS CO-PI: \$493,124

Internal Funding (as PI)

1. USU Office of Research and Graduate Studies, "Polytec OFV-505 Laser Vibrometer for Vibration-based Fatigue Testing," **\$27,950**, 06/01/21 – 05/31/22.
2. USU Office of Research and Graduate Studies, "Microstructural Strain Mapping at Extreme Temperatures with UV-C Lighting," **\$172,200**, 09/1/21 – 08/31/25.
3. USU Office of Research and Graduate Studies, "Two-Color Pyrometer for Our Existing Gleeble 1500D Thermo-Mechanical System," **\$15,394**, 06/01/19 – 05/31/20.
4. USU Office of Research and Graduate Studies, Proposal Writing Institute, **\$2,500**, May 2016.
5. USU 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.
6. USU 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.

TOTAL INTERNAL FUNDING: \$318,044

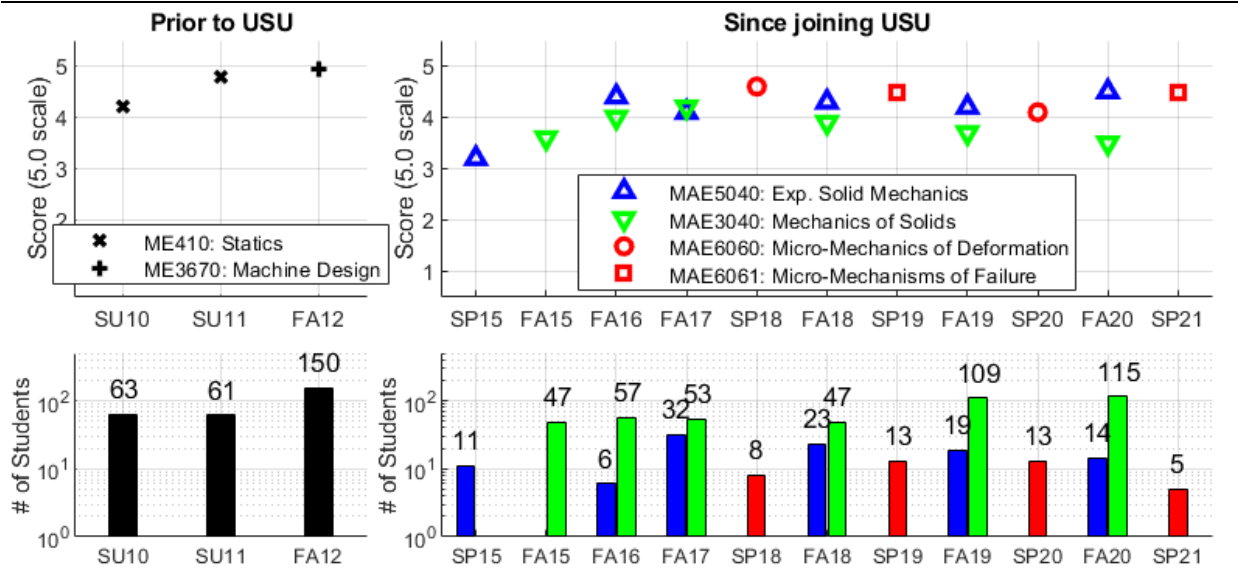
Student Support (as Faculty Advisor)

