

Curriculum Vitae

Department of Materials Science & Engineering,
University of North Texas, Denton, TX

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EDUCATION

B.S., Metallurgical & Materials Engineering, **Indian Institute of Technology (Kharagpur)**, 1998

M.S., Materials Science, **California Institute of Technology**, 2003

Ph.D., Materials Science, **California Institute of Technology**, 2005 (*Advisor: Prof William Johnson*)

Postdoc, Mechanical Engineering, **Yale University**, 2011-2012 (*Advisor: Prof Jan Schroers*)

APPOINTMENTS

2023 – Present **Professor**, Department of Materials Science & Engineering, UNT

2013 – 2023 **Associate Professor** (2013-2017: *Untenured*; 2018-2023: *Tenured*)
Department of Materials Science & Engineering, UNT

2005 – 2011 **Senior Process Engineer**
Logic Technology Development, Intel Corporation

RESEARCH INTERESTS

Metallic Glasses and Concentrated Alloys, High Strain-rate Deformation, Corrosion; Electrochemical, Nano-mechanical, and Tribo-chemical Approaches to study Catalytic Effects and Damage Initiation at the Microstructural Length-scales in recently developed Multi-component and Amorphous Alloys.

HONORS AND AWARDS

- (1) College of Engineering's ***Excellence in Teaching Award***, UNT, Denton, TX (2022)
- (2) ***Distinguished Fellow*** of the College of Engineering, UNT, Denton, TX (2020)
- (3) ***Hind Rattan Award***, New Delhi, India (2020)
- (4) Texas A&M Annual Research (***TARC***) Award, College Station, TX (2018)
- (5) ***R&D 100*** Award (2016)
- (6) UNT-Incentives for Global Research Opportunities (***I-GRO***) Award, Denton, TX (2015)
- (7) ***CRISP Award*** for Research Excellence, Yale University, New Haven, CT (2012)
- (8) ***Lithography Division Award***, Logic Technology Development, Intel Corporation (2007)

STUDENT HONORS AND AWARDS

- (1) Best ***MTSE PhD*** Graduate Award: *Mayur Pole* (2022)
- (2) Outstanding Poster Award, POWDERMET-2019, Phoenix, AZ: *Chaitanya Mahajan* (2019)
- (3) Best ***MTSE PhD*** Graduate and UNT Eagle Award (highest student award): *A. Ayyagari* (2017)
- (4) National Association of Corrosion Engineers (NACE) Award: *Vahid Hasannaeimi* (2017)
- (5) First prize in Fort Worth Regional Science and Engineering Fair: *Brandon Liew* (2016)
- (6) First prize in ASM Inter-University Symposium: *Seth Garrison* (2015)

TEACHING (at UNT)

(1) **MTSE 4010 – Physical Metallurgy**

Processing-Structure-Property Relationships in Metals and alloys; Strengthening Mechanisms

(2) **MTSE 5200 – Modern Metallurgical Science** (*taught jointly with MTSE 4010 since 2018*)

Advanced Processing; Solidification Science; Advanced Ferrous and Non-ferrous Alloys

(3) **MTSE 5210 – Corrosion and Oxidation of Materials**

Electrochemistry and Corrosion Science; Corrosion Mechanisms; Oxidation and Hot Corrosion

(4) **MTSE 5520 – Integrated Circuit (IC) Fabrication and Processing**

Integrated Circuit process flow; Thin-film Processing; Ion Implantation; Lithography and Etching

TEACHING EVALUATIONS

Semester	Class	Evaluation Score
Spring 2022	MTSE 5520 (IC Fabrication)	4.9/5.0
Fall 2021	MTSE 4010/5200 (Metallurgy)	4.6/5.0
Spring 2020	MTSE 5520 (IC Fabrication)	4.9/5.0
Fall 2020	MTSE 4010/5200 (Metallurgy)	4.0/5.0
Spring 2019	MTSE 5520 (IC Fabrication)	4.9/5.0
	MTSE 5210 (Corrosion/Oxidation)	4.7/5.0
Fall 2019	MTSE 4010/5200 (Metallurgy)	4.6/5.0
Spring 2018	MTSE 5520 (IC Fabrication)	4.9/5.0
Fall 2018	MTSE 4010/5200 (Metallurgy)	4.8/5.0
Spring 2017	MTSE 5520 (IC Fabrication)	4.8/5.0
Fall 2017	MTSE 4010 (Metallurgy)	4.8/5.0
Spring 2016	MTSE 5520 (IC Fabrication)	4.8/5.0
Fall 2016	MTSE 4010 (Metallurgy)	4.8/5.0
Spring 2015	MTSE 5520 (IC Fabrication)	3.5-3.9/4.0 (SETE)
Fall 2015	MTSE 5200 (Advanced Metallurgy)	4.7/5.0
Spring 2014	MTSE 5440 (Thermal Analysis)	803/1000 (SETE)
Fall 2014	MTSE 5200 (Advanced Metallurgy)	3.5-3.9/4.0 (SETE)

SENIOR DESIGN TEAMS MENTORED

- (1) Senior Design 2015: “*Design of Corrosion Resistant High Entropy Alloys*”, Seth Garrison, **Zachery Herl, Alex Nguyen, Endurance Ogieriaikhi**
- (2) Senior Design 2016: “*Design of degradation resistant high entropy alloys for biomedical applications*”, **Richard Clore, Rudy Arce, Colin Pinnell**
- (3) Senior Design 2017: “*Design of High Entropy Alloys for Next Generation Nuclear Reactors*”, **Jessica Reeder, Sofia Sheikh, Sarah Williams**
- (4) Senior Design 2018: “*Design of Fuel Cell Assembly for Clean Energy Conversion*”, **Renzo Sanchez, Bowen Wei, Garrett Clair**
- (5) Senior Design 2019: “*Design of Lightweight Aluminum Structures for High Impact Applications*”, **Sophia Popowski, Brandon Templin, Maadh Al Uwaisi**
- (6) Senior Design 2021: “*Design of Degradation Resistant Amorphous Alloys for Bio-implant Applications*”, **Olivia Williford, Rawan Al Sulaimi, Peumi Ratnayake**

GRADUATE STUDENTS/POSTDOCS MENTORED**Postdocs:**

No.	Name	Period	Current Position
4	Dr Maryam Sadeghilaridjani	2018-2021	<i>Research Scientist, Arizona State University, Tempe, Arizona, USA</i>
3	Dr Vahid Hasannaeimi	2019-2021	<i>Research Scientist, Sage Analytical Lab, San Diego, California, USA</i>
2	Dr Santanu Das	2014-2016	<i>Assistant Professor, Ceramic Engineering, Indian Institute of Technology, Varanasi, India</i>
1	Dr Harpreet Singh Arora	2013-2015	<i>Associate Professor and Chair, Mechanical Engineering, Shiv Nadar University, Delhi, India</i>

Ph.D. Students (* indicates last known position after graduation):

