

7:30	Registration - Atrium Area (2nd Floor of Hotel, Left of Stairs)			
8:00 - 9:00	Continental Breakfast and Exhibition - Atrium Area			
Room	Enchantment Ballroom A	Enchantment Ballroom B	Enchantment Ballroom C	Enchantment Ballroom D
Session	Electronics, Magnetics and Photonic Materials & Devices	Structural Materials and Failure Mechanisms/Electronics Magnetics and Photonic Materials Devices	Theory Modeling and Machine Learning	Advanced and Printed Manufacturing/Energy and Sustainability
Chair	Amelia Peterson	Jessica Buckner	Deep Choudhuri	Osman Anderoglu
9:00	INVITED Analysis of defect networks in metamorphic anitmonides grown on GaAs and Silicon using Transmission Electron Microscopy, <i>Balakrishnan</i>	How Spatially Resolved Mechanical Testing Can Help Inform Weld Process Development , <i>Pathare</i>	INVITED Structural and mechanical properties of compositionally complex alloys from first-principles DFT, <i>Atlas</i>	A Hybrid Aerosol Jet Printing and Electrodeposition Process for the Manufacturing of Multi-Layer Flyback Transformers , <i>Tsui</i>
9:15		Joining Al2O3 to Kovar via Zirconium Active Braze: Dynamic Investigation with In Situ Video Monitoring , <i>McMaster</i>		Process Optimization for Wire Arc Additive Manufacturing , <i>Saiz</i>
9:30	HF and UV/O3 Treatment for Reducing Leakage Current in GaN Schottky Barrier Diodes , <i>Peterson</i>	Improved Throughput Exploration of Electrolyte Species: A Study of Chelating Agents and pH in Metal Film Electrodeposition , <i>Bailey</i>	A first-principles study of calculation parameters affecting diffusion and creep activation energy in the CoCrNi medium-entropy alloy , <i>Hargather</i>	Physical Properties of ARB Cu/Nb Nanolamellar Composites , <i>Justice</i>
9:45	Tailoring Optics in Periodic Arrays Through Size-Dependent Lattice Resonances , <i>Karimi</i>	Manufacturing of Refractory complex concentrated alloy by Powder Metallurgy , <i>Bijjala</i>	Unsupervised physics-informed disentanglement of multimodal materials data , <i>Martinez</i>	Fatigue Behavior of Additively Manufactured Ti-5553 , <i>Casias</i>
10:00	Surface chemistry analysis of reworked GaAs substrates for i-line photoresist adhesion promotion for reworked wafers , <i>Ingram</i>			Solder joint reliability in fine pitch ball grid arrays , <i>Buckner</i>
10:15	Frequency and Electric Field Dependent Conductivity of Mo-SiNX Granular Metals , <i>McGarry</i>	Highly Stable Fe and Ca codoped Barium Niobate Based Electrocatalysts for Effective Electrochemical Coupling of Methane to Ethylene , <i>Ramaiyan</i>	Effect of in-liquid phase separation on non-classical nucleation in Al-Fe alloys: A molecular dynamics study , <i>Hasan</i>	Mixed potential electrochemical sensors for methane emissions monitoring , <i>Halley</i>
10:30	Multipole Resonance Control in High-Refractive-Index Antennas , <i>Islam</i>		Effect of Thermal Gradient on Interfacial Free Energy and Anisotropy Parameters in Al-Cu alloy , <i>Swamy</i>	Freeform Liquid Crystal Elastomers via Embedded 4D Printing , <i>McDougall</i>
10:45	Break			
11:00	Kreidal Lecture - Fiesta Room			
12:00	Lunch - Fiesta Room			

Session	Energy Nuclear Materials	Biomaterials and Soft Materials	Structural Materials and Failure Mechanisms	Advanced and printed Manufacturing
Chair	Eric Lang	Matt Warner	Kaitlynn Fitzgerald	Jessica Kopatz
