CALVIN M. STEWART

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PROFILE

Calvin M. Stewart is the College of Engineering Innovation Scholar and Associate Professor in the Department of Aerospace and Mechanical Engineering at the Ohio State University. He obtained a BS, MS, and PhD in Mechanical Engineering at the University of Central Florida in 2008, 2009, and 2013 respectively. Dr. Stewart directs Materials at Extremes which focuses the advanced manufacturing, mechanical testing, and theoretical mechanics of materials subject to thermal, mechanical, and chemical extremes. Within the gamut of extremes: creep, fatigue, thermomechanical fatigue, and fracture are key focus areas. Dr. Stewart has authored over 80 articles in these areas. Dr. Stewart has generated over $11M in research expenditure through grants/contracts with the U.S. Department of Energy, National Nuclear Security Administration, National Energy Technology Laboratory, Office of Nuclear Energy, Nuclear Regulatory Commission, Honeywell FM&T, Air Force Research Lab, among others. Current research involves the development of an accelerated test protocol for modern and advanced materials, the development of constitutive models and advanced life prediction tools for elevated temperature applications, low-cost additive manufacturing of superalloys and refractory alloys for extremes environments, and femtosecond laser machining development. Materials of interest include: conventional and additively manufactured (AM) superalloys, polymers, composites and multifunctional materials, among others. Computational interests include: “mechanical state” modeling for extreme environments, probabilistic modeling of stationary, temporal, and spatial uncertainties, and human-in-the-loop machine learning for new model discovery.

EDUCATION

University of Central Florida (UCF), Orlando, FL

2013 **PhD,** Mechanical Engineering
Dissertation: “A Hybrid Constitutive Model for Creep, Fatigue, and Creep-Fatigue Damage”
Advisor: Ali P. Gordon
McKnight Doctoral Fellow, Order of Pegasus Class of 2013 the most Prestigious Award conferred at UCF

2009 **M.S.,** Mechanical Engineering
Thesis: “Tertiary Creep Damage Modeling of a Transversely Isotropic Ni-Based Superalloy”
Advisor: Ali P. Gordon
Summer Mentoring Fellow

2008 **B.S.,** Mechanical Engineering
Florida Bright Futures, FGLSAMP, SEAGEP, NACME, and LEGACY Scholar, Inroads Intern

ACADEMIC POSITIONS

Innovation Scholar — August 2022 → current
College of Engineering — Columbus, OH
The Ohio State University

Associate Professor — August 2022 → current
Department of Mechanical and Aerospace Engineering — Columbus, OH
The Ohio State University

Provost Faculty Fellow of Diversity, Equity, and Inclusion — July 2021 → August 2022
Office of the Provost — El Paso, TX
The University of Texas at El Paso

Energy Engineering Lead — July 2020 – July 2021
Center for Space Exploration Technology Research — El Paso, TX
The University of Texas at El Paso

Associate Professor — Sept 2018 → August 2022
Department of Aerospace and Mechanical Engineering — El Paso, TX
The University of Texas at El Paso

Assistant Professor — Nov 2013 → Sept 2018
Department of Mechanical Engineering — El Paso, TX
The University of Texas at El Paso

McKnight Doctoral Fellow — 2007 → 2013
Department of Mechanical, Materials, and Aerospace Engineering — Orlando, FL
University of Central Florida

PROFESSIONAL POSITIONS

Visiting Scientist — June 2022 → August 2022
Kansas City National Security Campus, Materials Engineering — Kansas City, MO

Summer Faculty Fellow — May 2021 → August 2021
Air Force Research Lab, Aerospace Systems, Turbine Integrity (RQTI) — Dayton, OH

Summer Faculty Fellow — May 2019 → July 2019
Air Force Research Lab, Materials & Manufacturing, Metals (RXCM) — Dayton, OH

Faculty Fellow — Dec 2018 → Jan 2019
Faculty Fellowship Program in Israel — (various), Israel

Research Assistant	2008 → 2009
PICO Technologies	Leesburg, FL
Professional Intern	2006 → 2008
Siemens Power Generation	Orlando, FL

FUNDED PROJECTS

Cumulative Funding ≈ $11,900,447

- US Department of Energy – Nuclear Energy University Program, $250,000, A High-Temperature Mechanical Testing Platform for Accelerated, Parallelized, and Miniaturized Materials Qualification, GSI: General Scientific Infrastructure, 10/1/2021-9/30/2022. **PI: Calvin Stewart (90%),** Co-PI: Yirong Lin (10%)

- US Department of Energy - National Nuclear Security Administration, $5,833,942, Partnership for Research and Education Consortium in Ceramics and Polymers (PRE-CCAP) 2.0, 10/1/2021-9/30/2026. PI: Yirong Lin (40%), **Co-PI: Calvin Stewart (30%),** Co-PI: Ahsan Choudhuri (30%)

- Air Force Research Lab through ARCTOS Technology Solutions, LLC, $298,750, Turbine Engine Materials and Life Prognosis Research, 3/1/2021 to 11/30/2023, **PI: Calvin M. Stewart (100%)**

- Honeywell Federal Manufacturing & Technologies (FM&T) - Kansas City National Security Campus (KCNSC), $50,000, Aging, Accelerated Testing, and Modeling of Thermoplastics, Thermosets, and Photopolymers, 5/24/2021 to 8/31/2021, **PI: Calvin M. Stewart (100%)**

- Honeywell Federal Manufacturing & Technologies (FM&T) - Kansas City National Security Campus (KCNSC), $95,000, Materials for Extreme Environments: Fiber Containing Composites, 11/1/2020 to 8/31/2021, **PI:** Yirong Lin, CO-PI: David Espalin, Tzu-Liang Tseng, **Calvin M. Stewart (10%)**

- Honeywell Federal Manufacturing & Technologies (FM&T) - Kansas City National Security Campus (KCNSC), $170,000 (+$500,000 femto-second laser machining system + $60,000 Keyence digital microscope), Femto-Second Laser Machining Development, 11/1/2020 to 8/31/2021, **PI: Calvin M. Stewart (100%)**

- Honeywell Federal Manufacturing & Technologies (FM&T) - Kansas City National Security Campus (KCNSC), $75,000 (+$6,755 in equipment), Fuel Cell Feasibility: Additive Manufacturing of Hardware, 11/1/2020 to 8/31/2021, **PI: Calvin M. Stewart (100%)**

- Nuclear Regulatory Commission, $200,000, Nuclear Engineering Workforce Program (NEWP) at the University of Texas at El Paso, 7/27/2019 to 7/23/2021, **PI: Calvin M. Stewart**, Co-PI: Yirong Lin, Co-PI: Norman Love, Co-Pi: Omar Cedillos.