No.	Name	Graduation	Dissertation Title
16	Mr Gregory Braun	2025 (Exp)	TBD
15	Mr Siva Shankar Alla	2025 (Exp)	TBD
14	Ms Alpona Akhtar	2023 (Exp)	Thermodynamics, Kinetics, and Mechanical Behavior of Rejuvenated Metallic Glasses
13	Ms Shristy Jha (* Postdoc, UNT)	2023	Small-Scale Fracture Behavior of Multicomponent and Amorphous Alloys
12	Mr Chaitanya Mahajan (* LAM Research)	2022	Electrochemical and Corrosion Behavior of Electrodeposited Metallic Glasses
11	Dr Nandita Ghodki (* Applied Materials)	2022	Time-Dependent Deformation Mechanisms in Metallic Glasses
10	Dr Kunjal Patel (* Denison Industries)	2022	Corrosion Behavior of High Entropy Alloys in Molten Chloride and Molten Fluoride Salts
9	Dr Yu-Chia Yang (* ASML)	2021	Unraveling the Effect of Atomic Configurations and Structural Statistics on Mechanical Behavior of Multicomponent and Amorphous Alloys
8	Dr Mayur Pole (* Pacific Northwest Lab)	2021	Wear, Friction, and High Strain Shear Deformation Response of Metallic Glasses
7	Dr Jibril Shittu (* Lawrence Livermore)	2020	Tribo-corrosion Behavior of High Entropy Alloys
6	Dr Saideep Muskeri (* LAM Research)	2020	High Strain Rate Deformation Behavior of Single-Phase and Multi-Phase High Entropy Alloys
5	Dr Vahid Hasannaeimi (* Sage Analytical Lab)	2019	Nano-Manufacturing of Catalytic Amorphous Alloys
4	Dr Shravana Katakam (* Intel Corporation)	2014	Laser Processing of Amorphous Materials (<i>Co-advised with Prof Narendra Dahotre</i>)
3	Dr Yee Hsien Ho (* UNT)	2016	In Vitro Corrosion Behavior of Mg Alloy AZ31B-MMC (<i>Co-advised with Prof Narendra Dahotre</i>)
2	Dr Sanghita Mridha (* Univ of Pittsburgh)	2017	Structure Evolution and Nano-Mechanical Behavior of Multi-Principal Element Alloys
1	Dr Aditya Ayyagari (* Argonne National Lab)	2017	Surface Degradation Behavior of Metallic Glasses

Masters Students (* indicates current position after graduation):

No.	Name	Graduation	Thesis Title
5	Mr Ziyu Pei	2023 (Exp)	TBD
4	Ms Sanjana Erravelli	2023 (Exp)	TBD
3	Mr Seth Garrison (* Lockheed Martin)	2017	Catalytic Properties and Mechanical Behavior of Metallic Glass Powders
2	Mr Aditya Ayyagari (* Argonne National Lab)	2015	Effect of alloy chemistry, free volume, and glass formability on the corrosion behavior of bulk metallic glasses
1	Ms Medha Veligatla (* Eurofins EAG Labs)	2014	Glass Forming Ability, Magnetic Properties, and Mechanical Behavior of Iron and Cobalt based Metallic Glasses

INTERNATIONAL EXCHANGE STUDENTS

- (1) **Chloe Barthelemy** (University of Rouen, France) 2016
- (2) **Ruben Hernandez, Juan Patino, Americo Ledezm** (Institut Tecnológico Saltillo, Mexico) 2016
- (3) **Wanvipa Pipathworapoom, Kriengkrai Phongkitkarun** (Mahidol University, Thailand) 2015

INVITED TALKS AT UNIVERSITIES

MIT, Caltech, UMass-Amherst, Texas A&M, Oregon State University, UT-Arlington, IIT

BOOKS and BOOK CHAPTERS

- (1) V. Hasannaemi, M. Sadeghilaridjani and **S. Mukherjee**, “**Electrochemical and Corrosion Behavior of Metallic Glasses**” MDPI Publishing, Basel, Switzerland, ISBN 978-3-03943-724-5
- (2) **S. Mukherjee** (Editor), “**Complex Concentrated Alloys - Current Understanding and Future Opportunities**”, MDPI Publishing, Basel, Switzerland, ISBN 978-3-03943-474-9
- (3) H. S. Arora, H. S. Grewal, B. K. Dhindaw, H. Singh, **S. Mukherjee**, “**Corrosion behavior in friction stir welded and processed materials**” in book titled *Advances in Friction Stir Welding and Processing*, Woodhead Publishing, UK, ISBN 978-0-85709-454-4

PATENTS GRANTED AND PENDING

- 1) S. Das and **S. Mukherjee**, “*Aluminum based metallic glass powder for efficient degradation of azo dye and other toxic organic chemicals*”, U.S. Patent No. 10,363,548, granted 2019-07-30
- 2) S. Das and **S. Mukherjee**, “*Process for making Aluminum based metallic glass powder*”, U.S. Patent No. 10,773,244, granted 2019-09-02
- 3) **S. Mukherjee** and S. Das, “*Binary Ag-Cu amorphous thin-films for electronic applications*”, U.S. Patent No. 10,822,692, granted 2020-11-03
- 4) V. Hasannaemi and **S. Mukherjee**, “*Nanomanufacturing of metallic glasses for energy conversion and storage*”, WO2018200370A1 International Patent pending, Published 2018-11-01
- 5) H. S. Arora, H. S. Grewal, **S. Mukherjee**, H. Singh, G. Perumal, “*A simplistic and cost-effective technique to minimize phase segregation in multi-component alloy systems*”, International Patent, 2019

JOURNAL PUBLICATIONS (* Student in Mukherjee group)

Total Journal Publications: **112 (Before UNT = 12, UNT Pre-tenure = 45, UNT Post-tenure = 55)**

Conference Presentations/Proceedings: **82** (out of which **35** are invited talks)

H-index: **33** (Google Scholar) <https://scholar.google.com/citations?user=dVb6284AAAAJ&hl=en>

2022

112) C. Mahajan*, V. Hasannaeimi*, M. Pole*, Elizabeth Kautz, Bharat Gwalani, **S. Mukherjee**, “Corrosion Mechanisms in Model Binary Metallic Glass Coatings on Mild Steel and Correlation with Electron Work Function”, *Corrosion Science* 207, 110578 (2022) [\[Link\]](#)

111) S. Muskeri*, P. A. Jannotti, B. E. Schuster, J. T. Lloyd, **S. Mukherjee**, “Ballistic Impact Response of Complex Concentrated Alloys”, *International Journal of Impact Engg* 161, 104091 (2022) [\[Link\]](#)

110) S. Muskeri*, B. Gwalani, S. Jha*, A. Yu, P. A. Jannotti, R. S. Haridas, B. E. Schuster, J. T. Lloyd, R. S. Mishra, **S. Mukherjee**, “Excellent ballistic impact resistance of Al_{0.3}CoCrFeNi multi-principal element alloy with unique bimodal microstructure”, *Scientific Reports* 11 (1), 1-12 [\[Link\]](#)

109) A. Yu, M. Pole*, J.D.E. Atehortua, K. Bozhilov, J. Liu, J. A. Silverstein, **S. Mukherjee**, S. Mathaudhu, A. Devaraj, B. Gwalani, “Decoupling of strain and temperature effects on microstructural evolution during high shear strain deformation”, *Materialia* 22, 101402 (2022) [\[Link\]](#)

108) N. Ghodki*, M. Sadeghilaridjani*, **S. Mukherjee**, “Time-dependent deformation mechanism of metallic glass in different structural states at different temperatures”, *Journal of Non-Crystalline Solids* 576, 121221 (2022) [\[Link\]](#)

2021

107) YC Yang*, Z Xia, **S Mukherjee**, “Unraveling the Structural Statistics and Its Relationship with Mechanical Properties in Metallic Glasses”, *Nano Letters* 21 (21), 9108-9114 (2021) [\[Link\]](#)

106) M Sadeghilaridjani*, YC Yang*, V Hasannaeimi*, C Mahajan*, S Jha*, M Pole*, Z Xia, **S Mukherjee**, “Multiscale Manufacturing of Amorphous Alloys by a Facile Electrodeposition Approach and Their Property Dependence on the Local Atomic Order”, *ACS Applied Materials & Interfaces* 13 (7), 9260-9271 (2021) [\[Link\]](#)