1. USU Engineering Undergraduate Research Program (EURP), total of **\$119,700**:
 - a. Rachel Norris, High-Throughput Measurements of Tertiary Creep Failure on Multi-Segmented Assembly," \$5400, 01/01/22 – 05/30/23 (Cohort #17).
 - b. Steven Koski, "Introducing a Tensile Mean Stress for Vibration-based Fatigue Testing," \$5400, 01/01/22 – 05/30/23 (Cohort #17).
 - c. Brooklyn Beck, "Digital Image Correlation of Knitted Fabrics for Improved Packaging Applications," \$5400, 05/01/21 – 12/31/22 (Cohort #16).
 - d. Maggie Lea, "Improving High Resolution Strain Mapping with UV-C Imaging," \$5400, 05/01/21 – 12/31/22 (Cohort #16).
 - e. Alexandra Loftin, "A Voltage Drop Criterion for Identifying Failed Specimens in High-Throughput Fatigue Experiments," \$5400, 05/01/21 – 12/31/22 (Cohort #16).
 - f. Hannah Maxwell, "A Variable Extensometer Technique to Measure Ductility at High Temperature," \$5400, 01/01/21 – 05/01/22 (Cohort #15).
 - g. Micah Estrada, "Adapting Directional Reflectance Microscopy (DRM) to Map Grain Orientations in Large Specimens," \$5400, 01/01/21 – 05/01/22 (Cohort #15).
 - h. Tanner Flitton, "High-Throughput Creep Characterization for a Novel Tapered Specimen," \$5400, 01/01/21 – 05/01/22 (Cohort #15).
 - i. Shelby Ames, "Microstructural Strain Mapping of Aluminum Oligocrystals at Elevated Temperatures," \$4500, 01/01/20 – 05/01/21 (Cohort #13).
 - j. Savannah Augustine, "Relative Errors of Motion Blur vs Depth of Field in Optical Vibration Measurements," \$4500, 01/01/20 – 05/01/21 (Cohort #13).
 - k. Elizabeth Chamberlain, "Miniaturization of Vibration-based Fatigue Specimens," \$4500, 01/01/20 – 05/01/21 (Cohort #13).
 - l. Ashley Buxton, "Validating Scaling Relationships of Nuclear Materials," \$4500, 05/01/19 – 12/31/20 (Cohort #12).
 - m. Fiona Van Leeuwen, "Stereo DIC with Scheimpflug Adjustment," \$4500, 01/01/19 – 05/01/20 (Cohort #11).
 - n. Weston Craig, "Dynamic Interlaminar Fracture of 3D-Printed Materials," \$4500, 01/01/19 – 05/01/20 (Cohort #11).
 - o. Ben Hill, "Eliminating Strain Gauges in Vibration-based Fatigue Testing," \$4500, 01/01/19 – 05/01/20 (Cohort #11).
 - p. Matt Calvin, "Phase Locking to Improve Stereo DIC Resolutions in Full-Field Vibratory Measurements," \$4500, 01/01/19 – 05/01/20 (Cohort #11).

- q. Katherine Burn, "DIC at Long Working Distances: The Effect of Diffraction Limits," \$4500, 05/01/18 – 12/31/19 (Cohort #10).
 - r. Samantha Burton, "High Throughput Vibration-based Measurements for High Cycle Fatigue," \$4500, 05/01/18 – 12/31/19 (Cohort #10).
 - s. Emma German, "Full-Field Deformation of Rotating Turbine Blades," \$4500, 01/01/18 – 05/01/19 (Cohort #9).
 - t. Daniel Waldram, "Super-Resolution Imaging for DIC at Improved Magnifications and Working Distances," \$4500, 01/01/18 – 05/01/19 (Cohort #9).
 - u. J. Jackson Matsen, "Damage Accumulation in Multi-Modal Vibration Fatigue," \$4500, 01/01/17 – 05/01/18 (Cohort #8).
 - v. Robert Rowley, "Full-Field Strain Measurements during High Temperature Impact," \$4500, 01/01/17 – 05/01/18 (Cohort #8).
 - w. Trevor J. Bird, "Modal Identification in Flat Plates during Vibrational Resonance at High Temperatures," \$4500, 01/01/16 – 05/01/17 (Cohort #7).
 - x. Ren Voie, "Full-Field Microstructural Strains at High Temperatures and Long Working Distances," \$4500, 01/01/16 – 05/01/17 (Cohort #7).
 - y. Jaren Devey, "UV Digital Image Correlation to characterize Graphite at Extreme Temperatures," \$4500, 01/01/15 – 05/01/16 (Cohort #6).
2. USDOE Nuclear Energy University Program (NEUP), "Graduate Fellowship for Adam Smith," **\$155,000**, 8/16/19 – 8/15/22.
 3. USDOE Nuclear Energy University Program (NEUP), "Graduate Fellowship for Robert Hansen," **\$155,000**, 8/16/17 – 8/15/20.

TOTAL SUPPORT AS FACULTY ADVISOR: \$429,700.

