

Brahma Pramanik, Ph.D., P.E., L.P.R.

Associate Professor

Dept. of Mechanical Engineering
Montana Technological University
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Education:

Ph.D. Mechanical Engineering	University of Mississippi	2014
Dissertation Title: <i>High Strain-Rate Tensile Characterization of Graphite Platelet Reinforced Vinyl Ester Nanocomposites Adapting Split-Hopkinson Pressure Bar</i>		
Advisor: Prof. P. R. Mantena		
M.S. Mechanical Engineering	University of Mississippi	2010
Thesis Title: <i>Punch-Shear and Ballistic Energy Absorption Characteristics of Nano-reinforced Panels, Laminated Face Sheets, and Sandwich Composites</i>		
Advisor: Prof. P. R. Mantena		
B.S. Mechanical Engineering	Institution of Engineers (India)	2006
A.S. Mechanical Engineering	WBSCTE, India	1997
Licensed Professional Engineer	Registration Number: PE 60613, Montana, USA	2019 – Present
Lawfully Permanent Resident of USA	(E17) Outstanding Professor and Researcher	2022 - Present

Work Experience:

Montana Technological University	Associate Professor	2020 – Present
Montana Technological University	Assistant Professor	2014 – 2020
University of Mississippi	Graduate Research Assistant	2007 – 2014
IIT-Kharagpur, India	Project Assistant	2004 – 2007
GKW Ltd. India	Design Engineer	1997 – 2004

Research Experience:

Assistant Professor, Co-Principal Investigator, Montana Tech	2014-2020
Associate Professor, Faculty Researcher, Montana Tech	2020-Present
Impact Technology Research Laboratory	

- Study high strain rate compressive deformation behavior of additively manufactured metals, i.e., stainless steel, high-speed steel, aluminum alloy, titanium alloy

- Investigate energy dissipation and high-strain rate dynamic response of E-glass fiber composites with anchored carbon nanotubes

Research Assistant, University of Mississippi
 Blast and Impact Dynamics Laboratory
 Composite Structures and Nano-Engineering Research

2007-2014

- Investigate the response to low-velocity impact, ballistic, shock, and blast loads; dynamic mechanical analysis for modulus, damping, creep, and stress relaxation; developing constitutive models and high-performance, scalable computing-based modeling and simulations for low-cost fire-resistant exfoliated graphite nano-platelet reinforced glass/carbon polymeric based composites with fly ash and 3-D fiber reinforced foams
- Study the constitutive model of concrete explaining the influence of a wide range of length- and time-scale
- Examine the dynamic behavior of vertically aligned carbon nanotubes (VACNTs) with functionally graded stiffness modulus for exploring the energy transfer mechanisms and their dependence on the microstructures of carbon nanotube (CNT) ensembles
- Indirect tensile characterization of graphite platelet-reinforced vinyl ester nanocomposites at high-strain rates
- Effect of process parameters on the dynamic modulus, damping, and energy absorption of vertically aligned carbon nanotube (VACNT) forest structures
- Strain-rate dependent ductile to brittle transition of graphite platelet reinforced vinyl ester nanocomposites
- Energy dissipation and the high-strain rate dynamic response of vertically aligned carbon nanotube (VACNT) ensembles grown on the silicon wafer substrate
- Surface fractal analysis for estimating the fracture energy absorption of nanoparticle-reinforced composites
- Energy absorption of nano-reinforced and sandwich composites in ballistic and low-velocity punch-shear
- Energy absorption of nano-reinforced and sandwich composites in ballistic and low-velocity punch-shear
- Viscoelastic Response of Graphite Platelet and CTBN Reinforced Vinyl Ester Nanocomposites

Project Assistant, Indian Institute of Technology – Kharagpur, India
 Composite Application Laboratory

2004-2007

- Explore the application of 6 axes filament winding system complete with 60 Tons hydraulic extractor unit & CADWIND software for implementing filament winding technique on a spherical structure