105) K Patel*, M Sadeghilaridjani*, M Pole*, **S Mukherjee**, “Hot corrosion behavior of refractory high entropy alloys in molten chloride salt for concentrating solar power systems”, *Solar Energy Materials and Solar Cells* 230, 111222 (2021) [\[Link\]](#)

104) M Nartu, M Pole*, SA Mantri, RS Haridas, TW Scharf, B McWilliams, K Cho, **S Mukherjee**, NB Dahotre, R Banerjee, “Process induced multi-layered Titanium–Boron carbide composites via additive manufacturing”, *Additive Manufacturing* 46, 102156 (2021) [\[Link\]](#)

103) M Sadeghilaridjani*, M Pole*, S Jha*, S Muskeri*, N Ghodki*, **S Mukherjee**, “Deformation and tribological behavior of ductile refractory high-entropy alloys”, *Wear* 478, 203916 (2021) [\[Link\]](#)

102) X Ji, M Pole*, T Ho, MA Akhtar*, M Pantawane, **S Mukherjee**, NB Dahotre, “Tribology of rejuvenated CuZr-based amorphous alloys”, *Wear* 484, 204018, (2021) [\[Link\]](#)

101) J Shittu*, M Sadeghilaridjani*, M Pole*, S Muskeri*, J Ren, Y Liu, I Tahoun, HS Arora, W Chen, NB Dahotre, **S Mukherjee**, “Tribo-corrosion response of additively manufactured high-entropy alloy”, *npj Materials Degradation* 5 (1), 1-8 (2021) [\[Link\]](#)

100) SK Krishnan, R Esparza, DB Uribe, **S Mukherjee**, U Pal, “Facile Seed-Mediated Growth of Ultrathin AuCu Shells on Pd Nanocubes and Their Enhanced Nitrophenol Degradation Reactions”, *Journal of Physical Chemistry C* 125 (25), 13759-13769 (2021) [\[Link\]](#)

- 99) M Pole*, M Sadeghilaridjani*, J Shittu*, C Mahajan*, N Ghodki*, **S Mukherjee**, “Electrodeposited metallic glasses with superlative wear resistance”, *Mat Sci and Engg: A* 816, 141315 (2021) [\[Link\]](#)
- 98) MV Pantawane, T Yang, Y Jin, S Mazumder, M Pole*, S Dasari, A Krokhin, A Neogi, **S Mukherjee**, R Banerjee, NB Dahotre, “Thermomechanically influenced dynamic elastic constants of laser powder bed fusion additively manufactured Ti6Al4V”, *Mat Sci and Engg: A* 811, 140990 (2021) [\[Link\]](#)

2020

- 97) V Hasannaemi*, X Wang, R Salloom, Z Xia, J Schroers, **S Mukherjee**, “Nanomanufacturing of Non-Noble Amorphous Alloys for Electrocatalysis”, *ACS Appl Ener Mater*, 3(12), 12099 (2020) [\[Link\]](#)
- 96) J Shittu*, M Pole*, I Cockerill, M Sadeghilaridjani*, LVK Reddy, G Manivasagam, H Singh, H Grewal, H Arora, **S Mukherjee**, “Biocompatible High Entropy Alloys with Excellent Degradation Resistance in a Simulated Physiological Environment”, *ACS Appl Bio Mater*, 3(12), 8890 (2020) [\[Link\]](#)
- 95) V Hasannaemi*, CY Lin, Z Xia, **S Mukherjee**, “Hydrogen Oxidation Reaction Response of Noble-Metal Based Bulk Metallic Glasses”, *Electrochimica Acta*, 136616 (2020) [\[Link\]](#)
- 94) S Muskeri*, V Hasannaemi*, R Salloom**, M Sadeghilaridjani*, **S Mukherjee**, “Small-scale mechanical behavior of a eutectic high entropy alloy”, *Scientific Reports* 10 (1), 1-12 (2020) [\[Link\]](#)
- 93) V Hasannaemi*, S Muskeri*, B Gwalani, DC Hofmann, **S Mukherjee**, “Deformation behavior of metallic glass composites and plasticity accommodation at microstructural length-scales”, *Materials Today Communications*, 101237 (2020) [\[Link\]](#)
- 92) S Muskeri*, D Choudhuri, PA Jannotti, BE Schuster, JT Lloyd, RS Mishra, **S Mukherjee**, “Ballistic Impact Response of Al_{0.1}CoCrFeNi High-Entropy Alloy”, *Advanced Engineering Materials*, 2000124 (2020) [\[Link\]](#)
- 91) M Pole*, M Sadeghilaridjani*, J Shittu*, A Ayyagari*, **S Mukherjee**, “High temperature wear behavior of refractory high entropy alloys based on 4-5-6 elemental palette”, *Journal of Alloys and Compounds* 843, 156004 (2020) [\[Link\]](#)
- 90) HS Arora*, S Pradhan, A Kumar, G Perumal, R Salloom, **S Mukherjee**, “Cavitation erosion-corrosion resilient surfaces through reciprocating friction processing”, *Wear* 456, 203385 (2020) [\[Link\]](#)
- 89) M Haghsheenas, X Song, V Hasannaemi*, **S Mukherjee**, M Gupta, “Magnesium–samarium oxide nanocomposites: Room-temperature depth-sensing nanoindentation response”, *International Journal of Lightweight Materials and Manufacture* 3 (3), 217-225 (2020) [\[Link\]](#)
- 88) M Sadeghilaridjani*, S Muskeri*, M Pole*, **S Mukherjee**, “High-Temperature Nano-Indentation Creep of Reduced Activity High Entropy Alloys Based on 4-5-6 Elemental Palette”, *Entropy* 22 (2), 230 (2020) [\[Link\]](#)
- 87) G Perumal, HS Grewal, M Pole*, LVK Reddy, **S Mukherjee**, H Singh, G Manivasagam, HS Arora, “Enhanced Biocorrosion Resistance and Cellular Response of a Dual-Phase High Entropy Alloy through Reduced Elemental Heterogeneity”, *ACS Applied Bio Materials* 3 (2), 1233-1244 (2020) [\[Link\]](#)
- 86) M Sadeghilaridjani*, A Ayyagari*, S Muskeri*, V Hasannaemi*, J Jiang, **S Mukherjee**, “Small-Scale Mechanical Behavior of Ion-Irradiated Bulk Metallic Glass”, *JOM* 72 (1), 123-129 (2020) [\[Link\]](#)
- 85) B Gwalani, T Wang, A Jagetia, S Gangireddy, S Muskeri*, **S Mukherjee**, JT Lloyd, R Banerjee, RS Mishra, “Dynamic Shear Deformation of a Precipitation Hardened Al_{0.7}CoCrFeNi Eutectic High-Entropy Alloy Using Hat-Shaped Specimen Geometry”, *Entropy* 22 (4), 431 (2020) [\[Link\]](#)

84) M Sadeghilaridjani*, A Ayyagari*, S Muskeri*, V Hasannaeimi*, R Salloom, WY Chen, **S Mukherjee**, “Ion irradiation response and mechanical behavior of reduced activity high entropy alloy”, *Journal of Nuclear Materials* 529, 151955 (2020) [\[Link\]](#)

2019

83) V Hasannaeimi*, **S Mukherjee**, “Noble-Metal based Metallic Glasses as Highly catalytic Materials for Hydrogen oxidation Reaction in fuel cells”, *Scientific Reports* 9 (1), 1-8 (2019) [\[Link\]](#)