- US Department of Energy - National Nuclear Security Administration, $3,000,000, Partnership for Research and Education Consortium in Ceramics and Polymers (PRE-CCAP), 10/1/2018-9/30/2021. PI: Yirong Lin (40%), **Co-PI: Calvin Stewart (30%),** Co-PI: Norman Love (30%)

- Air Force Research Lab through ARCTOS Technology Solutions, LLC, $75,000, Accelerated Creep Testing to Support MANTAS, 8/17/2020-3/26/2021. **PI: Calvin Stewart (100%)**

- Honeywell Federal Manufacturing & Technologies (FM&T) - Kansas City National Security Campus (KCNSC), $25,000, Fuel Cell Feasibility: Polymer Gaskets for PEM Fuel Cells GAP Option, 9/1/2020 to 11/30/2020, **PI: Calvin M. Stewart (100%)**

- Honeywell Federal Manufacturing & Technologies (FM&T) - Kansas City National Security Campus (KCNSC), $40,000 (+$42,000 in equipment), Fuel Cell Feasibility: Polymer Gaskets for PEM Fuel Cells, 10/1/2019 to 8/31/2020, **PI: Calvin M. Stewart (100%)**

- Air Force Research Lab HBCU/MI Program, $130,000, Real-Time Mechanical State Tool for the Predictive Maintenance of Turbomachinery, 10/1/2018-1/26/2021. **PI: Calvin Stewart (100%)**

- US Department of Energy – National Energy Technology Laboratory, $400,000, An Accelerated Creep Testing (ACT) Program for Advanced Creep Resistant Alloys for High Temperature Fossil Energy (FE) Applications, 9/1/2017-2/31/2021. **PI: Calvin Stewart. (80%),** Co-PI: Jack Chessa (20%)

- US Department of Energy – National Energy Technology Laboratory, $250,000, A Guideline for the Assessment of Uniaxial Creep and Creep-Fatigue Data and Models, 9/1/2016-8/31/2019. **PI: Calvin Stewart (75%)**, Co-PI: Jack Chessa (25%)

- Southern Plains Transportation Center, $90,000, Quantifying Thermomechanical Fatigue of Hot Mix Asphalt: A Feasibility Study, 1/21/2016-5/15/2018. **PI: Calvin Stewart (100%)**

- UTEP Interdisciplinary Research Institute, $14,000, An Integrated Mechanical Testing and Characterization System for Thin-Engineered Materials Subjected to Ultra-High-Cycle Fatigue, 11/16/2015-7/31/2016. **PI: Calvin Stewart (33%)**, Co-PI: Binata Joddar (33%), Co-PI: Deidra Hodges (33%)

- Sandia National Labs, $240,000, Novel Method to Characterize and Model the Multiaxial Constitutive and Damage Response of Energetic Materials, 10/1/2014-10/1/2017. **PI: Calvin Stewart (100%)**

- UTEP University Research Institute, $5,000, Stochastic Creep-Fatigue of Superalloys at High Temperature, 1/15/2014-08/15/2014. **PI: Calvin Stewart (100%)**

HONORS AND AWARDS

- ASTM International Emerging Professional, November 2021

- 2021-2022 Provost Faculty Fellow in Diversity, Equity, and Inclusion. Responsible for advancing DEI efforts at the institutional level and improving the recruitment, retention, and promotion of diverse populations.
- 2020-2021 UTEP Millionaire Club award for securing extramural funding and a research expenditure exceeding $1,000,000 in one year.
- UTEP Office of Research and Sponsored Projects, For Outstanding Efforts in Securing Extramural Funding, 2021, 2020, 2019, 2018, 2017, 2016, 2014.
- College of Engineering & BUILDing SCHOLARS Mentoring Award 2019 For Excellence in Student Research Mentoring.
- Invited and honored participant of Pearson's 2019 Digital Learning Summit a forum for educators to meet, interact, and share insights and strategies focused on implementing new methods of teaching effectively, exploring course-specific teaching ideas and sharing best practices, and discussing challenges in teaching and technology's impact on student success.
- NSF ASSIST travel award for the 2019 LEVERAGE Academic Research Leadership Symposium (ARLS) at the Annual Convention of the National Society of Black Engineers (NSBE) in Detroit, Michigan.
- Faculty Fellowship Program in Israel, Winter 2019 - a competitive academic fellowship that supports travel to Israel for the purpose of initiating exchanges and collaborations sponsored by the Jewish National Fund
- NSF ASSIST travel award for the 2018 LEVERAGE Summer Institute in Dallas, TX.
- NSF ASSIST travel award for the 2018 Academic Research Leadership Symposium (ARLS) at the Annual Convention of the National Society of Black Engineers (NSBE) in Pittsburgh, PA.
- Honored Panelist on Mentorship at the UTEP Graduate Mentoring Reception, 2018
- Invited to participate in the 2016 NSF CAREER Proposal Writing Workshop in St. Louis, MO sponsored by the NSF Division of Civil, Mechanical, and Manufacturing Innovation (CMMI)
- Invited and honored participant of the National Academy of Engineering 7th Annual Frontiers of Engineering Education Symposium 2015. The Frontiers of Engineering Education (FOEE) Symposium brings together some of the nation's most engaged and innovative engineering educators in order to recognize, reward, and promote effective, substantive, and inspirational engineering education.
- Order of Pegasus Class of 2013, the most prestigious and significant award conferred at UCF
- 2012 G.E.O. Widera Literature Award for co-authoring the Outstanding Technical Paper published in 2012 in the ASME Journal of Pressure Vessel Technology
- McKnight Doctoral Fellowship 2007 – 2013, the McKnight Doctoral Fellowship program is designed to address the under-representation of African American and Hispanic faculty in the state of Florida
- UCF Graduate Research Forum "Best in Category" 2010
- UCF Summer Mentoring Fellowship 2008
- South East Alliance for Graduate Education and the Professoriate (SEAGEP) Scholarship 2008
- LEGACY Scholar Leadership and Mentoring Fellowship 2007-2008
- UCF MMAE Department Excellence Award 2007-2008
- Florida-Georgia Louis Stokes Alliance for Minority Participation (FGLSAMP) Scholarship 2005-2008
- Florida Bright Futures Scholarship 2004-2008
- National Action Council for Minorities in Engineering (NACME) Scholarship 2006-2007

PUBLICATIONS

Journal Articles

1. Hossain, Md. A., Cano, J. A, and Stewart C. M., 2022, "Probabilistic Creep with the Wilshire-Cano-Stewart Model," Materials Science and Engineering: A (submitted).
2. Green, J.T., Slager, J., Lopez, M., Chanoi, Z., Stewart, C.M., Gonzalez, R.V., 2022, "Synthetic tissue development using local composition control to biomimic functional gradients and simulate physiological load response," Additive Manufacturing (under review).
3. Green, J.T., Slager, J., Lopez, M., Chanoi, Z., Stewart, C.M., Gonzalez, R.V., 2022, "Local control of mechanical properties through multi-material blending in fused filament fabrication with an active-mixing hotend," Additive Manufacturing (under review).
4. Cano, J.A., Haque, M.S., Hossain, Md. A, Stewart, C. M., 2022, "Accelerated Qualification of Creep-Resistant Materials using a Datum Temperature Method (DTM) to Calibration," International Journal of Pressure Vessels and Piping, DOI
5. Alexander, D., Pellicotte, J., Mejia, A., Benway, C., Stewart, C.M., Cole, E., Borup, R.L., Rockward, T., 2021, "In-situ Diagnostics of Composite Filament Material Suitable for Bi-Polar Plate Using Additive Manufacturing," ECS Transactions, **104**(8), DOI
6. Cano, J.A., and Stewart, C.M., 2021 "Accelerated Creep Test (ACT) Qualification of Creep-Resistance Using the Wilshire-Cano-Stewart Constitutive Model and Stepped Isostress Method (SSM)," Journal of Engineering for Gas Turbines and Power, DOI
7. Hossain, Md. A., and Stewart C. M., 2021, "An Extrema Approach to Probabilistic Creep Modeling in Finite Element Analysis," Journal of Engineering for Gas Turbines and Power, **144**(1) DOI
8. Stewart, C.M., Hossain, Md. A., Mach, R., Pellicotte, J, Alexander, D., Siddiqui, S., 2021, "Accelerated Creep Testing of Inconel 718 using the Stepped isoStress Method (SSM)," ASTM Journal of Materials Performance and Characterization **11**, Special Issue on Materials for Extreme Environments, DOI
9. Hossain, Md. A., and Stewart C. M., 2021, "Probabilistic Creep Modeling using Sine-Hyperbolic Creep-Damage Model," International Journal of Pressure Vessels and Piping, **193** DOI
10. Cano, J. A., and Stewart, C.M., 2021, "A continuum damage mechanics (CDM) based Wilshire model for creep deformation, damage, and rupture prediction," Material Science & Engineering: A, **799** DOI
11. Chavez, L., Ibave, P., Wilburn, B., Alexander, D., Stewart, C.M., Wicker, R., Lin, Y. 2020, "The influence of printing parameters, post processing, and testing conditions in the properties of binder jetting additive manufactured functional ceramics," Ceramics, **3**(1), DOI PDF
12. Haque, M.S., and Stewart C.M., 2020, "Metamodeling Time-Temperature Parameters for Creep," *ASME Journal of Pressure Vessel Technology*, **142**(3). DOI PDF
13. Haque, M.S, and Stewart, C. M., 2019, "Comparative Analysis of the Sin-Hyperbolic and Kachanov–Rabotnov Creep-Damage Models," *International Journal of Pressure Vessels and Piping*, **171**, DOI PDF
14. Haque, M.S, and Stewart, C. M., 2019, "The Disparate Data Problem: The Calibration of Creep Laws Across Test Type and Stress, Temperature, and Time Scales," *Theoretical and Applied Fracture Mechanics*, **100**, DOI PDF
15. Stewart, C.M., Garcia, E., 2019, "Fatigue Crack Growth of a Hot Mix Asphalt using Digital Image Correlation," *International Journal of Fatigue*, **120**. DOI PDF