TEACHING EXPERIENCE



As Assistant Professor at Utah State University:

MAE 3040: Mechanics of Solids (Junior Required Course)

- Fall 2021: 105 students, no scores yet
- Fall 2020: 115 students, evaluation score 3.5/5.0
- Fall 2019: 109 students, evaluation score 3.7/5.0
- Fall 2018: 47 students, evaluation score 3.9/5.0
- Fall 2017: 53 students, evaluation score 4.2/5.0
- Fall 2016: 57 students, evaluation score 4.0/5.0
- Fall 2015: 47 students, evaluation score 3.6/5.0

- MAE 5040: Experimental Solid Mechanics (Senior / Graduate Elective) – **New course** developed by me
- Fall 2021: 10 students, no scores yet
 - Fall 2020: 14 students, evaluation score 4.5/5.0
 - Fall 2019: 19 students, evaluation score 4.2/5.0
 - Fall 2018: 23 students, evaluation score 4.3/5.0.
 - Fall 2017: 32 students, evaluation score 4.1/5.0
 - Fall 2016: 6 students, evaluation score 4.4/5.0 (as MAE 5930: Special Topics)
 - Spring 2015: 11 students, evaluation score 3.2/5.0 (as MAE 5930: Special Topics)

- MAE 6060: Micro-Mechanics of Deformation (Graduate Elective) – **New course** developed by me
- Spring 2022: 15 students, no scores yet
 - Spring 2020: 13 students, evaluation score 4.1/5.0
 - Spring 2018: 8 students, evaluation score 4.6/5.0 (as MAE 6930: Special Topics)

- MAE 6061: Micro-Mechanisms of Failure (Graduate Elective) – **New course** developed by me
- Spring 2021: 5 students, evaluation score 4.5/5.0
 - Spring 2019: 13 students, evaluation score 4.5/5.0 (as MAE 6930: Special Topics)

Prior to joining Utah State University:

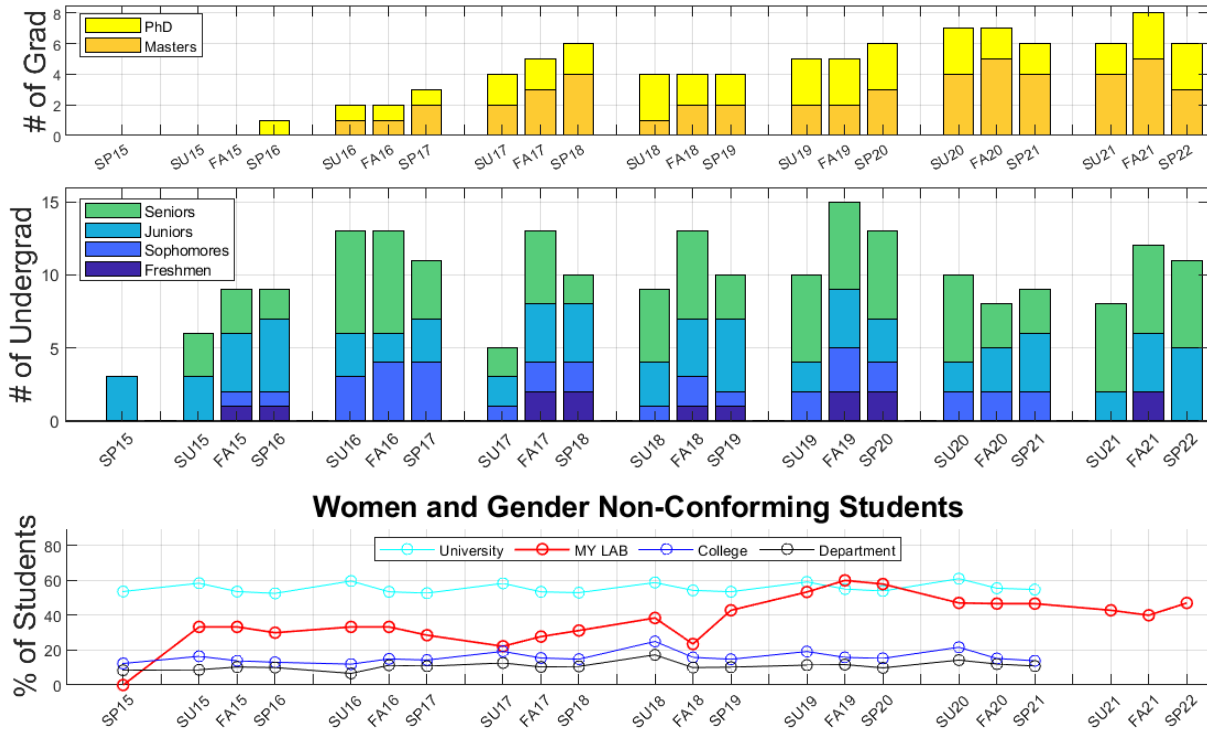
- ME 410: Statics (Sophomore Required Course), The Ohio State University (as Instructor of Record)
- Summer 2011: 61 students, evaluation score 4.8/5.0
 - Summer 2010: 63 students, evaluation score 4.2/5.0
- ME 3670: Machine Design (Junior Required Course), The Ohio State University (as Graduate TA)
- 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