82) M Sadeghilaridjani*, S Muskeri*, V Hasannaeimi*, M Pole*, **S Mukherjee**, “Strain rate sensitivity of a novel refractory high entropy alloy: Intrinsic versus extrinsic effects”, *Materials Science and Engineering A* 766, 138326 (2019) [\[Link\]](#)

81) V Hasannaeimi*, **S Mukherjee**, “Highly Catalytic Amorphous Ni–P Synthesized via Pulsed Electrodeposition”, *Advanced Engineering Materials*, 1801122 (2019) [\[Link\]](#)

80) HS Arora*, A Ayyagari*, J Saini, K Selvam, R Salloom, M Pole*, HS Grewal, **S Mukherjee**, “High tensile Ductility and strength in Dual-phase Bimodal steel through stationary Friction stir processing”, *Scientific Reports* 9 (1), 1972 (2019) [\[Link\]](#)

79) S Mridha*, M Sadeghilaridjani*, **S Mukherjee**, “Activation Volume and Energy for Dislocation Nucleation in Multi-Principal Element Alloys”, *Metals* 9 (2), 263 (2019) [\[Link\]](#)

78) V Hasannaeimi*, **S Mukherjee**, “Galvanic corrosion in a eutectic high entropy alloy”, *Journal of Electroanalytical Chemistry* 848, 113331 (2019) [\[Link\]](#)

77) D Choudhuri, PA Jannotti, S Muskeri*, S Shukla, S Gangireddy, **S Mukherjee**, BE Schuster, JT Lloyd, RS Mishra, “Ballistic Response of a FCC-B2 Eutectic AlCoCrFeNi_{2.1} High Entropy Alloy”, *Journal of Dynamic Behavior of Materials* 5 (4), 495-503 (2019) [\[Link\]](#)

76) D Choudhuri, S Shukla, PA Jannotti, S Muskeri*, **S Mukherjee**, JT Lloyd, RS Mishra, “Characterization of as-cast microstructural heterogeneities and damage mechanisms in eutectic AlCoCrFeNi_{2.1} high entropy alloy”, *Materials Characterization*, 109955 (2019) [\[Link\]](#)

75) J Ren, C Mahajan*, L Liu, D Follette, W Chen, **S Mukherjee**, “Corrosion Behavior of Selectively Laser Melted CoCrFeMnNi High Entropy Alloy”, *Metals* 9 (10), 1029 (2019) [\[Link\]](#)

74) M Sadeghilaridjani*, **S Mukherjee**, “Strain Gradient Plasticity in Multi-principal Element Alloys”, *JOM* 71 (10), 3466-3472 (2019) [\[Link\]](#)

73) G Perumal, HS Grewal, A. Ayyagari*, **S Mukherjee**, HS Arora*, “Enhancement in bio-corrosion resistance of metallic glass by severe surface deformation”, *Applied Surface Science* 487, 1096-1103 (2019) [\[Link\]](#)

72) S Kaluvan, H Zhang, S Mridha*, **S Mukherjee**, “Determination of temperature-dependent Young's modulus of bulk metallic glass”, *International Journal of Microstructure and Materials Properties* 14 (4), 374-383 (2019) [\[Link\]](#)

71) K Selvam, J Saini, G Perumal, A. Ayyagari*, R Salloom, R Mondal, **S Mukherjee**, HS Grewal, HS Arora*, “Exceptional cavitation erosion-corrosion behavior of dual-phase bimodal structure in austenitic stainless steel”, *Tribology International* 134, 77-86 (2019) [\[Link\]](#)

70) J Saini, HS Arora*, HS Grewal, G Perumal, A. Ayyagari*, R Salloom**, **S Mukherjee**, “Excellent Corrosion Resistance of Dual-Phase Bimodal Stainless Steel”, *Steel Research International* 90 (5), 1800554 (2019) [\[Link\]](#)

69) GR Argade, SS Joshi, A. Ayyagari*, **S Mukherjee**, RS Mishra, NB Dahotre, “Tribocorrosion performance of laser additively processed high-entropy alloy coatings on aluminum”, *Applied Physics A* 125 (4), 272 (2019) [\[Link\]](#)

68) V Hasannaeimi*, A. Ayyagari*, S Muskeri, R Salloom, **S Mukherjee**, “Surface degradation mechanisms in a eutectic high entropy alloy at microstructural length-scales and correlation with phase-specific work function”, *npj Materials Degradation* 3 (1), 16 (2019) [\[Link\]](#)

67) R Salloom, A. Ayyagari*, **S Mukherjee**, “Nanoengineered Hypereutectoid Steel with Superior Hardness and Wear Resistance”, *Journal of Materials Engineering and Performance* 28 (4), 2202-2211 (2019) [\[Link\]](#)

2018

66) A. Ayyagari*, V. Hasannaeimi*, HS Arora*, **S. Mukherjee**, “Electrochemical and Friction Characteristics of Metallic Glass Composites at the Microstructural Length-scales”, *Scientific Reports* 8: 906, DOI:10.1038/s41598-018-19488-7 (2018) [\[Link\]](#)

65) RB Nair, HS Arora*, **S. Mukherjee**, S. Singh, H. Singh, HS Grewal, “Exceptionally high cavitation erosion and corrosion resistance of a high entropy alloy”, *Ultrasonics Sonochemistry* 41, 252-260 (2018) [\[Link\]](#)

64) A. Ayyagari*, B. Gwalani, S. Muskeri*, **S. Mukherjee**, R. Banerjee, “Surface degradation mechanisms in precipitation-hardened high-entropy alloys”, *npj Materials Degradation* 2:33; DOI:10.1038/s41529-018-0054-1 (2018) [\[Link\]](#)

63) S. Mridha*, M. Komarasamy, S. Bhowmick, RS Mishra, **S. Mukherjee**, “Small-Scale Plastic Deformation of Nanocrystalline High Entropy Alloy”, *Entropy* 20, 889; DOI: 10.3390/e20110889 (2018) [\[Link\]](#)

62) A. Ayyagari*, V. Hasannaeimi*, HS Grewal, HS Arora*, **S. Mukherjee**, “Corrosion, Erosion and Wear Behavior of Complex Concentrated Alloys: A Review”, *Metals* 8, 603; DOI:10.3390/met8080603 (2018) [\[Link\]](#)

61) RB Nair, HS Arora*, A. Ayyagari*, **S. Mukherjee**, HS Grewal, “High Entropy Alloys: Prospective Materials for Tribo-Corrosion Applications”, *Advanced Engineering Materials*, 1700946; DOI: 10.1002/adem.201700946 (2018) [\[Link\]](#)

60) A. Ayyagari*, R. Salloom**, S. Muskeri*, **S. Mukherjee**, “Low activation high entropy alloys for next generation nuclear applications”, *Materialia*, Vol. 4, p. 99-103, DOI: 10.1016/j.mtla.2018.09.014 (2018) [\[Link\]](#)

59) A. Ayyagari*, C. Barthelemy, B. Gwalani, R. Banerjee, T. Scharf, **S. Mukherjee**, “Reciprocating sliding wear behavior of high entropy alloys in dry and marine environments”, *Materials Chemistry and Physics*, Vol 210, p. 162-169 (2018) [\[Link\]](#)

58) B. Gwalani, A. Ayyagari*, D. Choudhuri, T. Scharf, **S. Mukherjee**, M. Gibson, R. Banerjee, “Microstructure and Wear Resistance of an Intermetallic-based Al_{0.25}Ti_{0.75}CoCrFeNi High entropy alloy”, *Materials Chemistry and Physics*, Vol 210, p. 197-206 (2018) [\[Link\]](#)

2017

57) A. Ayyagari*, H. F. Wu, H. S. Arora*, **S. Mukherjee**, “Amorphous Alloys: Pathways for enhanced wear and corrosion resistance”, *JOM*, DOI: 10.1007/s11837-017-2384-9 (2017) [\[Link\]](#)