16. Arrieta, E., Haque, M.S., Mireles, J., Stewart, C.M., Carrasco, C., and Wicker, R., 2019, "Mechanical behavior of differently oriented EBM Ti-6Al-4V components using digital image correlation," *Journal of Engineering Materials and Technology*, **141**(1). DOI PDF
17. Stewart, C. M., Oputa, C.W., and Garcia, E., 2018, "Effect of Specimen Thickness on Fracture Resistance of Hot Mix Asphalt in Disk-Shaped Compact Tension (DCT) Configuration," *Construction and Building Materials*, **160**, pp. 487-496. DOI PDF
18. Kim, H., Torres, F., Chavez, L. A., Islam, M. T.; Islam, M. D.; Garcia Rosales, C. A., Stewart, C. M.; Noveron, J. C., Tseng, T-L. B., and Lin, Y., 2017, "Increased piezoelectric response in functional nanocomposites through MWCNT interface and fused-deposition modeling 3D printing," *MRS Communications*, **7**(4), DOI PDF
19. Kim, H. J., Torres, F., Villagran, D., Stewart, C., Lin Y., and Tseng, T.-L. B., 2017, "3D Printing of BaTiO3/PVDF Composites with Electric In Situ Poling for Pressure Sensor Applications," *Macromolecular Materials and Engineering*, **302**(11), DOI PDF
20. Haque, M. S., and Stewart, C. M., 2017, "The Stress-Sensitivity, Mesh-Dependence, and Convergence of Continuum Damage Mechanics Models for Creep," *ASME Journal of Pressure Vessel Technology*, **139**(4). DOI PDF
21. Stewart, C. M., Reyes, J.G., and Garcia, V. M., 2017, "Comparison of Fracture Test Standards for a Super Pave Dense-Graded Hot Mix Asphalt," *Engineering Fracture Mechanics*, **169**. DOI PDF
22. Joddar, B., Garcia, E., Casas, A., Stewart, C.M., 2016, "Development of functionalized multi-walled carbon-nanotube-based alginate hydrogels for enabling biomimetic technologies," *Nature Scientific Reports*, **6**(32456). DOI PDF
23. Haque, M. S., and Stewart, C. M., 2016, "Finite Element Analysis of Waspaloy Using Sinh Creep-Damage Constitutive Model under Triaxial Stress State," *ASME Journal of Pressure Vessel Technology*, **138**(3). DOI PDF
24. Varela, L. A., and Stewart, C. M., 2016, "Modeling the Creep of Hastelloy X and the Fatigue of 304 Stainless Steel using the Miller and Walker Unified Viscoplastic Constitutive Models," *Journal of Engineering Materials and Technology*, **138**(2). DOI PDF
25. Stewart, C. M., 2015, *Implementing MasteringEngineering To Flip The Classroom And Improve Success Rates*, Case Study, Pearson Education Inc. PDF
26. Stewart, C. M., and Gordon, A. P., 2012, "Constitutive Modeling of Multistage Creep Damage in Isotropic and Transversely-Isotropic Alloys with Elastic Damage," *Journal of Pressure Vessel Technology*, **134**(4), pp. 1-8. DOI PDF
27. Stewart, C. M., and Gordon, A. P., 2011, "Strain and Damage-Based Analytical Methods to Determine the Kachanov-Rabotnov Tertiary Creep Damage Constants," *International Journal of Damage Mechanics*, **21**(8), pp. 1186-1201. DOI PDF
28. Stewart, C. M., Gordon, A. P., Ma, Y. W., and Neu, R. W., 2011, "An Anisotropic Tertiary Creep-Damage Constitutive Model for Anisotropic Materials," *International Journal of Pressure Vessel and Piping*, **88**(8-9), pp. 356-364. DOI PDF
29. Stewart, C. M., Gordon, A. P., Ma, Y. W., and Neu, R. W., 2011, "An Improved Anisotropic Tertiary Creep Damage Formulation," *Journal of Pressure Vessel Technology*, **135**(5), pp.1-10. DOI PDF

30. Stewart, C. M., Gordon, A. P., Hogan, E. A., and Saxena, A. 2011, "Characterization Of The Creep Deformation And Rupture Behavior Of DS GTD-111 Using The Kachanov-Rabotnov Constitutive Model," *Journal of Engineering Materials and Technology*, **133**(2), pp.1-11. DOI PDF
31. Stewart, C. M., and Gordon, A. P., 2009, "Modeling the Temperature Dependence of Tertiary Creep Damage of a Ni-base Alloy," *Journal of Pressure Vessel Technology*, **131**(5), pp.1-11. DOI PDF
32. Stewart, C. M., and Gordon, A. P., 2008, "Modeling the Temperature Dependence of Tertiary Creep Damage of a Ni-Base Alloy," *ASME Early Career Technical Journal*, **7**(1), pp. 1-8. PDF