Other Teaching Activities:

- Mentored a total of 15 graduate and 52 undergraduate researchers – including at least 23 women, 3 Latinx, 2 Native Americans, 1 Asian American, 1 veteran, and 6 LGBTQ+ students. (*Last Updated November 2021*)
 - o Twenty-three (23) admitted into USU’s Engineering Undergraduate Research Program (EURP)
 - o Thirteen (13) admitted into USU’s Undergraduate Research Fellows (URF) Program
 - o One (1) recognized as the College of Engineering Undergraduate Researcher of the Year
 - Katharine Burn (2019)
 - o Five (5) recognized as MAE Undergraduate Researcher of the Year
 - Trevor Bird (2017), Katharine Burn (2019), Emma German (2020), Fiona Van Leeuwen (2021), Hannah Maxwell (2022)
 - o Four (4) recognized as MAE MS Student Researcher of the Year
 - Ethan Nickerson (2018), Think Thai (2019), Adam Smith (2020), Weston Craig (2021)
 - o Two (2) recognized as MAE Outstanding PhD Student Scholar of the Year
 - Think Thai (2020), Robert Hansen (2021)
 - o One (1) recognized as MAE Outstanding Graduate Student of the Year
 - Chris Stolinski (2019)
 - o One (1) recognized as MAE Graduate Student Teacher of the Year
 - Brandon Furman (2020)
- Advised twelve (12) Undergraduate Teaching Fellows (UTFs) to develop new lab activities for MAE 5040: Experimental Solid Mechanics:
 - o Fall 2021: Implementing freeware alternative to 3D-DIC software (Jocelyn Huntress) and high speed imaging during Kolsky bar lab (Ian Jones)
 - o Fall 2020: Video Recordings of Lab Demos during COVID-19 (Maggie Lea and Brooklyn Beck)

- Fall 2019: Out-of-Plane Bending / 3D-DIC (Emma German & Fiona Van Leeuwen)
 - Fall 2018: Streamlining of existing labs: Kolsky bar instrumentation (Robert Rowley), freeware alternatives to 2D-DIC software (Weston Craig)
 - Fall 2017: Dynamic Measurements (Robert Rowley) and Fracture Measurements (Weston Craig)
 - Fall 2016: Vibration Measurements (Trevor Bird) and Strain Measurements (Robert Rowley)
- Advised ten (10) Undergraduate Teaching Fellows (UTFs) to hold regular office hours and deliver guest lectures in MAE 3040:
- Fall 2021: Micah Estrada
 - Fall 2020: Parker Carter and Quinn Moon
 - Fall 2019: Ben Hill and Brandon Ritchie
 - Fall 2018: Brandon Furman
 - Fall 2017: Adam Smith and Jesse Long
 - Fall 2016: Matt Nelson and Braden Beckstrom
- Advised two (2) senior design teams to develop new lab instrumentation:
- 2018-19: UV Light Source for high speed & high depth of field imaging.
 - Kelsey Jacobs, Ryan Reid, & Travis Smith
 - 2016-17: UV Zoom Lens for high temperature imaging.
 - Trevor Bird, Brian Grisenti, & Ren Voie

STUDENTS ADVISED



PhD Students

1. Prasenjit Dewanjee, PhD Student, Aug 2021-present
 - a. USU Presidential Doctoral Research Fellowship
2. Raushan Singh, PhD Student, Aug 2021-present
3. Brandon Furman, PhD Student, May 2019-present
 - a. MAE Graduate Student Teacher of the Year 2020
4. Robert Hansen, PhD Student, May 2018-present → Postdoc at Idaho National Lab
 - a. NEUP Graduate Fellowship
 - b. MAE Outstanding PhD Scholar of the Year 2021

5. Think Q. Thai, PhD Student, Jan 2016-May 2020 → Faculty position in Vietnam
 - a. MAE Outstanding PhD Scholar of the Year 2020
6. Matt Nelson, PhD Student, May 2017-Aug 2018 (Did Not Finish) → Northrop Grumman