1:00	INVITED Materials Development and Testing for Extreme Environments, <i>Anderoglu</i>	INVITED Novel Tamper-Indicating Materials, <i>Corbin</i>	INVITED Microstructural Black Swans, <i>Boyce</i>	In-situ Process Monitoring of Direct-Ink Write Printing, <i>Kopatz</i>
1:15				Characterization of Viscous and Performance Properties of APCP for Application to Additive Manufacture, <i>Purcell</i>
1:30	Fabrication, Thermal Analysis, and Heavy Ion Irradiation Resistance Epoxy Matrices with Silane-Capped Ceria Nanoparticles, <i>Davis-Wheeler Chin</i>	Rational Design of Silica Nanoparticles for Overcoming Barriers of siRNA Delivery in Relapsed Prostate Cancer Applications, <i>Maestas-Olguin</i>	Fully removable epoxy utilizing dynamic covalent bonds with comparable adhesive strength to conventional epoxy, <i>(Lindholm) Knight</i>	Combustion Rates as a Function of Thermite Content for an Energetic Initiator Ink, <i>Cameron</i>
1:45	Effects of Heat Treatment Under External Magnetic Field on Microstructure of Ferritic/Martensitic Steels, <i>Yang</i>	The Recycling of Polybutadiene Rubber with Tunable Thermal Depolymerization Enabled by Microencapsulated Metathesis Catalysts, <i>Warner</i>	Strain-Path Dependent Dislocation Evolution in Aluminum 6016, <i>Sanderson</i>	Experimental Assessment of Additively Manufactured Copper Solderability, <i>Erwin</i>
2:00	Metallographic Characterization of Oxidation Behavior in Tantalum and its Alloys, <i>Lopez-Duran</i>	Polydiacetylenes: A Suite of Security, <i>Corbin</i>	Microstructural Clones, <i>Fitzgerald</i>	3D Printing of Conversion Cathodes for Enhanced Custom-Form Lithium Batteries, <i>Cardenas</i>
2:15	Break / Refreshments			
Session	Energy and Sustainability	Advanced and printed Manufacturing/Theory Modeling and Machine Learning	Theory Modeling and Machine Learning	
Chair	Pabitra Choudhary	Sam Moran	Susan Atlas	
2:30	INVITED Fuel Cell Component Durability for Million Mile Fuel Cell Trucks, <i>Borup</i>	Compensating for Sintering distortion in Additively Manufactured Copper using Physics-Informed Gaussian Process Regression, <i>Moran</i>	INVITED Accelerating materials simulations with machine-learning strategies, <i>Dingville</i>	
2:45		Corrosion susceptibility of LPBF 316L stainless steel in a constant contamination environment, <i>Escarcega Herrera</i>		
3:00	Enhancing Robustness of Fuel Cell Electrodes via Pt Thin Film Catalysts <i>Liyanae</i>	Photothermal effects of plasmonic nanoparticles to enhance Diels-Alder (DA) reactions in reversible thermosets, <i>Saha</i>	Thermodynamic properties as a function of temperature of AlMoNbV, NbTaTiV, NbTaTiZr, AlNbTaTiV, HfNbTaTiZr, and MoNbTaVW refractory high-entropy alloys from first-principles calculations, <i>Moreno</i>	
3:15	Effect of the EMIM Cation on the CO2 Reduction Reaction on Gold, <i>Richards</i>	First-principles-derived flexible polarizable force fields for metal-organic frameworks for helium purification applications, <i>Escobosa</i>	Leveraging kinetic Monte Carlo to characterize early stages of nonclassical, molecular crystallization in resveratrol, <i>Janicki</i>	
3:30	Durability Study of Titanium-Supported Iridium (Ir/Ti) Anode Catalysts in PEM Water Electrolyzers, <i>Li</i>	Influence of Precursor Design on Formation of a Reversible Diels-Alder Network, <i>Kim</i>	First-principles-based computation of ground state properties of heavy refractory elements and binaries, <i>Bijjala</i>	
3:45	Poster - Atrium Area/Enchantment Ball Room (E&F)			
4:45	Award Announcements - Enchantment Ball Room (E&F)			
5:00	End			