56) K. Selvam, A. Ayyagari*, H. Grewal, **S. Mukherjee**, H. Arora, “Enhancing erosion-corrosion resistance of steel through friction stir processing”, *Wear*, Vol. 386-387, p. 129-138 (2017) [\[Link\]](#)

55) H. S. Grewal, R. M. Sanjiv, H. S. Arora*, R. Kumar, A. Ayyagari*, **S. Mukherjee**, and H. Singh, “Activation Energy and High Temperature Oxidation Behavior of Multi-principal Element Alloy”, *Advanced Engineering Materials*, DOI: 10.1002/adem.201700182 (2017) [\[Link\]](#)

- 54) S. Das*, H. S. Arora*, **S. Mukherjee**, “Metallic Glass Nano-composite Thin Films for High-performance Functional Applications”, *JOM*, DOI: 10.1007/s11837-017-2365-z (2017) [\[Link\]](#)
- 53) R. B. Nair, K. Selvam, H. S. Arora*, **S. Mukherjee**, H. Singh, H. S. Grewal, “Slurry Erosion Behavior of High Entropy Alloys”, *Wear*, Vol. 386-387, p. 230-238 (2017) [\[Link\]](#)
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CONFERENCE PRESENTATIONS AND PROCEEDINGS

2022

- 82) S Jha, S. Muskeri, **S Mukherjee**, “Small-scale Deformation Behavior of Multi-Principal Element Alloys”, Invited Talk, **TMS 2022**, Anaheim, CA, USA (2022) [\[Invited\]](#)
- 81) N Ghodki, S Jha, S. Muskeri, **S Mukherjee**, “Small-scale Deformation Behavior of Metallic Glasses and their Composites”, **TMS 2022**, Anaheim, CA, USA (2022)
- 80) Anqi Yu, Julian Atehortua, K. Bozhilov, J. Liu, M. Pole, J. Silverstein, **S. Mukherjee**, S. Mathaudhu, A. Devaraj, B. Gwalani, “Decoupling of Strain and Temperature Effects on Microstructural Evolution during High Shear Strain Deformation”, **TMS 2022**, Anaheim, CA, USA (2022)

79) J. Shittu, M. Sadeghilaridjani, M. Pole, **S. Mukherjee**, “Tribo-corrosion Degradation of Additively Manufactured Multi-Principal Element Alloy”, **TMS 2022**, Anaheim, CA, USA (2022)

2021

78) V Hasannaemi, **S Mukherjee**, “Noble-metal based Amorphous Alloys for Clean Energy Applications”, **TMS 2021**, Virtual (2021) [\[Invited\]](#)

77) M Sadeghilaridjani, S Jha, **S Mukherjee**, “Small-scale Mechanical Behavior of Single Phase and Complex High Entropy Alloys”, **TMS 2021**, Virtual (2021) [\[Invited\]](#)

76) N. Ghodki, **S Mukherjee**, “Nano-mechanical Behavior of Advanced Structural Alloys”, **TMS 2021**, Virtual (2021)

75) **S. Mukherjee**, “High performance amorphous metallic electrocatalysts for PEM Fuel Cells”, **MRS Mexico IMRC**, Virtual (2021)

2020

74) V Hasannaemi, S Jha, M Sadeghilaridjani, **S Mukherjee**, “Catalytic Metallic Glasses for Clean Energy Applications”, Invited Talk, **TMS 2020**, San Diego, CA, USA (2020) [\[Invited\]](#)

73) S Jha, N Ghodki, M Sadeghilaridjani, **S Mukherjee**, “Small-scale Mechanical Behavior of Metallic Glasses and their Composites”, Invited Talk, **TMS 2020**, San Diego, CA, USA (2020) [\[Invited\]](#)

72) M Pole, C Mahajan, M Sadeghilaridjani, **S Mukherjee**, “Corrosion, Wear, and Surface Degradation Behavior of High Entropy Alloys”, Invited Talk, **TMS 2020**, San Diego, CA, USA (2020) [\[Invited\]](#)

71) S Muskeri, V Hasannaemi, S Jha, M Sadeghilaridjani, **S Mukherjee**, “Small-scale Mechanical Behavior of Single Phase and Complex High Entropy Alloys”, Invited Talk, **TMS 2020**, San Diego, CA, USA (2020) [\[Invited\]](#)

70) J Shittu, M Sadeghilaridjani, **S Mukherjee**, “Next Generation Multi-principal and Amorphous Metallic Biomaterials”, Invited Talk, **MS&T 2020**, Pittsburg, PA, USA (2020) [\[Invited\]](#)

69) V Hasannaemi, S Jha, M Sadeghilaridjani, **S Mukherjee**, “Structure and Surface Property Relationships in Metallic Glasses and their Composites”, Invited Talk, **MS&T 2020**, Pittsburg, PA, USA (2020) [\[Invited\]](#)

68) V Hasannaemi and **S Mukherjee**, “Metallic Glasses for Clean Energy Applications”, Invited Talk, **MRS 2020**, Boston, MA, USA (2020) [\[Invited\]](#)

2019

(67) A Ayyagari*, J Shittu*, **S Mukherjee**, “Surface Degradation of High Entropy Alloys – Corrosion, Erosion, and Wear Behavior”, Invited Talk, **TMS 2019**, San Antonio, TX, USA (2019) [\[Invited\]](#)

(66) M Pole*, S Muskeri*, V Hasannaemi*, **S Mukherjee**, “Small-scale plastic deformation of high entropy alloys”, Invited Talk, **TMS 2019**, San Antonio, TX, USA (2019) [\[Invited\]](#)

(65) S Muskeri*, V Hasannaemi*, **S Mukherjee**, “In-situ Deformation Behavior of Bulk Metallic Glass Composites at Small Length-scales”, Invited Talk, **TMS 2019**, San Antonio, TX, USA (2019) [\[Invited\]](#)

(64) V. Hasannaemi*, **S. Mukherjee**, “Bulk Metallic Glasses as Highly Catalytic Materials”, Invited Talk, **TMS 2019**, San Antonio, TX, USA (2019) [\[Invited\]](#)

(63) A Ayyagari*, HS Arora*, **S Mukherjee**, “Electro-mechanical Response of Porous Metals at the Small Length-scales”, Int. Conf. on Porous Metals and Foams (**MetFoam-2019**), Dearborn, MI (2019)

(62) HS Arora*, HS Grewal, **S Mukherjee**, “A Facile Single-step Processing for Ascertaining High Tensile Ductility and Strength in Austenitic Stainless Steel”, International Conference on Materials for Advanced Technologies (**ICMAT-2019**), MRS-Singapore, Singapore (2019)

(61) **S. Mukherjee**, “Multi-scale Manufacturing and Structure-Property Relationships in Metallic Glasses”, International Symposium on Metastable, Amorphous and Nanostructured Materials (**ISMANAM-2019**), Chennai, India (2019) [\[Invited\]](#)

(60) G. Perumal, H.S. Grewal, H. Singh, **S. Mukherjee**, H.S. Arora*, “Stationary friction processing of high entropy alloy for superior bioimplant applications”, International Symposium on Metastable, Amorphous and Nanostructured Materials (**ISMANAM-2019**), Chennai, India (2019)