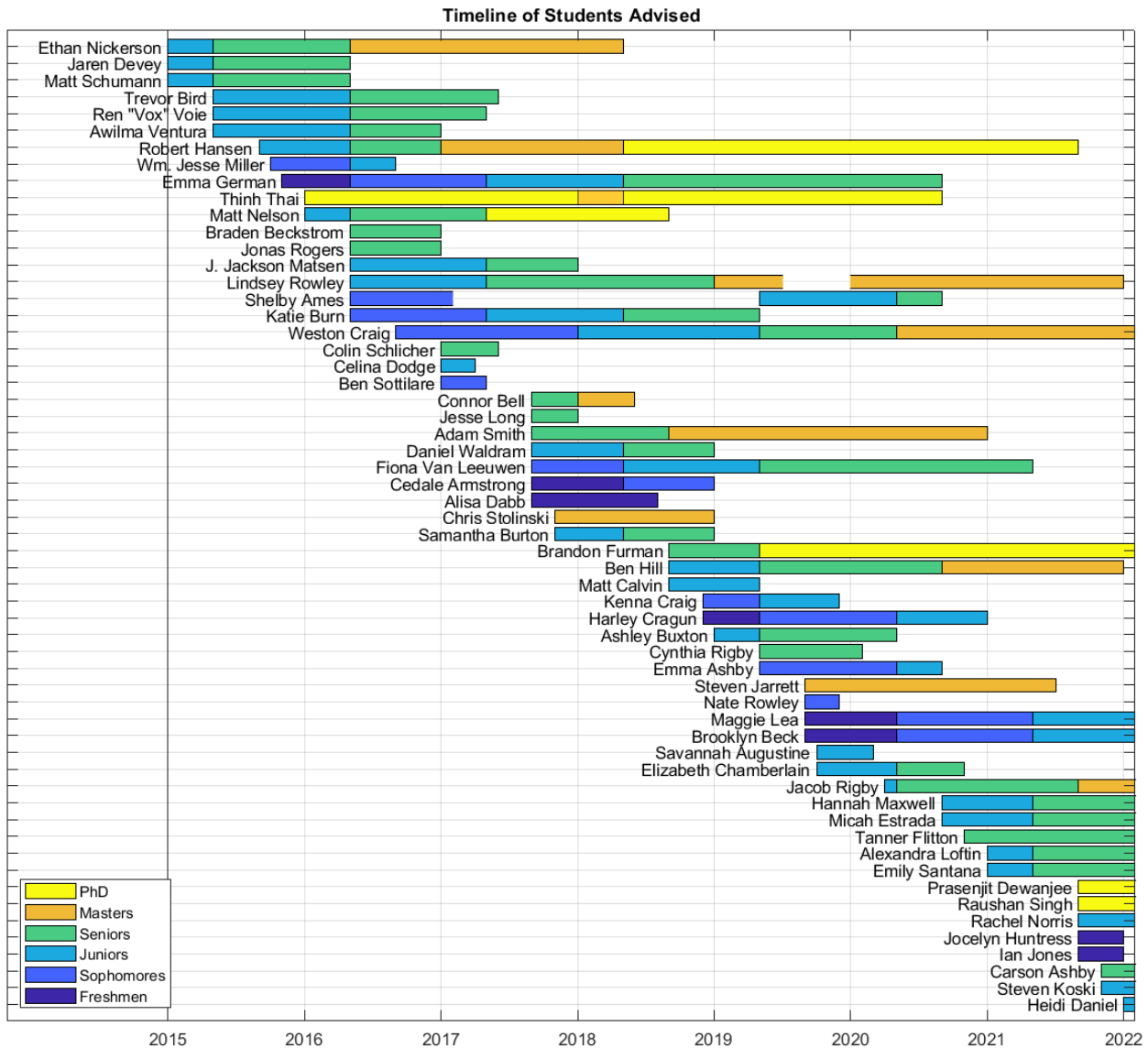
MS Students

1. Jacob Rigby, M.S. Student, Aug 2021-present
2. Weston Craig, M.S. Student, May 2020-present
 - a. NRC Graduate Fellowship
 - b. MAE M.S. Researcher of the Year 2021
3. Lindsey Rowley, M.S. Mechanical Engineering 2021
4. Ben Hill, M.S. Mechanical Engineering 2021 → Northrop Grumman
5. Steven Jarrett, M.S. Mechanical Engineering 2021 → PackSize Inc.
6. Adam Smith, M.S. Mechanical Engineering 2020 → Booz Allen Hamilton
 - a. NEUP Graduate Fellowship
 - b. MAE M.S. Researcher of the Year 2020
7. Chris Stolinski, M.S. Mechanical Engineering 2018 → Hill AFB
 - a. MAE Outstanding Graduate Student of the Year 2019
8. Connor Bell, M.S. Student, Jan-May 2018 (Did Not Finish) → Northrop Grumman
9. Think Q. Thai, M.S. Mechanical Engineering 2018 → PhD in my lab
 - a. MAE M.S. Researcher of the Year 2019
10. Robert Hansen, M.S. Mechanical Engineering 2018 → PhD in my lab
11. Ethan Nickerson, M.S. Mechanical Engineering 2018 → Pacific Northwest National Lab
 - a. MAE M.S. Researcher of the Year 2018