Peer-Reviewed Proceedings

1. Robali, A., Adams, S., Meza, A., Nevarez, S., Stewart, C.M., Greig, A., 2022, "Manufacturing of Embedded Electrospray Thruster Components with a Femtosecond Laser," 2022 ASCEND, Las Vegas, Nevada, October 24-26, 2022. (accepted)
2. Hossain A., and Stewart, C.M., 2022, "A Reduced Order Modeling in Finite Element for Rapid Qualification of Creep-Resistant Alloys," ASME PVP 2022, Las Vegas, NV, July 17-22, 2022.
3. Hossain A., Haque, M.S., and Stewart, C.M., 2022, "A Datum Temperature Calibration Approach for Long-Term Minimum-Creep-Strain-Rate and Stress-Rupture Prediction Using Sine-Hyperbolic Creep-Damage Model," ASME PVP 2022, Las Vegas, NV, July 17-22, 2022.
4. Hossain A., Mireles, A.J., and Stewart, C.M., 2022, "A Machine Learning Approach for Stress-Rupture Prediction of High Temperature Austenitic Stainless Steels," ASME TurboEXPO 2022, Rotterdam, The Netherlands, June 13-17, 2022.
5. Cano, J.A., and Stewart, C.M., 2021, "Accelerated Creep Test (ACT) Qualification of Creep-Resistance Using the WCS Constitutive Model and Stepped Isostress Method (SSM)," ASME TurboEXPO 2021, Virtual, June 7-11, 2021. (recommended for journal).
6. Hossain, A., and Stewart, C.M., 2021, "A Reduced Order Modeling Approach to Probabilistic Creep-Damage Predictions in Finite Element Analysis," ASME TurboEXPO 2021, Virtual, June 7-11, 2021. (recommended for journal).
7. Vega, R., and Stewart, C.M., 2020, "Development of "Material Specific" Creep Continuum Damage Constitutive Equations," ASME PVP 2020, Minneapolis, MN, July 19-24, 2020.
8. Hossain, A., Cano, J.A., and Stewart, C.M., 2020, "Probabilistic Creep Modeling of 304 Stainless Steel Using Modified Wilshire Creep-Damage Model," ASME PVP 2020, Minneapolis, MN, July 19-24, 2020.
9. Hossain, A., Mach, R., Pellicotte, J., and Stewart, C. M., 2020, "Calibration of CDM-based Creep Constitutive Model using Accelerated Creep Test (ACT) Data," ASME TurboEXPO 2020, London, UK, June 22 – 26, 2020.
10. Hossain, A., and Stewart, C. M., 2020, "Probabilistic minimum-creep-strain-rate and stress-rupture prediction for the long-term assessment of IGT components," ASME TurboEXPO 2020, London, UK, June 22 – 26, 2020.
11. Hossain, A., and Stewart, C.M., 2019, "Reliability Prediction of Sine-Hyperbolic Creep-Damage Model using Monte Carlo Simulation Method," ASME PVP 2019, San Antonio, Texas, July 14 – 19, 2019.
12. Cano, J., and Stewart, C.M., 2019, "Application of the Wilshire Stress-Rupture and Minimum-Creep-Strain-Rate Prediction Models for Alloy P91 in Tube, Plate And Pipe Form," ASME TurboExpo 2019, Phoenix, Arizona, June 17-21, 2019.

13. Mach, R., Haynes, A., Pellicote, J., and Stewart, C.M., 2019, "Assessment of Long Term Creep using Strain Rate Matching from the Stepped Isostress Method," ASME TurboExpo 2019, Phoenix, Arizona, June 17-21, 2019.
14. Perez, J., and Stewart, C.M., 2019, "Assessment of the Theta Projection Model for Interpolating Creep Deformation," ASME TurboExpo 2019, Phoenix, Arizona, June 17-21, 2019.
15. Vega, R., and Stewart, C.M., 2019, "Development and Application of Minimum Creep Strain Rate Metamodeling," ASME TurboExpo 2019, Phoenix, Arizona, June 17-21, 2019.
16. Pellicotte, J., Cotto, M., and Stewart, C.M., 2019, "Assessment of Calibration Approaches for The Stress Relaxation Test," ASME TurboExpo 2019, Phoenix, Arizona, June 17-21, 2019.
17. Arrieta, E., Mireles, J., Stewart, C.M., Carrasco, C., and Wicker, R.B., 2018, "Finite Element Modeling of Metal Lattice Using Commercial FEA Platforms," *29th Annual International Solid Freeform Fabrication Symposium*, Austin, TX, August 13-15, 2018. [PDF]
18. Arrieta, E., Mireles, J., Stewart, C.M., Carrasco, C., and Wicker, R.B., 2017, "Multiscale Analysis of Cellular Solids Fabricated by EBM," *28th Annual International Solid Freeform Fabrication Symposium 2017*, Austin, TX, August 7-9, 2017. [PDF]
19. Haque, M. S., and Stewart, C. M., 2017, "Selection of Representative Stress Function under Multiaxial Stress State Condition for Creep," *ASME PVP 2017*, PVP2017-65296, Waikoloa, HI, July 16-20, 2017. DOI
20. Haque, M. S., Ramirez, C., and Stewart, C. M., 2017, "A Novel Metamodeling Approach for Time-Temperature Parameter Models," *ASME PVP 2017*, PVP2017-65297, Waikoloa, HI, July 16-20, 2017. DOI
21. Ramirez, C., Haque, M. S., and C. M. Stewart, 2017, "Guidelines to the Assessment of Creep Rupture Reliability for 316SS using the Larson-Miller Time-Temperature Parameter Model," ASME PVP 2017, PVP2017-65816, Waikoloa, HI, July 16-20, 2017. DOI
22. Garcia, E., and Stewart, C. M., 2016, "Stress Corrosion Cracking in Generic Aluminum Foil under 3.5% NaCl Solution" *ASME IMECE 2016,* IMECE2016-66296, Phoenix, Arizona, November 11-17, 2016. DOI
23. Haque, M. S., Arrieta, E., Mireles, J., Carrasco, C., Stewart, C. M., and Wicker, R., 2016, "Mechanical Behavior and Microstructure of Electron Beam Melted Ti-6Al-4V Using Digital Image Correlation," *ASME IMECE 2016,* IMECE2016-66178, Phoenix, Arizona, November 11-17, 2016. DOI
24. Haque, M. S., and Stewart, C. M., 2016, "Exploiting Functional Relationships between MPC Omega, Theta, and Sinh-Hyperbolic Models," *ASME PVP 2016,* PVP2016-63089, Vancouver, BC, Canada, July 17-21, 2016. DOI
25. Haque, M. S., and Stewart, C. M., 2016, "Modeling the Creep Deformation, Damage, and Rupture of Hastelloy X using MPC Omega, Theta, and Sin-Hyperbolic Models," *ASME PVP 2016,* PVP2016-63029, Vancouver, BC, Canada, July 17-21, 2016. DOI
26. Ramos, E., Gutierrez, A., Tirado, C., Stewart, C., Abdallah, I., and Nazarian, S, 2016, "Explaining Overlay Tester Results with Digital Image Correlation and Finite Element Analysis," *ASCE 2016 International Conference for Transportation and Development*, Houston TX, June 26-29, 2016. DOI
27. Cardenas, J. A., and Stewart, C. M., 2015, "Tensile Properties of Polylactic Acid (PLA) Additive Manufactured Parts," *ASME IMECE 2015*, IMECE2015-52274, Houston, TX, November 13-19, 2015. DOI