2018

- (59) V. Hasannaemi* and **S. Mukherjee**, “Catalytic Amorphous Metals in Energy Applications”, Invited Talk, **TMS 2018**, Phoenix, AZ, USA (2018) [\[Invited\]](#)
- (58) A. Ayyagari* and **S. Mukherjee**, “Corrosion, Erosion, and Wear Behavior of High Entropy Alloys”, Invited Talk, **TMS 2018**, Phoenix, AZ, USA (2018) [\[Invited\]](#)
- (57) V. Hasannaemi* and **S. Mukherjee**, “In-situ Deformation Behavior of Metallic Glass Composites at the Small Length-scales”, Invited Talk, **MS&T 2018**, Columbus, OH, USA (2018) [\[Invited\]](#)
- (56) H. Grewal, R. Nair, H. S. Arora*, **S. Mukherjee**, “Durability Assessment of Al_{0.1}CoCrFeNi High Entropy Alloy under Extreme Conditions”, **MS&T 2018**, Columbus, OH, USA (2018)
- (55) S. S. Joshi, G. Argade, A. Ayyagari*, **S. Mukherjee**, N. B. Dahotre, Peer-reviewed/Refereed, **MS&T 2018**, “Laser Assisted Synthesis of High Entropy Alloy Coating on Aluminum: Tribocorrosion Behavior”, Columbus, OH, USA (2018)
- (54) G. Perumal, A. Chakrabarti, A. Ayyagari*, D. Kannan, H. Grewal, H. S. Arora*, **S. Mukherjee**, Peer-reviewed/Refereed, **MS&T 2018**, “Towards Superior Bio-implant Steels through Submerged Friction Stir Processing”, Columbus, OH, USA (2018)
- (53) **S. Mukherjee**, “Novel Amorphous Metal Electro-catalysts for PEM Fuel Cells”, **MRS Mexico IMRC**, Cancun, Mexico (2018)
- (52) **S. Mukherjee**, “Joining of Cold Formed Steel for Light-weight Structural Applications: Processing, Microstructure, Mechanical and Corrosion Behavior”, **MRS Mexico IMRC**, Cancun, Mexico (2018)
- (51) **S. Mukherjee**, “Manufacturing and Metallurgy of Advanced Alloys”, Invited Seminar, **Texas A&M**, College Station, TX, USA (2018) [\[Invited\]](#)
- (50) **S. Mukherjee**, “Multi-functional Amorphous Metals and High Entropy Alloys”, Invited Seminar, **Indian Institute of Technology (IIT) Bhubaneswar**, India (2018) [\[Invited\]](#)

2017

- (49) **S. Mukherjee**, “Design and Development of Catalytic Amorphous Metals for Energy Conversion and Environmental Remediation”, **TMS 2017**, San Diego, California (2017) [\[Invited\]](#)
- (48) A. V. Aditya* and **S. Mukherjee**, “Degradation Behavior of Bulk Metallic Glasses – Corrosion, Erosion, and Wear”, **TMS 2017**, San Diego, California (2017) [\[Invited\]](#)
- (47) A. V. Aditya* and **S. Mukherjee**, “Degradation Behavior of high entropy alloys – Corrosion, Erosion, and Wear”, **TMS 2017**, San Diego, California (2017)
- (46) S. Mridha*, H. Oltman, and **S. Mukherjee**, “Nanomechanical behavior and nano-indentation size effects in high entropy alloys”, **TMS 2017**, San Diego, California (2017)
- (45) S. Kaluvan, H. Zhang, S. Mridha* and **S. Mukherjee**, “A New Resonance Based Method for the Measurement of Mechanical Property of Elastic Solid Materials at Elevated Temperature”, **SPIE Smart Structures/NDE**, Portland, Oregon (2017)
- (44) J. Artman, N. Martinez, C. Yu, and **S. Mukherjee**, “Light Weight Composite Structures for Advanced Tactical Shelters”, **Cold-Formed Steel Engineers Institute (CFSEI) Expo**, Fort Worth, Texas (2017) [\[Invited\]](#)
- (43) **S. Mukherjee**, “Catalytic amorphous metals for energy conversion”, **Department of Materials Science & Engineering Seminar**, University of Texas at Arlington (2017) [\[Invited\]](#)
- (42) **S. Mukherjee**, “Advanced Manufacturing of Complex Metallic Alloys”, **NSF Workshop on Advanced Manufacturing Research for Aerospace**, Arlington, Texas (2017) [\[Invited\]](#)

2016

- (41) A. V. Aditya* and **S. Mukherjee**, “Role of alloy chemistry and free volume on the corrosion behavior of bulk metallic glasses”, **TMS 2016**, Nashville, Tennessee (2016) [\[Invited\]](#)
- (40) A. V. Aditya* and **S. Mukherjee**, “Corrosion behavior and passivation mechanisms in FCC high entropy alloys”, **TMS 2016**, Nashville, Tennessee (2016) [\[Invited\]](#)

- (39) S. Mridha* and S. Mukherjee, "Evolution of atomic distribution during devitrification of bulk metallic glasses", **TMS 2016**, Nashville, Tennessee (2016) [\[Invited\]](#)
- (38) S. Mridha* and S. Mukherjee, "Nanomechanical behavior and dislocation nucleation in FCC high entropy alloys", **TMS 2016**, Nashville, Tennessee (2016)
- (37) S. Das*, S. Garrison*, and S. Mukherjee, "Saving the Environment from Toxic Chemicals using Amorphous Metals", **TMS 2016**, Nashville, Tennessee (2016)
- (36) S. Das* and S. Mukherjee, "Tailoring the Magnetic Properties and Mechanical Behavior of Cobalt-Iron Metallic Glasses", **TMS 2016**, Nashville, Tennessee (2016)
- (35) A. V. Aditya*, S. Mridha*, S. Das*, and S. Mukherjee, "Accelerated development of advanced metallic alloys by thin-film approach", **MS&T 2016**, Salt Lake City, Utah (2016) [\[Invited\]](#)
- (34) S. Mridha*, A. V. Aditya*, H. S. Arora*, and S. Mukherjee, "Surface texture and wettability of amorphous metallic biomaterials", **MS&T 2016**, Salt Lake City, Utah (2016) [\[Invited\]](#)
- (33) S. Mukherjee, "High Performance Metallic Glass Electro-catalysts for PEM Fuel Cells", **MRS Mexico IMRC**, Cancun, Mexico (2016)
- (32) S. Mukherjee, "Designing Catalytic Amorphous Metals – Energy Conversion to Environmental Remediation", XI International Conference on Bulk Metallic Glass, Washington University St Louis, Missouri (2016)
- (31) S. Mukherjee, "Valence Band Study of Metallic Glasses – Explaining the Trend in Electronic and Magnetic Properties", XI International Conference on Bulk Metallic Glass, Washington University St Louis, Missouri (2016)