- Understand manufacturing processes and trouble-shooting issues of Vacuum Assisted Resin Transfer Molding (VARTM), Autoclave, Filament Winding (FW), SMC manufacturing and compression molding, natural fiber composite manufacturing
- Characterize and material modeling of composites using Bohlin Viscometer, ANSYS software, UTM machine, smoke density, FST (Fire, Smoke & Toxicity) equipment, NDT scanner, specific gravity, Barcol hardness, impact strength tester

Teaching Experience:

Instructor, Montana Technological University

2014-Present

EMEC 445 Mechanical Vibration – (45 students on average, 3 Credits, Fall Semesters)

Course Description: This course illustrates the basic concepts of understanding and analyzing vibration through principles of dynamics and differential mathematics, predicting the behavior of vibrating systems, including modal analysis and designing vibration experiments. This knowledge develops the baseline for designing vibrating systems to improve or suppress vibration.

EGEN 305 Mechanics of Materials – (65 students on average, 3 Credits, Fall and Spring Semesters)

Course Description: This course explains internal loads; stress and strain relations; mechanical properties of materials; axial loads, torsion, and bending on structure; indeterminate beam problems; transverse shear; combined loading; shear force and bending moment distribution along beam axis; stress and strain transformation at required orientation; Mohr's Circle; deflection of the beam; and buckling of the column. This knowledge will develop the baseline for designing engineering components and explaining engineering phenomena.

EGEN 202 Engineering Mechanics: Dynamics – (50 students on average, 3 Credits, Fall and Spring Semesters)

Course Description: This course presents the effects of forces on the motion of material bodies. It covers the kinematics of particles, kinetics of particles including force, mass, acceleration, work, energy, impulse, and momentum, and kinematics and kinetics of rigid bodies.

EGEN 335 Fluid Mechanics – (50 students on average, 3 Credits, Fall and Spring Semesters)

Course Description: This course explains fluids at rest or in motion. Fluids may be liquids, vapors, gases, or combinations of these. The effects of static forces and compressibility are given special attention. Kinematics, dynamics, flow, flow resistance, and physical effects of flow are considered in detail for moving fluids.

EWLD 476 Non-Destructive Examination – (20 students on average, 3 Credits, Spring Semesters)

Course Description: This course explores nondestructive evaluation methods, including visual, penetrant, magnetic particle, eddy current, ultrasonic and radiographic. Process theory and principles are discussed in lectures and applications are practiced in labs. The characteristics of welding and other manufacturing discontinuities are reviewed. Quality control and assurance aspects with references to industrial codes and standards are also presented.

EMEC 415-515 Impact Dynamics – (20 students on average, 3 Credits, Spring Semesters)

Course Description: This course discusses the dynamic response of structures involved in a collision and applies the fundamental theory in designing sports instruments and armors, improving automobile crashworthiness, and understanding the fragmentation mechanism of rocks in impact crushing,

drilling, blasting, or communiton process for the mining operation. The fundamental theory of rigid body for multi-degree of impact events, discrete and continuum modeling of the contact region, stress wave propagation in deformable body, and vibration in flexible structure is discussed with industry-oriented examples.

EGEN 591-2 Dynamic Behavior of Materials – (20 students on average, 3 Credits, Fall Semesters)

Course Description: This course presents the science and engineering of material and structural response to dynamic loading focused on high-strain rate, impact, blast, penetration, shock response, and extreme conditions applying mathematical analyses and computational modeling, novel experimental techniques, advanced diagnostic methods, and characterization procedures.

Teaching Assistant, University of Mississippi
Structures and Dynamics Laboratory

2007-2014

ME 416 Structures and Dynamics Lab
(20 students in average, 3 Groups, 1 Credit, Fall Semesters)

Course Description: This course introduces the basic and current instrumentation related to static and dynamic measurements and methods of collecting and analyzing experimental data. These experiments are chosen to reinforce basic static and dynamic theories.