Undergraduate Students

1. Heidi Daniel, B.S. Mechanical Engineering (expected graduation Dec 2023)
2. Steven Koski, B.S. Mechanical Engineering (expected graduation May 2023)
3. Rachel Norris, B.S. Mechanical Engineering (expected graduation May 2023)
4. Brooklyn Beck, B.S. Mechanical Engineering (expected graduation May 2023)
5. Maggie Lea, B.S. Mechanical Engineering (expected graduation May 2023)
6. Hannah Maxwell, B.S. Mechanical Engineering (expected graduation May 2023)
 - a. MAE Undergraduate Researcher of the Year 2022
7. Alexandra Loftin, B.S. Mechanical Engineering (expected graduation Dec 2022)
8. Micah Estrada, B.S. Mechanical Engineering (expected graduation Dec 2022)
9. Carson Ashby, B.S. Mechanical Engineering (expected graduation May 2022)
10. Tanner Flitton, B.S. Mechanical Engineering (expected graduation May 2022)
11. Emily Santana, B.S. Mechanical Engineering (expected graduation May 2022)
12. Jocelyn Huntress, Mechanical Engineering Student 2021
13. Ian Jones, Mechanical Engineering Student 2021
14. Jacob Rigby, B.S. Mechanical Engineering → MS in my lab
15. Fiona Van Leeuwen, B.S. Chemistry 2021
 - a. MAE Undergraduate Researcher of the Year 2021
16. Elizabeth Chamberlain, B.S. Mechanical Engineering 2021
17. Harley Cragun, Biological Engineering Student 2019-2020
18. Emma Ashby, Mechanical Engineering Student 2019-2020
19. Shelby Ames, Mechanical Engineering Student 2017-2020
20. Benjamin Hill, B.S. Mechanical Engineering 2020 → MS in my lab
21. Weston Craig, B.S. Mechanical Engineering 2020 → MS in my lab
22. Emma German, B.S. Mechanical Engineering 2020 → PhD at Cranfield University (UK)
 - a. MAE Undergraduate Researcher of the Year 2020
23. Ashley Buxton, B.S. Mechanical Engineering 2020
24. Cynthia Rigby, B.S. Mechanical Engineering 2020
25. Savannah Augustine, Mechanical Engineering Student, 2019-2020
26. Matthew Calvin, B.S. Mechanical Engineering 2020 → MS at USU (not in my lab)
27. Kenna Craig, Statistics Student, 2019
28. Nate Rowley, Mechanical Engineering Student, 2019
29. Brandon Furman, B.S. Mechanical Engineering and Math 2019 → PhD in my lab
30. Katie Burn, B.S. Mechanical Engineering 2019 → M.S. at Purdue

- a. MAE Undergraduate Researcher of the Year 2019
 - b. College of Engineering Undergraduate Researcher of the Year 2019
31. Samantha Burton, B.S. Mechanical Engineering 2018 → MS at USU (not in my lab)
 32. Daniel Waldram, B.S. Mechanical Engineering 2018 → MS at Univ of Utah
 33. Robert Rowley, B.S. Mechanical Engineering 2018 → MS in my lab
 34. Cedale Armstrong, Mechanical Engineering Student, 2017-2018
 35. Alisa Dabb, Mechanical Engineering Student, 2017-2018
 36. J. Jackson Matsen, B.S. Mechanical Engineering 2018 → MS at USU (not in my lab)
 37. Adam Smith, B.S. Mechanical Engineering 2018 → MS & PhD in my lab
 38. Connor Bell, B.S. Mechanical Engineering 2017 → MS at USU (not in my lab)
 39. Jesse Long, B.S. Mechanical Engineering 2017 → MS at Penn State
 40. Matt Nelson, B.S. Mechanical Engineering 2017 → MS at USU (not in my lab)
 41. Braden Beckstrom, B.S. Mechanical Engineering 2017 → MS at Colorado State
 42. Trevor Bird, B.S. Mechanical Engineering 2017 → PhD at Purdue
 - a. MAE Undergraduate Researcher of the Year 2017
 - b. NSF Graduate Research Fellowship
 43. Jonas Rogers, B.S. Mechanical Engineering 2017 → MS at USU (not in my lab)
 44. Ren "Vox" Voie, B.S. Mechanical Engineering 2017 → MS at Virginia Tech
 45. Colin Schlicher, B.S. Mechanical Engineering 2017
 46. Awilma Ventura, B.S. Mechanical Engineering 2017 → MS at Western Michigan
 47. Ben Sottolare, Mechanical Engineering Student, 2017
 48. Celina Dodge, Mechanical Engineering Student, 2017
 49. Robert Hansen, B.S. Mechanical Engineering 2016 → MS & PhD in my lab
 50. Wm. Jesse Miller, Mechanical Engineering Student, 2015-2016
 51. Jaren Devey, B.S. Mechanical Engineering 2016 → MS at USU (not in my lab)
 52. Ethan Nickerson, B.S. Mechanical Engineering 2016 → MS in my lab
 53. Matt Schumann, B.S. Mechanical Engineering 2016