28. Haque, M. S., and Stewart, C. M., 2015, "A Novel Sin-Hyperbolic Creep Damage Model to Overcome the Mesh Dependency of Classic Local approach Kachanov-Rabotnov Model" *ASME IMECE 2015*, IMECE2015-50427, Houston, TX, November 13-19, 2015. DOI
29. Varela, L. A., and Stewart, C. M., 2015, "Development of a Novel Hybrid Unified Viscoplastic Constitutive Model" *ASME IMECE 2015*, IMECE2015-50390, Houston, TX, November 13-19, 2015. DOI
30. Varela, L. A., Stewart, C.M., and Gordon, A.P., 2015, "Modeling the Creep of Hastelloy X Using the Miller and Walker Unified Viscoplastic Constitutive Models," *ASME PVP 2015*, Boston, MA, July 19-23, 2015. DOI
31. Haque, M. S., and Stewart, C. M., 2015, "Comparison Of A New Sin-Hyperbolic Creep Damage Constitutive Model With The Classic Kachanov-Rabotnov Model Using Theoretical And Numerical Analysis," *2015 TMS Annual Meeting & Exhibition*, Orlando, FL, March 15-19, 2015. DOI
32. Stewart, C. M., and Gordon, A. P., 2013,"Creep Crack Growth Simulation of Ni-Base Superalloy," *ASME Turbo Expo 2013*, San Antonio, TX, June 3-7, 2013. 10.1115/GT2013-96005
33. Stewart, C. M., and Gordon, A. P., 2012, "Methods to Determine the Critical Damage Criterion of the Kachanov-Rabotnov Law," *ASME IMECE 2012*, IMECE2012-88389, Houston, TX, November, 9-15, 2012. DOI
34. Stewart, C. M., and Gordon, A. P., 2011, "A Multistage Creep Damage Constitutive Model for Isotropic and Transversely-Isotropic Materials with Elastic Damage," *ASME PVP 2011*, PVP2011-57049, Baltimore, Maryland, July, 17-21, 2011. DOI
35. Stewart, C. M., and Gordon, A. P., 2011, "Anisotropic Creep Damage And Elastic Damage of Notched Directionally Solidified Materials," *ASME Turbo Expo 2011*, GT2011-46476, Vancouver, BC, Canada, June, 6-10, 2011. DOI
36. Stewart, C. M., and Gordon, A. P., 2010, "Analytical Method to Determine the Tertiary Creep Damage Constants of the Kachanov-Rabotnov Constitutive Model," *ASME IMECE 2010*, IMECE2010-39153, Vancouver, British Columbia, November 12-18, 2010. 10.1115/IMECE2010-39153
37. Stewart, C. M., and Gordon, A. P., 2010, "Crack Initiation Modeling of Turbine Blade Cooling Holes under Creep Conditions," *2010 Annual FCAAP Symposium & Exhibition*, Tallahassee, FL, August 9-10, 2010.
38. Stewart, C. M., and Gordon, A. P., 2010, "Modeling the Tertiary Creep Damage Behavior of a Transversely-Isotropic Material under Multiaxial and Periodic Loading Conditions," *ASME PVP 2010*, PVP2010-25041, Bellevue, Washington, July 18-22, 2010. DOI
39. DeMarco, J. P., Hogan, E. A., Stewart, C. M., and Gordon, A. P., 2010, "An Efficient Method for the Optimization of Viscoplastic Constitutive Model Constants," *ASME Turbo Expo 2010*, GT2010-23311, Glasgow, UK, June 14-18, 2010. DOI
40. Stewart, C. M., and Gordon, A. P., 2010, "A Creep Rupture Time Model for Anisotropic Creep-Damage of Transversely-Isotropic Materials," *ASME Turbo Expo 2010*, GT2010-22532, Glasgow, UK, June 14-18, 2010. DOI
41. Stewart, C. M., Hogan, E. A., and Gordon, A. P., 2009, "Modeling the Temperature-Dependence of Tertiary Creep Damage of a Directionally Solidified Ni-Base Superalloy," *ASME IMECE 2009*, Lake Buena Vista, FL, November 13-19, 2009. DOI

42. Stewart, C. M., and Gordon, A. P., 2009, "A Novel Anisotropic Tertiary Creep Damage Model for Transversely Isotropic Materials," *12th International Conference on Pressure Vessel Technology*, Jeju Island, KOREA, September 20-23, 2009.
43. Stewart, C. M., Gordon, A. P., and Nicholson, D. W., 2009, "Numerical Simulation of Temperature-Dependent, Anisotropic Tertiary Creep Damage," *47th AIAA Aerospace Sciences Meeting*, Orlando, FL, January 5-8 2009. DOI
44. Stewart, C. M., and Gordon A. P., 2008 "Modeling the Temperature Dependence of Tertiary Creep Damage of a Ni-Base Alloy," *ASME Early Career Technical Conference*, Miami, FL, October 3-4, 2008.

Abstracts and Short Papers

1. Lazarin, R., Stewart, C.M., Rockward, T., Cole, R., "Gasket Characterization for PEM Fuel Cell Component Optimization Under Extreme Conditions" ECS Meeting Abstracts, 1106, DOI
2. Pellicotte, J., Mach, R., and Stewart, C.M., 2019, "Application of High Temperature Digital Image Correlation and Scanning Electron Microscopy to Accelerated Creep Testing," SETS 2019, EL Paso, TX, March 26-27, 2019.
3. Vega, R., and Stewart, C.M., 2019, "Metamodeling of Minimum Creep Strain Rate Models with Temperature Dependence," SETS 2019, EL Paso, TX, March 26-27, 2019.
4. Perez, J., and Stewart, C.M., 2019, "An Alternative Method for Interpolating and Extrapolating Strain Predictions Using the Theta Projection Model," SETS 2019, EL Paso, TX, March 26-27, 2019.
5. Hossain, M. A., and Stewart C.M., 2019, "Probabilistic Evaluation of 304 Stainless Steel using Sine Hyperbolic Creep-Damage Model," SETS 2019, EL Paso, TX, March 26-27, 2019.
6. Cano, J., and Stewart, C.M., 2019, "Modified Wilshire Model for Long-Term Creep Deformation" SETS 2019, El Paso, TX, March 26-27, 2019.
7. Haynes, A., Zamorano, D., and Stewart, C. M., 2018, "An Accelerated Creep Testing (ACT) Program for Advanced Creep Resistant Alloys for High Temperature Fossil Energy (FE) Applications," SETS 2018, El Paso, TX, April 14th, 2018.
8. Vega, R., and Perez, J., and Stewart, C. M., 2018, "Identification of Creep Strain Constants and Accurate Model Fits using Numerical Optimization," SETS 2018, El Paso, TX, April 14th, 2018.
9. Garcia, E., Chinedu, W., and Stewart, C. M., 2017, "Fatigue Crack Growth Testing Method for Hot Mix Asphalts," SETS 2017, El Paso, TX, April 1st, 2017.
10. Haynes, A., Stewart, C. M., 2017, "The Numerical Analysis of Equivalent Stress Functions for Multiaxial Creep Deformation, Damage, and Rupture," SETS 2017, El Paso, TX, April 1st, 2017.
11. Ramirez, C., Haque, M. S., and Stewart, C. M., 2017, "Guidelines to the Assessment of Creep Rupture Uncertainty for 316SS using the Larson-Miller Time-Temperature Parameter Model," SETS 2017, El Paso, TX, April 1st, 2017.
12. Campbell, A. M., Oropeza, B. P., Garcia, E., Casas, A., Stewart, C. M., Joddar, B., "Fabrication of novel hybrid carbon nanotube-alginate hydrogels for applications in cancer research," 10th World BioMaterials Congress, Montreal, Canada, May 17-22, 2016.
13. Catzin, C.A., Stewart, C.M., 2016, "Compressive Properties of Mock Polymer bonded Explosive using Digital Image Correlation," SETS 2016, El Paso, TX, April 9th, 2016.

14. Garcia, E., Stewart, C.M., 2016, "Stress Corrosion Cracking Susceptibility of Aluminum Foils for Aerospace Applications," SETS 2016, El Paso, TX, April 9th 2016.
15. Haque, M.S., Arrieta, E., Mireles, J., Carrasco, C., Stewart, C.M., Wicker, R.B., 2016, "Failure Analysis of Electron Beam Melted Ti-6Al- 4V Tensile Specimen," SETS 2016, El Paso, Texas, April 9th, 2016.
16. Ramirez, C., Stewart, C.M., 2016, "Development of High-Temperature Digital Image Correlation Method," SETS 2016, El Paso, TX, April 9th, 2016.
17. Reyes, J.G., Stewart, C.M., 2016, "Mechanical Properties of Hot Mix Asphalt Materials at Room Temperature for use in Aerospace Landing Applications," SETS 2016, El Paso, TX, April 9th, 2016.
18. Catzin, C., and Stewart, C. M., 2015, "Development of Novel Method to Manufacture Mock Polymer Bonded Explosives," *ASME IMECE 2015*, IMECE2015-52188, Houston, Texas, November 13-19, 2015.
19. Catzin, C., and Stewart, C. M., 2015, "Development of Novel Method to Manufacture Mock Polymer Bonded Explosives," *5th SESES*, El Paso, TX, April 4th, 2015.
20. Cardenas, J., and Stewart, C. M., 2015, "Tensile Properties of Polylactic Acid (Pla) Additive Manufactured Parts," *5th SESES*, El Paso, TX, April 4th, 2015.
21. Haque, M. S., and Stewart, C. M., 2015, "Limitations of Classic Local Approach Kachanov-Rabotnov Creep Damage Model," *5th SESES*, El Paso, TX, April 4th, 2015.
22. Varela, L., and Stewart, C. M., 2015, "Theory of Unified Viscoplastic Models," *5th SESES*, El Paso, TX, April 4th, 2015.
23. Haque, M. S., and Stewart, C. M., 2014, "Creep Rupture Life Prediction of 304 STS Using Larson-Miller Approach," *4th SESES*, El Paso, TX, March 22th, 2014.
24. Varela, L., and Stewart, C. M., 2014, "An Inelastic Constitutive Model for Monotonic, Cyclic and Creep Deformation: Summary," *4th SESES*, El Paso, TX, March 22th, 2014.
25. Velazquez Garcia Jr., R., Stewart, C. M., and Sutliff, D., 2014, "Advance Noise Control Fan Test Rig: Analytical Trade Study of the Upstream Rake Assembly," *4th SESES*, El Paso, TX, March 22th, 2014.