Laboratory Activities:

- Evaluation of Force Transducers (Static and Dynamics)
- Torsion Test
- Structural Analysis of Prototype Bridge Model
- Stress Analysis using Photo-elasticity
- Vibration Analysis of Lumped Mass System
- Modal Analysis of Cantilever Beam using Piezo-Hammer and Signal Analyzer
- Mode Shapes of Free-Free Beam using a Shaker Frequency Amplifier, and Stroboscope

Professional Affiliations:

American Society of Mechanical Engineers (ASME)
Council on Undergraduate Research (CUR)
The Minerals, Metals, and Materials Society (TMS)
National Energetic Materials Consortium (NEMC)
Institution of Engineers (India) (IEI), Associated Member
Gamma Beta Phi Honors Society (GBPHS), Honored Invitee

Honors and Awards:

- Best Mechanical Engineering Poster, Montana Tech Expo, 2023
- Best Materials Science Ph.D. Booth, Montana Tech Expo, 2019
- Dean’s Fellowship, University of Mississippi, for exceptional contribution to Ph.D. dissertation, 2013
- ERDC-CERL Research Assistantship, Vertically Aligned Carbon Nanotube (VACNT) Research, 2012

- ONR Research Assistantship, Composite Structure, and Nano-Engineering Research, 2007 – 2011
- NSF Travel Award for outstanding poster presentation in Micro & Nanotechnology Forum, ASME IMECE2012, Nov. 12-16, 2012
- Ph.D. Internship, offered by American Bureau of Shipping (ABS) Corporate Technology, 2011
- Academic Scholarship Award offered by WBBSE, India, for outstanding academic performance, 1992

Grants and Contracts:

- **Faculty Requestor**, “Low-velocity Plastic Impact Tester,” \$45k, Instrument Grant, 2022-2023, Capital Equipment Grant, School of Mining Engineering, Department Head, Dr. J. Skinner, Mechanical Engineering, Montana Technological University.
- **Faculty Investigator**, “High strain rate response of Additively Manufactured Titanium Alloy and High Strength Steel,” \$15k, 2019 Summer Research Grant, Army Research Laboratory – Aberdeen Proving Ground (Collaborator: B. McWilliams), and Montana Technological University (Principal Investigator: R. White).
- **Principal Investigator**, “Determining Damage Location in Two-Dimensional Machine Component Using Vibration Test Technique,” \$1.5k, 2019 Spring, Research Assistant Mentorship Program (RAMP), Montana Technological University.
- **Faculty Investigator**, “High-Speed Camera,” \$97k, Instrument Grant, 2017-18, Army Research Laboratory – Aberdeen Proving Ground, and Montana Technological University (Principal Investigator: R. White).
- **Principal Investigator**, “Developing an Efficient Model-Experiment Strategy for Predicting the Ability of Composite Material in Impact Energy Absorption,” \$7k, 2016-2017, Montana Tech Faculty Development Grant Initiative, Montana Technological University.
- **Faculty Investigator**, “3d-Microscope,” \$50k, Instrument Grant, 2016-17 Army Research Laboratory – Aberdeen Proving Ground, and Montana Technological University (Principal Investigator: R. White).
- **Faculty Investigator**, “Innovations in Materials Processing and Additive Manufacturing,” \$20k, Summer Research Grant, 2016, Army Research Laboratory – Aberdeen Proving Ground, and Montana Technological University (Principal Investigator: R. White).
- **Faculty Investigator**, “Pendulum Impact Tester,” \$52k, Instrument Grant, 2015-16, Army Research Laboratory – Aberdeen Proving Ground, and Montana Technological University (Principal Investigator: R. White).
- **Faculty Investigator**, “Split-Hokinson Pressure Bar System,” \$100k, Instrument Grant, 2015-16, Army Research Laboratory – Aberdeen Proving Ground, and Montana Technological University (Principal Investigator: R. White).

- **Faculty Requestor**, “Split-Hopkinson Pressure Bar System Accessories,” \$70k, Instrument Grant, 2015-16, Capital Equipment Grant, School of Mining Engineering, Department Head, Dr. B. Madigan, General Engineering, Montana Technological University.
- **Principal Investigator**, “High-Strain Rate Mechanical Characterization of Engineering Materials Via Developing Split-Hopkinson Pressure Bar test Facility in Montana Tech,” \$5k, 2015-2016, Seed Grant for New Faculty at Montana Tech.