INTERNAL SERVICE ACTIVITIES

USU Committee Membership:

- USU Engineering Undergraduate Research Program (EURP) Committee *Fall 2016 – Present*
 - Committee Chair 2017-Present
- Undergraduate Research Advisory Board (URAB) *Aug 2019 – Present*
 - Committee Chair 2021-Present
- MAE Graduate Studies Committee *Fall 2020 – Summer 2021*
- EED Faculty Search Committee (1 position) *Aug 2020 – May 2021*
- EED Faculty Search Committee (1 position) *Aug 2019 – May 2020*
- MAE Faculty Search Committee (4 positions) *Aug 2019 – May 2020*
- MAE Faculty Search Committee (3 positions) *Aug 2018 – May 2019*
- MAE Faculty Search Committee (2 positions) *May 2016 – May 2017*
- MAE Undergraduate Studies Committee *Fall 2015 – Summer 2016*

Advisor for Student Organizations:

- Student Chapter for oSTEM (Faculty Advisor) *Spring 2017 – Present*
- Student Chapter of the American Nuclear Society (Faculty Advisor) *Fall 2017 – Fall 2018*

Participant:

- SWE Engineering Extravaganza *March 2019*
- USU Engineering State Summer Camp *Summer 2018-2019*
- USU Native American STEM Mentorship Program (NASMP) *Summer 2016-2018, 2020*
- USU Allies on Campus *Spring 2016 – Present*
- USU Interfaith Initiative *Spring 2016 – Present*

Panels and Workshops:

- Launch Your Engineering Career: Undergraduate Research *October 2021*
- Training for Research Faculty: Panel on Undergraduate Research *October 2019*

Internal Reviewer:

- Graduate Research & Creative Opportunities (GRCO) *Summer 2020*
- Undergraduate Research & Creative Opportunities (URCO) *Summer 2019 - Present*
- Undergraduate Research Fellows (URF) *Summer 2019-2021*

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 *Fall 2011 – Fall 2012*
 Student Representative
- Ohio State Design & Manufacturing Interest Group Committee *Fall 2012*
 Student Representative

EXTERNAL SERVICE ACTIVITIES

-
- Society for Experimental Mechanics (SEM) *Spring 2010 – Present*
 Fracture and Fatigue Technical Division
Vice Chair June 2020-Present
 Secretary June 2018-June 2020
 Abstract Chair and Editor June 2017-2018
 Abstract Reviewer June 2015-2018
 Education Committee, Member June 2017-Present
Vice Chair June 2021-Present
 Secretary June 2019-2021
 Research Committee, Member June 2017-Present
 - 2022 SEM Annual Conference, Pittsburgh, PA
 1. Session Organizer: “Temperature Effects in Fracture and Fatigue” (with Phillip Noell)
 2. Session Organizer: “Vibration Methods and High Cycle Fatigue” (with Onome Scott-Emuakpor)
 - 2021 SEM Annual Conference, Virtual Conference
 3. Panel Organizer: “Panel on Junior Career Development in Academia”
 4. Session Organizer: “Fracture and Fatigue in Extreme Environments” (with Kavan Hazeli)
 5. Session Organizer: “Vibration Methods and High Cycle Fatigue” (with Onome Scott-Emuakpor)
 - 2020 SEM Annual Conference, Virtual Conference
 1. Session Organizer: “Fracture and Fatigue in Extreme Environments” (with Kavan Hazeli)
 2. Session Organizer: “Vibration Methods and High Cycle Fatigue” (with Onome Scott-Emuakpor)
 - 2019 SEM Annual Conference, Reno, NV
 1. Workshop Co-Organizer: “Let’s Talk Post-Doc” (with Meg Grady)
 2. Panel Organizer: “Panel on Junior Career Development in Academia”
 3. Session Organizer: “Fracture and Fatigue in Extreme Environments” (with Kavan Hazeli)
 4. Session Organizer: “Vibration Methods and High Cycle Fatigue” (with Onome Scott-Emuakpor)
 - 2018 SEM Annual Conference, Greenville, SC