2015

- (30) H. S. Arora*, A. V. Aditya*, and S. Mukherjee, "Bulk Metallic Glass - A Superior Erosion and Cavitation Resistant Material", **TMS 2015**, Orlando, Florida (2015) [\[Invited\]](#)
- (29) S. Das*, H. S. Arora*, M. Veligatla*, and S. Mukherjee, "Excellent Mechanical and Magnetic Properties of Cobalt-Iron Metallic Glasses", **TMS 2015**, Orlando, Florida (2015)
- (28) S. Mridha*, D. Jaeger, R. Banerjee, and S. Mukherjee, "Crystallization Behavior of a Zr_{41.2}Ti_{13.8}Cu_{12.5}Ni₁₀Be_{22.5} Bulk Metallic Glass-A Correlative Atom Probe Tomography Study", **TMS 2015**, Orlando, Florida (2015)
- (27) S. Mukherjee, "High Strain Processing of Rapidly Solidified Metallic Composites", **TMS 2015**, Orlando, Florida (2015)
- (26) S. Mukherjee, H. S. Arora*, S. Garrison*, R. Bitten, V. Khosla, and M. Patel, "Wear Behavior of Bulk Metallic Glasses", Society of Tribologists and Lubrication Engineers (**STLE**) conference, Dallas, Texas (2015)
- (25) S. Das*, V. Bandi, H. S. Arora*, S. Garrison*, M. Veligatla*, F. D'Souza, and S. Mukherjee, "Enhancement of catalytic effect of iron metallic glass particles in Azo dye degradation", Texas Society for Microscopy - 50th Anniversary Meeting, Austin, Texas (2015)
- (24) S. Mridha*, D. L. Jaeger, R. Banerjee, S. Mukherjee, "Atomic Distribution in Metallic Glasses", Materials Science & Technology (**MS&T 2015**), Columbus, Ohio (2015)
- (23) A. V. Aditya*, S. Das*, H. S. Arora*, S. Mukherjee, "Electrochemical Behavior of Bulk Metallic Glasses in Corrosive Media", Materials Science & Technology (**MS&T 2015**), Columbus, Ohio (2015)
- (22) S. Das* and S. Mukherjee, "*Nano-Crystallization Induced Magnetic Transitions in Soft-Ferromagnetic Metallic Glass*", Materials Research Society (**MRS**) Fall Meeting, Boston, Massachusetts (2015)
- (21) S. Das* and S. Mukherjee, "*Nanomechanical and Electrical Characteristics of Amorphous-Crystalline Interface Dominated Metallic Thin Films*", Materials Research Society (**MRS**) Fall Meeting, Boston, Massachusetts (2015)

2014

- (20) S. Mukherjee, "BMG – A Superior Erosion Resistant Material", International Conference on Metallic Materials and Processing (**ICMMP**), Las Vegas, Nevada (2014) [\[Invited\]](#)

- (19) A. V. Aditya*, H. S. Arora*, **S. Mukherjee**, “Corrosion Behavior of Metallic Glass Subjected to Severe Plastic Deformation”, Materials Science & Technology (**MS&T 2014**), Pittsburgh, PA (2014)
- (18) **S. Mukherjee**, “Erosion Behavior of Bulk Metallic Glasses”, **TMS 2014**, San Diego, California (2014) [\[Invited\]](#)
- (17) H. S. Arora*, H. S. Grewal, H. Singh, **S. Mukherjee**, “Mechanical Behavior of Bulk Metallic Glasses Subjected to Severe Plastic Deformation”, **TMS 2014**, San Diego, California (2014)
- (16) H. S. Grewal, H. S. Arora*, H. Singh, A. Agrawal, **S. Mukherjee**, “Ni-Al₂O₃ based Thermal Spray Coatings for Protection against Erosion”, **TMS 2014**, San Diego, California (2014)
- (15) S. Das*, M. Veligatla*, and **S. Mukherjee**, “Synergistic Thermal and Magnetic Properties of Amorphous Cobalt-Iron Alloys”, Materials Research Society (**MRS 2014**) Fall Meeting, Boston, Massachusetts (2014)
- (14) H. S. Arora*, S. Mridha*, A. V. Aditya*, and **S. Mukherjee**, “Controlling the Length-Scale of Crystalline Phase in Metallic Glass Composite Using Friction Stir Processing”, Materials Research Society (**MRS 2014**) Fall Meeting, Boston, Massachusetts (2014)

2013

- (13) **S. Mukherjee**, “Wettability of Electrochemically Nano-textured Metallic Glasses”, Materials Research Society (**MRS 2013**) Fall Meeting, Boston, Massachusetts (2013)
- (12) **S. Mukherjee**, “Erosion and Corrosion in Metallic Glasses”, Metastable Materials: past, present and future”, Pasadena, California (2013) [\[Invited\]](#)
- (11) **S. Mukherjee**, R. C. Sekol, A. D. Taylor, J. Schroers, “Electrochemical tuning of metallic glass nanostructures”, **TMS 2013**, San Antonio, Texas (2013) [\[Invited\]](#)

2012 and before

- (10) **S. Mukherjee**, R. C. Sekol, G. Kumar, A. D. Taylor, J. Schroers, “Nanofabrication of metallic glasses,” Gordon Research Conference, University of New England, Maine (2012)
- (9) **S. Mukherjee**, R. C. Sekol, A. D. Taylor, J. Schroers, “Electro-catalysis of metallic glass nanostructures,” MRS 2012, Boston, Massachusetts (2012)
- (8) **S. Mukherjee**, M. Carmo, G. Kumar, A. D. Taylor, J. Schroers, “Metallic glasses for electro-catalytic applications,” TMS 2012, Orlando, Florida (2012)
- (7) G. Kumar, **S. Mukherjee**, M. Carmo, R. C. Sekol, A. D. Taylor, J. Schroers, “Bulk metallic glasses as new materials for PEM Fuel Cells,” MRS 2011, Boston, Massachusetts (2011)
- (6) **S. Mukherjee**, J. Schroers, W. L. Johnson, and W. K. Rhim, “Noncontact measurement of crystallization time-scales of bulk metallic glass-forming alloys,” RQ12 – International Conference on Rapidly Quenched and Metastable Materials, Seoul, Korea (2005)
- (5) **S. Mukherjee** and D. M. Stefanescu, “Analysis of liquid convection effects on the pushing-engulfment transition,” State of the Art in Cast Metals Matrix Composites (TMS Fall Meeting), St. Louis, Missouri (2000)
- (4) D. M. Stefanescu, **S. Mukherjee**, F. Juretzko, A. V. Catalina, S. Sen, and P. A. Curreri, “Particle engulfment and pushing by solidifying interfaces”, NASA Microgravity Materials Science Conference, Huntsville, Alabama (2000)
- (3) D. M. Stefanescu, F. Juretzko, **S. Mukherjee**, A. V. Catalina, S. Sen, and P. A. Curreri, “The physics of particle pushing and engulfment: experimental and theoretical developments”, Space Technology and Applications International Forum (STAIF-2000), Albuquerque, New Mexico (2000)
- (2) D. M. Stefanescu, A. V. Catalina, F. Juretzko, **S. Mukherjee**, S. Sen, and B. K. Dhindaw, “Particle engulfment and pushing: Microgravity experiments and Mathematical Modeling”, Proceedings of the First International Symposium (European Space Agency), Sorrento, Italy (2000)
- (1) R. Sukhija, B. K. Dhindaw, and **S. Mukherjee**, “Effect of Heat Treatment Parameters on the Hardness Variation of ADI”, Sixth International Symposium on the Science and Processing of Cast Iron, Birmingham, Alabama (1998)

FUNDED RESEARCH at UNT**Summary: Funding amount with direct credit of > \$5M (out of total funding > \$20M)**

Funding with direct credit from NSF ~ **\$1.5M**; Funding with direct credit from DoD ~ **\$2.5M**; Funding with direct credit from DoE and Industry ~ **\$1M** combined.