Collaborations:

- INL – Kunal Mondal (Since 2022)
- USRA-NASA – S. Sinha Ray (Since 2021)
- US ARL – Aberdeen Proving Ground, MMT – B. McWilliams, MMT (Since 2016)
- US Army – M. J. Mezger (Since 2016)
- University of South Florida – G. Subhash (Since 2015)
- National Institute of Technology, Warangal, India – T. Tadepalli (Since 2014)
- University of Mississippi – A. M. Rajendran; P. R. Mantena; A. AlOstaz. (Since 2009)

University Students Mentored:

- Md. Salah Uddin (ME MatSci 2019 and Ph.D. MatSci 2020 tentative) – thesis advisor
- Riley McNabb (MS GE 2020 tentative) – thesis advisor
- Kristofer Kuelper (MS GE 2019) – thesis advisor
- Brandon Ross (MS GE 2016) – thesis committee
- Ryan Foley (MS MSE 2020 tentative) – thesis committee
- Edward Stugelmayer (MS MSE 2018) – thesis committee
- Luke Suttley (MS MSE 2018) – thesis committee
- John Becker (BS ME 2019) – research mentor
- Jared Schmidlin (BS ME 2019) – research mentor
- Wednesday Rehm (BS ME 2019) – research mentor
- Shaun Raugust (BS ME 2019) – sr. design mentor
- Paul VanLandingham (BS ME 2016) – sr. design mentor
- Mohammed Almazyad (BS ME 2018) – sr. design mentor
- Abdullah Albuaynian (BS ME 2018) – sr. design mentor
- Khalifa Aldossary (BS ME 2018) – sr. design mentor
- Talal Aldossary (BS ME 2018) – sr. design mentor
- Khaled Aklhater (BS ME 2018) – sr. design mentor
- Theyab Alhajri (BS ME 2018) – sr. design mentor
- Faisal Alqahtani (BS ME 2018) – sr. design mentor
- Saad Alhajri (BS OSH 2018) – sr. design mentor
- Abdullah Alhajri (BS ME 2018) – sr. design mentor
- Mosleh Aldossary (BS ME 2017) – sr. design mentor
- Seed Aldossry (BS ME 2017) – sr. design mentor
- Ali Almarri (BS ME 2017) – sr. design mentor
- Abdulrahman Alshuhail (BS ME 2017) – sr. design mentor
- Raja Alhajri (BS ME 2017) – sr. design mentor
- Khaled Albalawi (BS ME 2017) – sr. design mentor

- Abdulrahman Alhajri (BS ME 2017) – sr. design mentor
- Fahad Alhajri (BS ME 2017) – sr. design mentor
- Jabr Albuainain (BS ME 2019) – academic advisor
- Payson Alexander (BS ME 2019) – academic advisor
- Ali Alhamad (BS ME 2016) – academic advisor
- Waleed Alkorbi (BS ME 2019) – academic advisor
- Yasser Almousa (BS ME 2019) – academic advisor
- Kaled Almubayedh (BS ME 2019) – academic advisor
- Shaheen Alromahiy (BS ME 2018) – academic advisor
- Abdulrahman Alshammari (BS ME 2018) – academic advisor
- Ahmed Alsulami (BS ME 2018) – academic advisor
- Taylor Aponte (BS ME 2016) – academic advisor
- Zachariah Brown (BS ME 2018) – academic advisor
- Jayden Chilson (BS ME 2021 tentative) – academic advisor
- Britton Cox (BS ME 2020 tentative) – academic advisor
- Tanner Ellingboe (BS ME 2023 tentative) – academic advisor
- Alexander Emslie (BS ME 2022 tentative) – academic advisor
- Abdulrahman Farran (BS ME 2018) – academic advisor
- Arthur Flynn (BS ME 2019) – academic advisor
- Jonah Franchi (BS ME 2021 tentative) – academic advisor
- Logan Gaddis (BS ME 2019) – academic advisor
- Nathan Haines (BS ME 2020 tentative) – academic advisor
- Stephen Hamilton (BS ME 2022 tentative) – academic advisor
- Evan Heiken (BS ME 2020 tentative) – academic advisor
- Caleb Jones (BS ME 2021 tentative) – academic advisor
- Lachlan Kerr (BS ME 2020 tentative) – academic advisor
- Robert Kuyper (BS ME 2019) – academic advisor
- Raymond LaTray (BS ME 2017) – academic advisor
- Christopher Liebel (BS ME 2018) – academic advisor
- David Loeng (BS ME 2019) – academic advisor
- Noah Loomis (BS ME 2018) – academic advisor
- Joshua Martin (BS ME 2023 tentative) – academic advisor
- Trent Molesworth (BS ME 2019) – academic advisor
- Jacob Moran (BS ME 2018) – academic advisor
- Derek Neel (BS ME 2021 tentative) – academic advisor
- Jesse Roberts (BS ME 2022 tentative) – academic advisor
- Jacob Schuster (BS ME 2019) – academic advisor
- Mario Simon (BS ME 2020 tentative) – academic advisor
- Kyle Smith (BS ME 2017) – academic advisor
- John Stampfel (BS ME 2018) – academic advisor
- Garrett Strine (BS ME 2021 tentative) – academic advisor
- David Torgersen (BS ME 2019) – academic advisor
- Jacob Yedica (BS ME 2019) – academic advisor
- Jennifer Wirtz (BS ME 2020 prospective, Rathdrum, ID) – recruiting mentor
- James Newkirk (BS ME 2020 prospective, Erie, CO) – recruiting mentor
- Brayden Dowdy (BS ME 2020 prospective) – recruiting mentor
- Ahnika Puskala (BS ME 2019 prospective, Marquette, MI) – recruiting mentor
- Lucas Nalley (BS ME 2019 prospective) – recruiting mentor
- Joseph Egan (BS ME 2018 prospective, Dillion, MT) – recruiting mentor
- Joslyn Klapan (BS ME 2018 prospective, Butte, MT) – recruiting mentor