1. Session Organizer: "In-situ Techniques for Fracture and Fatigue" (with Garrett Pataky)
2. Session Organizer: "Fracture and Fatigue in Extreme Environments" (with Kavan Hazeli)
3. Session Organizer: "Vibration Effects in Fracture and Fatigue" (with Onome Scott-Emuakpor)

2017 SEM Annual Conference, Indianapolis, IN

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

2016 SEM Annual Conference, Orlando, FL

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

American Society of Mechanical Engineers (ASME)

Fall 2003 – Present

Applied Mechanics Division > Experimental Mechanics Committee

Chair Nov. 2018-2020

Vice Chair Nov. 2016-2018

2021 IMECE Annual Conference, Virtual Conference

1. Topic Organizer: "Advances in Experimental Mechanics" (with Owen Kingstedt and Natasha Vermaak)
2. Topic Organizer: "Mechanical Characterization in Extreme Environments" (with Natasha Vermaak)

2020 IMECE Annual Conference, Virtual Conference

1. Topic Organizer: "Advances in Experimental Mechanics" (with Owen Kingstedt, Natasha Vermaak, and Jason Schulthess)
2. Topic Organizer: "Mechanical Characterization in Extreme Environments" (with Natasha Vermaak, Justin Wilkerson, and Vikas Tomar)
3. Topic Organizer: "Bridging Length Scales in Experimental Mechanics" (with Jason Schulthess and Owen Kingstedt)

2019 IMECE Annual Conference, Salt Lake City, UT

1. Student Competition: 15 participants across all topics hosted by our committee
2. Topic Organizer: "11-13: Quantitative Visualization of Fracture and Failure" (with Natasha Vermaak)
3. Topic Organizer: "11-15: Mechanical Characterization in Extreme Temperature Environments" (with Natasha Vermaak and Owen Kingstedt)
4. Topic Organizer: "11-18: In Situ Techniques in Experimental Mechanics" (with Leslie Lamberson and Owen Kingstedt)
 - a. Cross-listed as session 10-1 (co-sponsored with Advanced Materials division)

2018 IMECE Annual Conference, Pittsburgh, PA

1. Topic Organizer: "12-3: Mechanical Characterization in Extreme Temperature Environments" (with Natasha Vermaak and Owen Kingstedt)
2. Topic Organizer: "12-5: Quantitative Visualization of Fracture and Failure" (with Leslie Lamberson and Natasha Vermaak)
3. Topic Organizer: "12-6: In Situ Techniques in Experimental Mechanics" (with Charles Wojnar)

2017 IMECE Annual Conference, Tampa, FL

1. Topic Organizer: "12-12: Quantitative Visualization of Fracture and Failure" (with Leslie Lamberson and Natasha Vermaak)
2. Topic Organizer: "12-13: In Situ Techniques in Experimental Mechanics of Fracture and Failure" (with Charles Wojnar)
3. Topic Organizer: "12-23: Mechanical Characterization in Extreme Temperature Environments" (with Natasha Vermaak)

2016 IMECE Annual Conference, Phoenix, AZ

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

American Nuclear Society (ANS), Materials Science and Technology Division	Winter 2015 – 2017
Proposal reviewer for DOE Consolidated Innovative Nuclear Research (CINR)	FY 2015 – Present
Proposal reviewer for NSF Mechanics of Materials and Structures (MOMS)	Jan 2017 – Present
Journal reviewer for <i>Experimental Techniques</i> , <i>Experimental Mechanics</i> , <i>I.J. Mechanics and Materials in Design</i> , <i>J. Applied Mechanics</i> , <i>J. Strain Analysis in Engineering Design</i> , <i>J. Testing & Evaluation</i> , <i>Materials Research Express</i> , <i>Measurement Science and Technology</i> , <i>Mechanics of Materials</i> , <i>Nuclear Technology</i> , and <i>Review of Scientific Instruments</i> .	2015 – Present