Invited Talks

1. Stewart, C.M., 2022, "Materials at Extremes Research," Ohio State University, April 22nd, 2022.
2. Stewart, C.M., 2022, "Materials at Extremes Research," University of Maryland, March 9th, 2022.
3. Stewart, C.M., 2022, "Materials at Extremes Research," University of Southern California, February 22nd, 2022.
4. Stewart, C.M., 2022, "Materials at Extremes Research," University of Texas at Austin, February 14th, 2022.
5. Stewart, C.M., 2022, "Materials at Extremes Research," University of Cincinnati, February 1st, 2022.
6. Stewart, C.M., 2022, "Materials at Extremes Research," University of Houston, January 20th, 2022.
7. Stewart, C.M., 2022, "Materials at Extremes Research," Ohio State University, January 6th, 2022.
8. Stewart, C.M., 2021, "Materials at Extremes Research," University of Connecticut, December 20th 2021.
9. Stewart, C.M., 2021, "Materials at Extremes Research," Embry Riddle Aeronautical University, November 29, 2021.
10. Stewart, C.M., 2021, "Materials at Extremes Research for Directed Energy Applications," Air Force Research Lab - Directed Energy Directorate Visit to The University of Texas at El Paso, April 22nd, 2021.

11. Stewart, C.M., 2021, "Accelerated Qualification of Materials for Advanced Energy and Aerospace Applications," Metallurgical and Materials Engineering, Department Graduate Seminar, Colorado School of Mines, April 22nd, 2021.
12. Stewart, C.M., 2021, "Accelerated Qualification of Advanced Materials for Energy and Aerospace Applications," NASA Glenn Research Center – High Temperature and Smart Materials Branch, Colorado School of Mines, March 4th, 2021.
13. Stewart, C.M., 2021, "Application of an Accelerated Creep Test (ACT) Program for Advanced Creep Resistant Alloys Subjected to Extreme Environments," eXtremeMAT Workshop, Accelerating the Development of Extreme Materials Meeting, Virtual Meeting, February 11, 2021.
14. Stewart, C.M., 2020, "UTEP Materials at Extremes Research Group," Mechanical Engineer Department Seminar, Virtual Meeting November 2nd, 2020.
15. Stewart, C.M., 2020, "Qualification of Materials for Extreme Lunar Environment," NASA Johnson Space Center Visit, El Paso, Texas, March 10th, 2020.
16. Stewart, C.M., 2019, "eXtremeMAT: A Guideline for the Assessment of Uniaxial Creep and Creep-Fatigue Data and Models," eXtremeMAT, Accelerating the Development of Extreme Materials Meeting, Los Alamos, New Mexico, December 4, 2019.
17. Stewart, C.M., 2019, "UTEP Materials at Extremes Research Group," Kansas City National Security Campus, Honeywell FM&T, Kansas City, Missouri, November 11, 2019.
18. Stewart, C.M., 2019, "UTEP Materials at Extremes Research Group," Los Alamos National Labs – Fuel Cell group, Los Alamos, New Mexico, August 6, 2019.
19. Stewart, C.M., 2019, "UTEP Materials at Extremes Research Group," Air Force Research Lab, Wright-Patterson AFB, Dayton, Ohio, May 16, 2019.
20. Stewart, C. M., 2018, "Accelerated Qualification of Advanced Materials for Energy Applications," UTEP Consortium for Integrating Energy Systems in Engineering and Science Education (CIESESE) Conference, EL Paso, Texas, December 8, 2018.
21. Stewart, C. M., 2018, "Accelerated Creep Testing," US/UK Low Cost Propulsion Workshop hosted by the Air Force Research Lab (AFRL), Wright Brothers Institute, Dayton, OH, June 4 -6, 2018.
22. Stewart, C. M., Hodges, D., Joddar, B., 2016, "An Integrated Mechanical Testing and Characterization System For Thin-Engineered Materials Subjected to Ultra-High-Cycle Fatigue," UTEP College of Engineering, Engineering Research Forum, El Paso, Texas, December 5, 2016
23. Stewart, C. M., 2016, "UTEP Materials at Extremes Research Group," NAVAIR-SPAWAR Virtual Expo, May 10th, 2016.
24. Stewart, C. M., 2015, "A Unified Mechanical Model for Metals Subject to Extremes," Processing and Joining Group, Oak Ridge National Labs, Oak Ridge, TN, September 8th, 2015.
25. Stewart, C. M., 2014, "A Unified Mechanical Model for Metals Subject to Extremes," Air Force Research Laboratory, Wright Patterson AFB, Dayton, OH, April 6th, 2014.
26. Stewart, C. M., 2011, "Creep Damage Modeling," CATER Industry Day, Siemens Energy Center, Orlando, FL, July 25th, 2011.
27. Stewart, C. M., and Gordon, A. P., 2011, "Siemens UCF Synergy Meeting, Creep Modeling for Combustor Basket," Siemens UCF Synergy Meeting, Siemens Energy Center, Orlando, FL, July, 13th, 2011.

28. Stewart, C. M., and Gordon, A. P., 2009, "A Novel Anisotropic Creep Damage Model for Transversely Isotropic Materials," Siemens and UCF Technology Collaboration Meeting, Siemens Power Generation, Orlando, FL, August 10th, 2009.

Thesis and Dissertation

- Stewart, C. M., 2013, *A Hybrid Constitutive Model for Creep, Fatigue, and Creep-Fatigue Damage*, Dissertation, University of Central Florida, Orlando, FL.
- Stewart, C. M., 2009, *Tertiary Creep Damage Modeling of a Transversely Isotropic Ni-Based Superalloy*, Thesis, University of Central Florida, Orlando, FL.

TEACHING EXPERIENCE

Course	Term	Class Size	Evaluation /5
MECH 1321 Statics	2020 Fall	70	3.70
	2020 Spring	76	4.33
	2019 Spring	52	4.00
	2016 Spring	115	4.38
	2015 Fall	150	4.27
	2015 Spring	160	3.88
	2014 Fall	146	3.83
	2014 Spring	133	4.67
MECH 2322 Mechanics of Materials	2017 Spring	32	4.33
MECH 3334 Mechanical Design	2019 Fall	78	3.7
	2018 Fall	95	3.37
	2018 Spring	111	3.84
	2017 Fall	82	4.10
	2017 Spring	96	4.33
	2016 Fall	83	4.39
MECH 5312/6312 Solid Mechanics II	2021 Fall	17	4.80
	2018 Spring	13	5.00
	2016 Spring	9	4.50
	2015 Spring	16	3.57
MECH 5314 Continuum Mechanics	2017 Fall	34	3.00
MECH 5390/6390 Fracture Mechanics	2022 Spring	17	4.86
	2020 Fall	20	4.75
	2015 Fall	7	4.00
MECH 5390/6390 Fatigue Analysis in Extreme Environments	2021 Spring	11	4.66
	2020 Spring	20	4.50
	2016 Fall	12	5.00
MECH 5390/6390 Computational Mechanics	2019 Spring	31	4.00
MECH 5390/6390 Computational Mechanics II	2019 Fall	14	4.20

STUDENTS SUPERVISED

Thesis and Dissertations Supervised

PhD

Cano, J. A., 2022, *Application of the Continuum Damage Mechanics Wilshire-Cano-Stewart (WCS) Model*, The University of Texas at El Paso, El Paso, TX.

