

7:30	Registration - East Atrium			
8:00 - 9:00	Continental Breakfast and Exhibition - East Atrium			
Room	Alvarado A	Alvarado F	Alvarado G	Alvarado H
Session	AI/ML of Materials + Theory, Modeling and Prediction	Electronics, Magnetics and Photonic Materials & Devices	Advanced and Printed Manufacturing	Energy/Nuclear Materials & Sustainability
Chair				
9:00	INVITED - AutoSciLab: A Self-Driving Laboratory for Interpretable Scientific Discovery, <i>Desai</i>	Atomic Precision Advanced-Manufactured (APAM) FET-based sensor for ultrasensitive charge sensing, <i>Mendez</i>	Process-structure-property effects of debinding and sintering for an additively manufactured silica, <i>Bezek</i>	Oxygen Non-Stoichiometry and Thermochemical Hydrogen Production in Novel Machine Learned Oxides, <i>Douglas</i>
9:15		Nickel-Based Single-Atom Catalyst for Methane Pyrolysis, <i>Helsel</i>	Electroplated LPBF and BPE Additive Manufactured 17-4 Stainless Steel, <i>Saiz</i>	Effects of External Magnetic Field on Mechanical properties and irradiation resistance of F/M Steels, <i>Yang</i>
9:30	Discovery of Conductive Nanoparticle Inks for Printed Electronics using an Autonomous Ecosystem, <i>Roth</i>	INVITED - Focused Ion Beam Low Energy Implantation, <i>Belianinov</i>	Post-Processing Techniques for AM Metals, <i>Gucik</i>	A direct upcycling approach for spent lithium ion battery materials via microwave exfoliation, <i>Chin</i>
9:45	Impact of Thermal Gradient on Interfacial Energy and its Anisotropy in Al-Cu Alloy, <i>Swamy</i>		Additively Manufactured Mixed Potential Sensors for Methane and Hydrogen Emissions Monitoring, <i>Tsui</i>	Development and Construction of Liquid Lead-Lithium Loop at UNM, <i>Angus</i>
10:00	Robust Data-Driven Run-to-Run Control for Automated Serial Sectioning, <i>Oakley</i>	Optical Response of MXene Nanoantennas Under Left and Right Circularly Polarized Illumination, <i>Karimi</i>	A New Processing Parameter Paradigm for Blown Powder Laser Beam Directed Energy Deposition (L-DED), <i>Roper</i>	INVITED - Designing New Materials Based on Barium Niobates For the Electrochemical Oxidative Coupling of Methane, <i>Ramaiyan</i>
10:15	Full-Field Micromechanical Modeling of 3D Polycrystals with Recurrent Neural Networks, <i>Lenau</i>	Probing Charge Trapping of High k Dielectric Stacks under Ionizing Radiation, <i>Mehta</i>	The Effect of Processing Parameters on the Microstructure and Mechanical Behavior of Ti5553, <i>Olivier</i>	
10:30	Computationally-efficient DFT calculations for elastic properties of refractory binary alloys, <i>Bijjala</i>	Imaging Photonic Modes of a TiO <sub>2</sub> Metasurface via Photoelectron Emission Microscopy, <i>Kim</i>	The Effect of Microstructure on Thermal and Electrical Conductivity of 14WYT NFA, <i>Justice</i>	Stability analysis of Single Atom Platinum Catalyst synthesized using a Plasmon-enhanced method, <i>Jeyashang</i>
10:45	Break - East Atrium			
11:00	Kreidl Lecture - Alvarado E			
12:00	Lunch - Alvarado E			
1:00	Poster Session - South Atrium & Sponsor Exhibition - East Atrium			

Session	Electronics, Magnetics and Photonic Materials & Devices + 2D & Quantum Materials	Structural Materials and Failure Mechanisms	Theory, Modeling and Prediction	Energy/Nuclear Materials & Sustainability
Chair				