2021-2023

ARL US Army Research Lab, *Technical Proposal for Advanced Ballistics Tech: Mechanisms-based Approach to Designing Materials Systems for Enhanced Dynamic Performance*, Amount: **\$10M**, Period: 07/2021 – 07/2022, Role: **Co-PI (10% credit)**

2020

NSF NSF-CMMI Supplemental: *Data Science Activities for the Civil, Mechanical and Manufacturing*, Amount: **\$70,000**, Period: 08/2020 – 07/2022, Role: **PI (100% credit)**

NSF NSF-PFI Supplemental: *Next Generation Fuel Cell Catalysts for Efficient Energy Conversion*, Amount: **\$110,000**, Period: 08/2020 – 07/2022, Role: **PI (100% credit)**

ARL US Army Research Lab, *Technical Proposal for Advanced Ballistics Tech: Mechanisms-based Approach to Designing Materials Systems for Enhanced Dynamic Performance*, Amount: **\$3,250,000**, Period: 07/2020 – 07/2021, Role: **Co-PI (10% credit)**

Army US Army Natick Subcontract: *Engineered Materials and Materials Design of Engineered Materials*, Amount: **\$110,867**, Period: 01/2020 – 12/2020, Role: **Co-PI (20% credit)**

2019

NSF *PFI: Next Generation Fuel Cell Catalysts for Efficient Energy Conversion*, Amount: **\$250,000**, Period: 08/2019 – 07/2021, Role: **PI (100% credit)**

NSF *Nanomanufacturing of Metallic Glasses (INTERN)*, Amount: **\$220,000**, Period: 06/2019 – 02/2021, Role: **PI (100% credit)**

State Dept US Department of State, *US-India Partnership for Manufacturing of Advanced Metallic Bio-implants*, Amount: **\$100,000**, Period: 06/2019 – 12/2020, Role: **PI (100% credit)**

2018

NSF *GOALI: Friction Joining of Bulk Metallic Glasses and Their Composites*, Amount: **\$469,296**, Period: 09/2018 – 08/2022, Role: **PI (100% credit)**

Army Natick Subcontract: *Engineered Materials and Materials Design of Engineered Materials*, Amount: **\$1,000,000**, Period: 01/2018 – 03/2019, Role: **Co-PI (20% credit)**

ARL US Army Research Lab (ARL) Subcontract, *A Mechanisms-based Approach to Designing Materials Systems for Enhanced Dynamic Performance*, Amount: **\$1,000,000**, Period: 10/2018 – 09/2019, Role: **Co-PI (10% credit)**

Toyota *Wear and friction behavior of automotive coatings*, Amount: **\$50,000**, Period: 10/2018 – 09/2019, Role: **PI (100% credit)**

2017

NSF *NSF-I-Corps: Metallic glass catalysts for energy conversion and storage*, Amount: **\$50,000**, Period: 04/2017 – 09/2018, Role: **PI (100% credit)**

DOE *Reduced Activity Complex Concentrated Alloys for Generation IV Reactor Systems*, Amount: **\$90,000**, Period: 02/2017 to 06/2018, Role: **PI (100% credit)**

Hysitron *Nano-mechanical characterization of high strength metallic alloys*, Amount: **\$40,000**, Period: 02/2017 – 01/2018, Role: **PI (100% credit)**

2016

- NSF** *Nanomanufacturing of Hierarchical Metallic Glasses as High-performance Electrocatalysts*, Amount: **\$216,000**, Period: 09/2016 – 08/2019, Role: **PI (90% credit)**
- Army** Natick Subcontract: *Light Weight Composite Structures for Advanced Tactical Shelters*, Amount: **\$873,283**, Period: 09/2016 – 08/2018, Role: **PI (25% credit)**
- ARL** US Army Research Lab (ARL) Subcontract, *Advanced Ballistics Technology: Materials Development, Characterization and Computational Modeling*, Amount: **\$5,952,507**, Period: 10/2016 – 09/2018, Role: **Co-PI (10% credit)**

2015

- DOE** *Friction Stir Additive Manufacturing for Ultrasupercritical Power Plant Systems*, Amount: **\$83,000**, Period: 07/2015 – 03/2017, Role: **Co-PI (50% credit)**
- DOE** *Manufacturing of Gradient Structures for Small Modular Reactors*, Amount: **\$83,000**, Period: 07/2015 – 03/2017, Role: **Co-PI (50% credit)**

2013-2014

- SRC** Semiconductor Research Corporation, *Metallic-glasses for deeply-scaled interconnects*, Amount: **\$145,833**, Period: 08/2013 – 07/2014, Role: **PI (100% credit)**
- RTEC** *Defect Propagation in Bulk Metallic Glasses*, Amount: **\$40,000**, Period: 07/2014 – 06/2015, Role: **PI (100% credit)**
- Boeing** *Joinability Evaluation of Scandium Loaded Aluminum Alloys*, Amount: **\$100,182**, Period: 12/2013 – 06/2014, Role: **Co-PI (25% credit)**

SERVICE AT UNIVERSITY OF NORTH TEXAS**University Service**

- 1) Faculty Senate (2021 – 2023)
- 2) Committee on Committees (2021 – 2023) [*Member*]
- 3) Faculty Research Committee (2020 – 2022) [*Member*]
- 4) Committee on Academic Policy, Inclusion, Diversity, and Antiracism (2021-22) [*Member*]
- 5) Committee on the Status of People of Color (2020-22) [*Member*]

College of Engineering Service

- 1) College Tenure and Promotion Committee [**Chair** (2021-2022), *Member* (2020-2021)]
- 2) College Safety Committee (2018 – present) [*Member*]
- 3) College Diversity and Inclusion Committee (2021 – present) [*Member*]

Department Service

- 1) Department Tenure and Promotion Committee (2018 – present) [*Member*]
- 2) Graduate Affairs Committee (2018 – present) [*Member*]
- 3) MTSE cohort advisor (2014 – present)
- 4) Website, Publicity, and Outreach (2015 – present) [**Chair**]
- 5) Member (2014-2020) and Coordinator (2021-present) of Metals PhD qualifier exam
- 6) MTSE Faculty Search Committee (2015 – 2016) [*Member*]

INTERNATIONAL SYMPOSIUMS ORGANIZED

- (1) **MS&T 2016**, Salt Lake City (UT), *ICME Accelerated Materials Discovery* (2016)
- (2) **MRS Mexico 2016**, (IMRC), Cancun, *Electrochemical Energy Storage and Generation I* (2016)
- (3) **MS&T 2018**, Columbus (OH), *Next Generation Biomaterials* (2018)

- (4) **MRS Mexico 2018**, (IMRC), Cancun, *Electrochemical Energy Storage and Generation II* (2018)
- (5) **MS&T 2020**, Pittsburgh (PA), *Micro- and Nano-Mechanical Behavior of Materials* (2020)
- (6) **MRS Mexico 2020**, (IMRC), Cancun, *Electrochemical Energy Storage and Generation III* (2020)
- (7) **MRS Mexico 2022**, (IMRC), Cancun, *Electrochemical Energy Storage and Generation IV* (2022)

EXTERNAL SERVICE and SYNERGISTIC ACTIVITIES

- (1) **Conference Session Chair:** (i) TMS (2016-2020); (ii) MS&T (2015-2019); (iii) MRS (2013-2016); (iv) MRS Mexico (2016-2020); (v) ICMMP, Las Vegas 2014; (vi) EUROMAT, France (2011)
- (2) **Editorial Duties:**
 - (i) **Editorial Board Member:** Entropy (*MDPI*) [2018-present], *Scientific Reports (Nature)* [2022-present]
 - (ii) **Editor:** Bulk Metallic Glass Symposium, MRS Fall Meeting, Boston [2013]
- (3) **Committee Positions in Professional Organizations:** TMS Awards Sub-Committee [*Chair* 2018-2019, *Member* 2017-2018]
- (4) **Grant/Proposal Review:** (i) NSF (2014-2022; *at least 2 review panels per year*); (ii) DOE Basic Energy Sciences (2016-2021; *at least 1 review per year*); (iii) **US Army Research Office** (2020-2022); (iv) ACS Petroleum Research Fund (2015-2016)
- (5) **Journal Peer Review:** Nature group journals, Wear, Acta Materialia, Scripta Materialia, Materials Science and Engg: A, Journal of App Physics, Met Trans A, *npj* Materials Degradation, etc