Alexander IV, D., 2022, *Suitability of Low-Cost Additive Manufacturing For Polymer Electrolyte Fuel Cells*, The University of Texas at El Paso, El Paso, TX.

Haque, M. S., 2018, *An Adaptive Creep Modeling Approach Using Metamodeling*, PhDME Dissertation, The University of Texas at El Paso, El Paso, TX.

MS

Hossain, A., 2020, *A Probabilistic Creep Constitutive Model for Creep Deformation, Damage, and Rupture*, MSME Thesis, The University of Texas at El Paso, El Paso, TX.

Vega, R., 2020, *Computational Methods for Creep Modeling*, MSME Thesis, The University of Texas at El Paso, El Paso, TX.

Mach, R., 2020, *An Accelerated Creep Testing Program for Nickel Based Superalloys*, MSME Thesis, The University of Texas at El Paso, El Paso, TX.

Cano, J., 2019, *A Modified Wilshire Model for Long-Term Creep Deformation and Damage Mechanics*, MSME Thesis, The University of Texas at El Paso, El Paso, TX.

Perez J., 2019, *An Alternative Method of Calibration and Prediction for the Theta-Projection Model*, MSME Thesis, The University of Texas at El Paso, El Paso, TX.

Rabbi, M. F., 2018, *The Fatigue and Fracture Mechanics of Heterogeneous Composites*, MSME Thesis, The University of Texas at El Paso, El Paso, TX.

Ramirez, C., 2017, *Flexible Analysis of Creep Rupture Database and Accelerating the Acquisition of Creep Rupture Data*, MSME Thesis, The University of Texas at El Paso, El Paso, TX.

Garcia, E., 2017, *Test Methods for the Fracture and Fatigue Crack Growth Behavior of Hot Mix Asphalts*, MSME Thesis, The University of Texas at El Paso, El Paso, TX.

Catzin, C., 2016, *Manufacturing and Characterization of Energetic Materials*, MSME Thesis, The University of Texas at El Paso, El Paso, TX.

Varela, L. A., 2015, *Development of a Novel Hybrid Unified Viscoplastic Constitutive Model*, MSME Thesis, The University of Texas at El Paso, El Paso, TX.

Haque, M. S., 2015, *An Improved Sin-Hyperbolic Constitutive Model for Creep Deformation and Damage*, MSME Thesis, The University of Texas at El Paso, El Paso, TX.

Funded Graduate Students

1. Robert Lazarin, BS to MSME (April 2020 –)
2. Stephani Nevarez, BS to MSME (November 2019 – May 2022) Engineer, Kansas City National Security Campus
3. David Alexander IV, PhDME (August 2019 – May 2022) Scientist, Los Alamos National Lab

4. Md Abir Hossain, PhDME (August 2018 –)
5. Jacob Pellicotte, BS to PhDME (June 2018 –)
6. Jaime Cano, MS to PhDME (May 2018 – May 2022)
7. Antonio Arango, BS to MSME (September 2019 – October 2021) Engineer Kansas City National Security Campus
8. Ricardo Vega, BS to MSME (June 2017 – May 2020) White Sands Missile Range
9. Robert Mach, BS to MSME (May 2016 – May 2020) White Sands Missile Range
10. Jimmy Perez, BS to MSME (June 2017 – May 2019) Lockheed Martin
11. Mohammad Fazle Rabbi, MSME (August 2016 – May 2018) PhD Student at Arizona State University
12. Eduardo Garcia, MSME (October 2015 – Aug 2017) Freeport McMoran
13. Christopher Ramirez, BS to MSME (Sept 2015 – Aug 2017) Metallurgy Test Technician at Elements Materials Testing
14. Jesus Reyes, MSME (June 2015 – July 2016) Freeport McMoran
15. Carlos Catzin, MSME (January 2015 – May 2016) Naval Sea Command (NAVSEA)
16. Mohammad Shafinul Haque, PhDME (November 2013 – May 2018) Assistant Professor at Angelo State University
17. Luis A Varela, MSME (November 2013 – May 2015) Intel Corporation

Funded Undergraduate Students

1. Jesus Hernandez, BSCS (June 2021 – August 2021)
2. Antonio Delgadillo, BSME (June 2021 – May 2022)
3. Saul Barraza, BSME (May 2021 – May 2022)
4. Laura Marquez, BSME (May 2021 – May 2022)
5. Joseph Munoz, BSME (May 2021 – May 2022)
6. Brenda Sida, BSMME (November 2020 – Fall 2021) Nuclear Regulatory Commission
7. Alejandro Mejia, BSME (October 2020 – May 2021) Hyundai Motors
8. Jacquelin Cottingham, BSME (September 2020 – March 2021)
9. Adan Mireles Medrano, BSMME (September 2020 –) Gem Fellowship, PhD student at Rice University
10. Stephanie Guerra Arias, BSME (November 2019 – May 2021) General Motors
11. Brianna Sanchez, BSME (September 2019 – May 2021) Grad Student at The University of Arkansas
12. Caitlin Benway, BSME (September 2019 – December 2020) PhD student at University of Texas at Austin
13. Raquel Herrera, BSME (January 2019 – October 2019) Northrup Grumman
14. Jonathan Gracida, BSME (February 2019 – October 2019) Toyota – Fuel Cell Vehicles Team
15. Amanda Haynes, BSME (January 2017 – August 2018) PhD student with W.M. Keck Center at UTEP
16. Carlos Diaz, BSME (June 2018 – October 2018)
17. James Sanders, BSME (June 2018 – August 2018)
18. Elizabeth Martinez, BSME (June 2018 – August 2018)
19. Mario A Cotto Ramos, BSME (May 2018 – August 2018) University of Puerto Rico Mayagüez Campus
20. Dulce Zamorano, BSME (August 2017 – May 2018) MS Student in Biomedical Engineering at UTEP
21. Chinedu William Oputa, BSME (May 2016 – May 2017) El Paso Electric Company
22. Robert I. Macias, BSME (Sept 2014 - Dec 2015) AKT America, Inc.
23. Joselyn Cardenas, BSME (Sept 2014 - May 2015) Boeing Corporation
24. Erick Salazar, BSME (May 2014 - Aug 2014) Clark Constructions Group, LLC
25. Samuel Guzman, BSME (Jan 2014 - Sept 2014) Cummins Inc. & Purdue University MSME-MBA

SERVICE

University

UTEP Institution Transformational Team – DEI STEM Working Group (2021 – August 2022) charged with identifying areas of improvement to plan, implement, and continuously improve interventions based on knowledge gained for Latinx Student Success in STEM

2021-2022 UTEP Provost Faculty Fellow of Diversity, Equity, and Inclusion – focused on the developing strategies for recruitment, retention, and successful promotion of diverse faculty at the institution

President and Founder of the UTEP Black Affinity Group, (2020 – August 2022)