- Tim Nolte (BS ME 2018 prospective) – recruiting mentor
- James Clinghan (BS ME 2018 prospective) – recruiting mentor
- Abraham Shell (BS ME 2018 prospective) – recruiting mentor
- Clay Sacks (BS ME 2018 prospective) – recruiting mentor
- Tanner Haskins (BS ME 2017 prospective) – recruiting mentor
- Austin Means (BS ME 2016 prospective, Frenchtown, MT) – recruiting mentor
- Brendan Murphy (BS ME 2016 prospective) – recruiting mentor
- Garrett Hopkins (BS ME 2016 prospective) – recruiting mentor
- Britton Thompson (BS ME 2016 prospective) – recruiting mentor
- Giancarlo Barbera (BS ME 2016 prospective, Billings, MT) – recruiting mentor
- Colton Matthes (BS ME 2016 prospective, Helena, MT) – recruiting mentor
- Ken Jacques (BS ME 2015 prospective, non-citizen) – recruiting mentor

Developing Montana Tech Impact Technology Research Laboratory:

Montana Tech Impact Technology Research Laboratory facility:

Equipment: Split-Hopkinson Pressure Bars (~\$165k; funded by ARL and Montana Tech)
 High-speed Camera (~\$97k; funded by ARL)
 3D-Digital Microscope System (~\$57k; funded by ARL)
 Pendulum Impact Tester (~\$52k; funded by ARL)

Students: Trevor Russell (Graduate Researcher pursuing Ph.D.)
 Evan Griffith (Graduate Researcher, pursuing M.S.)
 Reily McNabb (Graduate Researcher, Awarded M.S. 2021)
 Md. Salahuddin (Graduate Researcher, awarded Ph.D. 2020)
 Kristofer Kuelper (Graduate Researcher, awarded M.S. 2019)

Collaborators: Dr. M. Caccia, Assistant Professor, Montana Tech
 Dr. J. Skinner, Professor, Montana Tech
 Dr. M. Knezevic, Professor, University of Durham
 Dr. P. Lucon, Associate Professor, Montana Tech
 Dr. B. McWilliam, DEVCOM, ARL
 Dr. B. Madigan, Professor (Retired), General Engineering, Montana Tech
 Dr. R. White, Professor, Montana Tech

Book Chapter:

Chapter 5: Dynamic Characterization of Energetic Materials, Author: [Pramanik, B.](#)
 Title: Advanced Processing Technologies for Next-Generation Energetic Materials
 Editors: Mezger, M. J., Pantoya, M., Kalyon, D., Groven, L., Tindle, K.
 Publisher: CRC Press, Taylor & Francis Group, 2018