2:00	A new approach to the surveillance of electronic components and circuits, <i>Buchheit</i>	Evaluation of bend ductility in Ta-W alloys, <i>Ghanbari</i>	INVITED - Effects of Environmental Species on Tribological Properties of MoS <sub>2</sub> : Using Simulations to Interpret Experimental Observations, <i>Bobbit</i>	INVITED - Evaluation of Ba(Al,Fe)2O <sub>4</sub> , a Machine Learned Compound, for Solar Thermochemical Hydrogen Production, <i>Bishop</i>
2:15	Carrier Lifetime Control Through the Quantum Confined Stark Effect, <i>Loveless</i>	Antibacterial sustainable concrete with waste plastic and natural materials, <i>Jain</i>		
2:30	Remote Epitaxy on Nonuniform Surfaces and the Influence of Imperfections, <i>de Jesus Lopez</i>	INVITED - Data-Driven Optimization of Interlocking Metasurface Design, <i>Brown</i>	Resolving local structure in alloys through thermodynamic ensembles of pair distribution functions, <i>Meshke</i>	Analytical Electrochemistry of Nickel and Platinum Electrolytes, <i>Troche</i>
2:45	Solder Joint Reliability in Fine Pitch BGAs, <i>Fowler</i>		Structural and electronic properties of structural refractory binary alloys, <i>Bijjala</i>	Predicting the corrosion rate of 316L stainless in 10 M HCl, <i>Nwokocho</i>
3:00	Simulating dose-rate events on electronic parts utilizing high-power laser, <i>Packan</i>	Oxidation Behavior of Niobium and Tantalum-rich Refractory Complex Concentrated Alloys, <i>Prasad</i>	Mesoscale Modeling of Fiber-Reinforced Composites for Marine Energy Environments, <i>Creveling</i>	Effect of Pore Shape on Collapse Behaviors in Explosives, <i>Stirrup</i>
3:15	Break / Refreshments - South Atrium			
Session	Biological and Soft Materials	AI/ML of Materials + Theory, Modeling and Prediction	Advanced and Printed Manufacturing	Methods for Analyzing Structural Materials
Chair				
3:30	INVITED - Harnessing Carbon Dots for Multifunctional Materials: From Synthesis to Applications, <i>Ghosh</i>	Hydrogen Diffusion In Oversaturated EPDM Rubber: The Effect Of Induced Strain, <i>Dedmon</i>	INVITED - The effect of laser remelting on the microstructure and chemistry of additively manufactured MoNbTaTi RHEA, <i>Barrick</i>	Structural and failure mechanisms - Automated Calibration of Displacement Sensors, <i>Haulenbeek</i>
3:45		Entrapment of Volatile Organic Compounds in MOF UiO-66: An ab initio molecular dynamics study, <i>Boyd</i>		Improved Kovar Quantification Using LA-ICP-MS, <i>Coleman</i>
4:00	A Bidirectional Reciprocating Experiment for Macroscale Friction Measurement, <i>Foster</i>	How to Feed AI: Creating a Cu-Ag Alloy Nanocrystalline Thin Films Library for Materials Informatics, <i>Dorman</i>	Enabling Ductile Failure Prediction in Additively Manufactured Metals via 3D Characterization, <i>Chao</i>	Characterization of oxidation in tantalum and cracking susceptibility at high temperatures using AES, <i>Lam</i>
4:15	Monitoring impact of photothermal heating on light induced Diel's-Alder reaction: Thermoset recycle, <i>Saha</i>	CO <sub>2</sub> Adsorption at Metal Nodes of Mg-MOF-74 : An Ab Initio Molecular Dynamics Study, <i>Beltran</i>	Custom cathode optimization for electropolishing additively manufactured 316L stainless steel, <i>Escarcega</i>	Effect of Dry Electropolishing on Electron Backscatter Diffraction of Dissimilar Titanium Welds, <i>Schnebly</i>
4:30	Award & Scholarship Announcements - East Atrium			
5:00	End			