Reviewer for the Dodson Research Grant, 2019, 2020

Graduate Student Research Expo Judge, 2018

Invited Panelist on Mentorship, Graduate Mentoring Reception, 2018

Faculty Marshal of Students, Spring 2014

Outstanding Thesis and Dissertation Committee, 2014

College

UTEP College of Engineering Faculty Council, (Fall 2018 – August 2022)

Vice Chair, (Fall 2021 – August 2022)

Member, (Fall 2018 to Summer 2021)

UTEP College of Engineering, CoVID-19 Recovery Committee Member, (Summer 2020)

Faculty Advisor, Miners Make, (Spring 2018 – August 2022)

Faculty Advisor, National Society of Black Engineers, NSBE (2014 - August 2022)

Department

Member - Graduate Studies Committee (August 2022 –)

Chair - ABET Accreditation Committee, (Summer 2018 – Summer 2022)

Chair - Tenure-Track Faculty Search Committee, for Fall 2020 position

Chair - Tenure-Track Faculty Search Committee, for Fall 2019 position

Member - Tenure-Track Faculty Search Committee, for Fall 2018 position

Member - Tenure-Track Faculty Search Committee, for Fall 2017 position

Member - Tenure-Track Faculty Search Committee, for Fall 2016 position

Member - Lab Safety Committee 2014

Member - Flipped Classroom Committee 2014

Advisor - Senior Design Spring 2014

Thesis & Dissertation Committee Member

2021

David Alexander IV, PhDME (Chair)

Jaime Cano, PhDME (Chair)

Stephani Nevarez, MSME (Chair)

2020

Jad Aboud, PhDME

Fabian Alvarez, PhD MMBME

Robert Mach, MSME (Chair)
Abbasali TaghaviGhalesarim, PhDCE
Ricardo Vega, MSME (Chair)

2019
Jaime Cano, MSME (Chair)
Jimmy Perez, MSME (Chair)

2018
Alejandra Escajeda, MSCE
Mohammad Shafinul Haque, PhDME (Chair)
Sandeep Manandhar, PhDME
Mohammad Fazle Rabbi, MSME (Chair)
Kevin Schnittker, MSMME
Evan Wolf, PhDCE

2017
Edel G Arrieta, PhDCE
Eduardo Garcia, MSME (Chair)
Gustavo Martinez, PhDME
Christopher Ramirez, MSME (Chair)
Jesus Reyes, MSME
Tania Ventura, MSME

2016
Carlos Catzin, MSME (Chair)
Victor M Garcia, MSCE
Andrea Gutierrez, MSCE
Ricardo M Hernandez, PhDME

2015
Diego Delfin, MSME
Mohammad Shafinul Haque, MSME (Chair)
Alejandro Miramontes, MSCE
Oscar Nunez, MSME
Estefany Ramos, MSCE
Luis A Varela, MSME (Chair)
Jorge A Velarde, MSCE

PROFESSIONAL ACTIVITIES

Grant Reviewer
NRC
Fellowship Program, 2021
Trade School and Community College scholarship program 2021

Research and Development Program 2020

NSF

CMMI-EPSRC - US/UK International Collaboration program 2020

CMMI - Mechanics of Materials 2016

CMMI - Mechanics of Materials 2014

DOE

FE & NETL – Extreme Environment Materials Stakeholders Meeting Fall 2015

Advisory Board

Academia Stakeholder, eXtremeMAT consortium of seven leading US DOE Laboratories (2017 –)

Editorial Board Member

ASTM Journal of Materials Performance and Characterization (MPC), (2020 –)

Book Proposal Reviewer

CRC Press (2 books)

Elsevier (1 book)

Journal Reviewer

AIAA Journal (2 papers)

Additive Manufacturing (5 paper)

Engineering Fracture Mechanics (1 paper)

Fatigue & Fracture of Engineering Materials & Structures (2 paper)

International Journal of Damage Mechanics (6 papers)

International Journal of Pressure Vessels and Piping (2 paper)

Materials and Design (1 paper)

Mathematical Problems in Engineering (1 paper)

Metallurgical and Materials Transactions A (1 paper)

Testing and Evaluation (1 paper)

Conference Reviewer

ASME PVP 2022 (2 paper)

ASME TurboExpo 2022 (2 papers)

ASME TurboExpo 2021 (2 papers)

ASME PVP 2020 (4 papers)

ASME TurboExpo 2020 (4 papers)

ASME TurboExpo 2019 (3 papers)

ASME Turbo Expo 2018 (3 papers)

ASME Turbo Expo 2014

ASME International Mechanical Engineering Congress & Exposition 2010

Conference Organizer (CO),

Creep 2023 Organizing Committee (CO)

Session Organizer (SO), Session Chair (SC)

ASME TurboExpo 2022
27-03 Fatigue Analysis of Real Components (SO,SC)
ASME TurboExpo 2021
Panel on Novel and Experimental Test Methods (SO, SC)
18-05 Digitization, Testing and Validation (SO, SC)
27-03 - Constitutive Materials Modelling (SO, SC)
ASME TurboExpo 2020
Panel on Novel and Accelerated Material Testing Methods (SO, SC)
Additive Manufacturing - Verification (SO, SC)
Fatigue Crack Growth Modeling (SO, SC)
Southwest Emerging Technology Symposium 2017 (SC)
ASME International Mechanical Engineering Congress & Exposition 2015 (SC)
5th Southwest Energy Science and Engineering Symposium 2015 (SC)
4th Southwest Energy Science and Engineering Symposium 2014 (SC)
ASME TurboEXPO 2011 (SC)
ASME International Mechanical Engineering Congress & Exposition 2009 (SC)

Memberships
ASTM International, Member (2020-)
Committee E28 on Mechanical Testing
Subcommittee, E28.04 on Uniaxial Testing
Workgroup Lead on Section of 10 and 11 of E139 Creep Test Standard
Committee E08. on Fatigue and Fracture
Subcommittee, E08.05 Cyclic Deformation and Fatigue Crack Formation
Academic and Research Leadership Network (2018 -), Member
American Society of Mechanical Engineers (2008 -), Member
National Society of Black Engineers, Faculty Advisor and Member
Text and Academic Authors Association, Member
McKnight Alumni Network, Member
UCF Knights for Life, Member for Life
INROADS, Alumni

Professional Development Programs
Better Research Through Better Mentoring, Ohio State Mentoring Initiative (2022)
Mentee, NSF-funded Increasing Minority Presence within Academia through Continuous Training (IMPACT), (2020 - 2022)
Certificate in Inclusive Instruction for Equitable Learning, Association of College and University Educators (2022)

COLLABORATORS

Abdallah, Imad N.	Associate Professor of Research, Associate Director of CTIS	University of Texas at El Paso
Carrasco, Cesar	Professor	University of Texas at El Paso
Chessa, Jack	Associate Professor	University of Texas at El Paso

Gordon, Ali P.	Associate Dean	University of Central Florida
Haque, Mohammad Shafinul	Assistant Professor	Angelo State University
Hodges, Diedra	Associate Professor	University of Texas at El Paso
Joddar, Binata	Assistant Professor	University of Texas at El Paso
Kaneshige, Michael J.	Distinguished R&D Scientist	Sandia National Laboratory
Lin, Yirong	Professor	University of Texas at El Paso
Love, Norman	Professor	University of Texas at El Paso
Ma, Young Wha	Post Doc	Georgie Institute of Technology
Martinez, Ulises	Research Scientist	Los Alamos National Labs
Mireles, Jorge	Additive Manufacturing Engineer	Arconic, Inc.
Nazarian, Soheil	Director of CITS, Professor	University of Texas at El Paso
Neu, Richard W.	Director MPRL, Professor	Georgie Institute of Technology
Rockward, Tommy	Research Scientist	Los Alamos National Labs
Wicker, Ryan B.	Professor, Direct of the W.M. Keck Center for 3D Innovation	University of Texas at El Paso