Publications:

- [1] Iftekhhar, R. A.; McWilliams, B. A.; Pramanik, B.; Knezevic, M., “Correlated structure viscoplastic self-consistent polycrystal plasticity: Application to modeling strain rate sensitive deformation of Ti-6Al-4V,” *International Journal of Plasticity*, Volume 163, April 2023, 103571, <https://doi.org/10.1016/j.ijplas.2023.103571>
- [2] Pramanik, B.; Mantena, P. R.; Rajendran, A. M., “Axial Deformation Characteristics of Graphene-Sonicated Vinyl Ester Nanocomposites Subjected to High Rate of Loading,” In: Singh B., Roy A., Maiti D. (eds) *Recent Advances in Theoretical, Applied, Computational and Experimental Mechanics. Lecture Notes in Mechanical Engineering. Springer*, Singapore, pp. 325-337, 2020, https://link.springer.com/chapter/10.1007/978-981-15-1189-9_26
- [3] Uddin M. S.; Kuelper, K; Pramanik, B., “Characterization of Dynamic Material Property of AlSi10Mg Aluminum Alloy Under High Strain Rate Compressive Loading,” In Tomsett A. (eds) *Light Metals 2020. The Minerals, Metals & Materials Series. Springer*, Cham, pp. 440-444, 2020, https://link.springer.com/chapter/10.1007/978-981-15-1189-9_62
- [4] McWilliams, B.; Pramanik, B.; Kudzal, A. and Taggart-Scarff, “High strain rate compressive deformation behavior of an additively manufactured stainless steel,” *Additive Manufacturing*, Vol 24, pp. 432-439, 2018, <https://www.sciencedirect.com/science/article/abs/pii/S2214860418303993>
- [5] Boddu, V.M.; Brenner, M.W.; Patel, J.S.; Kumar, A.; Mantena, P.R.; Tadepalli, T. and Pramanik, B., “Energy Dissipation and High-Strain Rate Dynamic Response of E-Glass Fiber Composites with Anchored Carbon Nanotubes,” *Composites Part B: Engineering*, Vol 88, pp. 44-54, 2016, <https://www.sciencedirect.com/science/article/abs/pii/S1359836815006538>
- [6] Pramanik, B.; Mantena, P.R.; Tadepalli, T. and Rajendran, A.M., “Indirect Tensile Characterization of Graphite Platelet Reinforced Vinyl Ester Nanocomposites at High-Strain Rates,” *Open Journal of Composite Materials*, Vol. 4, 201-214, 2014, <https://www.scirp.org/journal/paperinformation.aspx?paperid=50813>
- [7] Mantena, P.R.; Pramanik, B.; Tadepalli, T.; Boddu, V.M.; Brenner, M.W. and Kumar, A., “Effect of Process Parameters on The Dynamic Modulus, Damping and Energy Absorption of Vertically Aligned Carbon Nano-Tube (VACNT) Forest Structures,” *Journal of Multifunctional Composites*, Vol. 2 (2014), pp. 93-100, 2014, doi: 10.12783/issn. 2168-4286/2.2/Mantena.
- [8] Pramanik, B. and Mantena, P.R., “Strain-Rate Dependent Ductile to Brittle Transition of Graphite Platelet Reinforced Vinyl Ester Nanocomposites,” *Advances in Materials Science and Engineering*, Vol. 2014, Article id 765698, 8 pages, 2014, <https://www.hindawi.com/journals/amse/2014/765698/>
- [9] Mantena, P.R.; Tadepalli, T.; Pramanik, B.; Boddu, V.M.; Brenner, M.W.; Stephenson, L.D. and Kumar, A., “Energy Dissipation and the High-Strain Rate Dynamic Response of Vertically Aligned Carbon Nanotube (VACNT) Ensembles Grown on Silicon Wafer Substrate,” *Journal of Nanomaterials*, Vol. 2013, Article Id 259458, 7 pages, 2013, <https://www.hindawi.com/journals/jnm/2013/259458/>
- [10] Pramanik, B.; Tadepalli, T. and Mantena, P.R., “Surface Fractal Analysis for Estimating the Fracture Energy Absorption of Nanoparticle Reinforced Composites,” *Materials*, Vol. 5, pp. 922-936, 2012, <https://www.mdpi.com/1996-1944/5/5/922>

- [11] Pramanik, B. and Mantena, P.R., “Energy Absorption of Nano-Reinforced and Sandwich Composites in Ballistic and Low-Velocity Punch-Shear,” *Open Journal of Composite Materials*, Vol. 8(1), pp. 87-96, 2012, doi: 10.4236/ojcm.2012.23010.
- [12] Pramanik, B. and Mantena, P.R., “Viscoelastic Response of Graphite Platelet and CTBN Reinforced Vinyl Ester Nanocomposites,” *Materials Sciences and Applications*, Vol. 2, pp. 1667-1674, 2011, doi:10.4236/msa.2011.211222.
- [13] Pramanik, B.; and Mantena, P.R., “Punch-Shear Characteristics of Nanoclay and Graphite Platelet Reinforced Vinyl Ester Plates, Laminated Face Sheets and Sandwich Composites under Low-Velocity Impact,” *ASME 2009 Early Career Technical Journal*, Vol. 8(2), pp. 56-63. 2009.
- [14] Pramanik, B. and Mantena, P.R., “Low-Velocity Punch-Shear Response of Nanoclay and Graphite Platelet Reinforced Vinyl Ester Plates, Laminated Face Sheets and Sandwich Composites,” *Mechanics of Solids, Structures, and Fluids*, Vol. 11, pp. 223-224, 2009, doi: 10.1115/IMECE2009-12180.

Conference Publications

- [1] Uddin, M. S., Pramanik, B., Measurement of the unaffected pores in dynamic impact loading on the fractured surface of selective laser melting built aluminum specimens, *Materials Science & Technology* 2019.
- [2] Uddin, M. S., Pramanik, B., Application of a statistical analysis technique for characterizing the deformation behavior of the material under dynamic impact loading, *Materials Science & Technology* 2019.
- [3] Pramanik, B. and Mantena, P.R., “Punch-Shear Characteristics of Nanoclay and Graphite Platelet Reinforced Vinyl Ester Plates, Laminated Face Sheets and Sandwich Composites under Low Velocity Impact,” *ASME Early Career Technical Conference (ASME-ECTC 2009)*, Tuscaloosa, AL, Oct 2-3, 2009.
- [4] Pramanik, B. and Mantena, P.R., “Punch-Shear Response of Nanoclay and Graphite Platelet Reinforced Vinyl Ester Nanocomposites Under Low-Velocity Impact,” *Mid-south Annual Engineering and Sciences Conference (MAESC)*, Memphis, TN, May 5, 2009

Conference Presentations:

- [1] Uddin, M. S.; Pramanik, B., Measurement of the unaffected pores in dynamic impact loading on the fractured surface of selective laser melting built aluminum specimens, *The Meeting of 2020 TMS Annual Meeting & Exhibition; Symposium: Aluminum Alloys, Processing, and Characterization; Session: Processing of Aluminium Alloys*, 2020.
- [2] Becker, J.; Schmidlin, J.; Rehm, W.; Pramanik, B., Damage Detection of Sheet Metal via Multidirectional Deformation, *The Meeting of 2020 TMS Annual Meeting & Exhibition; Symposium: Aluminum Alloys, Processing, and Characterization; Session: Processing of Aluminum Alloys*, 2020.

- [3] Salah Uddin, MD. and Pramanik, B., Modeling of the Effect of Porosities and Powder Particle of Additive Manufacturing Materials, (2019) TMS 148th Annual Meeting and Exhibition, San Antonio, TX.
- [4] McWilliams, B.; Pramanik, B.; Kudzal, A. and Madigan, B., “Effect of Laser Scan Strategy and Post Processing on High Strain Rate Deformation Response of Additively Manufactured Stainless Steel,” *TMS Annual Meeting & Exhibition*, Phoenix, AZ, March 11-15, 2018.
- [5] Pramanik, B.; Kuelper, K.; Salahuddin, MD. and Madigan, B., “Influence of Build-angle on Charpy Impact Fracture of Laser Powder Bed 3D-printed Stainless Steel and Aluminum Cast Alloy,” *TMS Annual Meeting & Exhibition*, Phoenix, AZ, March 11-15, 2018.
- [6] Pramanik B.; Mantena, P.R. and Rajendran, A.M., “High-Strain Rate Tensile Characterization of Graphite Platelet Reinforced Vinyl Ester Nanocomposites,” *7th International Conference on Theoretical, Applied, Computational and Experimental Mechanics*, Kharagpur, India, December 28-30, 2017.
- [7] Kuelper, K. and Pramanik, B., “High Strain-Rate Response of Laser Powder Bed Printed Aluminum,” *ASME 2016 International Mechanical Engineering Congress and Exposition, Virtual Podium*, Phoenix, AZ, Nov. 13-16, 2016.
- [8] Pramanik, B.; Stoddard, D. and Madigan, B., "Dynamic Mechanical Response of Laser Powder Bed 3d Printed 316L Stainless Steel", 53rd Annual Technical Meeting of Society of Engineering Science, University of Maryland, Oct. 2-5, 2016.
- [9] Pramanik, B.; Mantena, P.R. and Rajendran, A.M., “High-Strain Rate Tensile Characterization of Vinyl Ester Nanocomposite and Cementitious Materials,” *Micro & Nanotechnology Forum, ASME International Mechanical Engineering Congress & Exposition (ASME-IMECE-2012)*, Houston, TX, Nov 9-15, 2012.
- [10] Pramanik, B.; Tadepalli, T. and Mantena, P.R., “Estimation of Fracture Energy Absorption Based on Fractal Surface Analysis of Nano-Composites Subjected to Low-Velocity Impact,” *Mid-south Annual Engineering and Sciences Conference (MAESC)*, Memphis, TN, May 3, 2011
- [11] Pramanik, B. and Mantena, P.R., “Low-Velocity Punch-Shear Response of Nanoclay and Graphite Platelet Reinforced Vinyl Ester Plates, Laminated Face Sheets and Sandwich Composites,” *ASME 2009 International Mechanical Engineering Congress and Exposition (ASME-IMECE-2009)*, Vol. 11: Mechanics of Solids, Structures and Fluids, Lake Buena Vista, Florida, USA, November 13–19, 2009.

Services:

- NSF Reviewer 2021- Present
- Reviewer, Journal of Materials, Journal of Applied Sciences, Journal of Aerospace Engineering, Journal of Energies, Journal of Electronics, Journal of Manufacturing and Materials Processing, International Journal of Turbomachinery, Propulsion and Power, MDPI, Science Domain, Scientific Research, Springer 2013 - Present

- Mentor, Upward Bound high school students, The US Dept of ED, and a UNITE grant from the Army Educational Outreach Program 2022 – Present
- Member, MS Thesis in Metallurgical and Materials Engineering Committee, Montana Tech 2018, 2019
- Member, Curriculum Review Committee, Montana Tech 2017, 2018
- Member, Moodle Committee, Montana Tech 2017, 2018
- Member, Campus Parking Committee, Montana Tech 2017 - Present
- Chair, Mechanical Engineering Faculty Search Committee, Montana Tech 2017, 2018
- Member, MS Thesis in Mechanical Engineering Committee, Montana Tech 2017, 2018
- Reviewer, Posters on the Hill, Council on Undergraduate Research 2015, 2018
- Collaborator, Experimental Research, Dr. B. McWilliams, DEVCOM ARL 2016 - Present
- Collaborator, Experimental Research, Dr. P. R. Mantena, University of Mississippi 2015 - Present
- Member, Mechanical Engineering Faculty Search Committee, Montana Tech 2015
- Judge, Montana Tech Regional Science and Engineering Fair 2015 - Present
- Judge, Intermountain Junior Science & Humanities Symposia 2015 - Present
- Judge, Mississippi First Tech Challenge Robotics Tournament 2013
- Senator, Mechanical Engineering, Graduate Student Council, Univ. of Mississippi 2013