

**# 162 - Fluid Mechanics Poster Session***Monday, November 14, 2022 3:30 PM - 5:00 PM**North Hall E, Phoenix Convention Center*

<b>BOARD NUMBER</b>	<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Paper Number</b>
1	Influence of Surfactants, Polymers and Proteins on Foam Film Drainage	Carina	Martinez	162a
2	Acoustic Streaming Flows in Non-Newtonian Fluids: Numerical Simulations and Experiments	Joontaek	Park	162b
3	Stability of a Radially Expanding Liquid Sheet in Presence of Gas Boundary Layer	Soumya	Kedia	162c
4	Large Eddy Simulations (LES) to Capture Turbulence Modulation in Inertial Particle-Laden Turbulent Channel Flows	Partha	Goswami	162d
5	A New Stress Model for Gas-Particle Flows from Dilute to Dense Regimes with Particle Friction and Volume Fraction Gradient	Guodong	Liu	162e
5	A New Stress Model for Gas-Particle Flows from Dilute to Dense Regimes with Particle Friction and Volume Fraction Gradient	Junnan	Zhao	162e
6	Rheology of Highly-Loaded Polymer-Ceramic Suspensions for Direct-Ink-Writing 3D Printing	Ria	Corder	162f

**# 163 - Poster Session: Interfacial Phenomena (Area 1C)***Monday, November 14, 2022 3:30 PM - 5:00 PM**North Hall E, Phoenix Convention Center*

BOARD NUMBER	Title	First Name	Last Name	Paper Number
9	Improved Carbon Dioxide Hydrate Formation Using Superabsorbent Polymers (SAPs) and Tetrahydrofuran (THF) without Mechanical Agitation	Dong Woo	Kang	163a
10	Microscopic Diffusion of a Chemical Warfare Agent Simulant in the Presence of Water in Nafion Membranes By PFG NMR	Blake	Trusty	163c
11	Significance of $\pi$ -Electrons in the Adsorption of Corrosion Inhibitors for Carbon Steel Rebars in Simulated Concrete Pore Solution	Ahmed	Mohamed	163d
12	Influence of Secondary Heteroatoms within Aromatic Compounds on Corrosion Inhibition of Carbon Steel	Karl	Breimaier	163e
13	Development of Chemically Degradable Epoxy Resins for Upcycling Carbon Composites By Using Molecular Dynamics	Hyoje	Son	163f
14	Bacterial Nanocellulose as an Eco-Friendly Additive in Water-Based Drilling Fluids Applied to Shale Formations	Diana	Estenoz	163g
15	Confinement Induced Alteration of Morphologies of Oil-Water Emulsion	Animangsu	Ghatak	163h

**# 164 - Poster Session: Bioengineering**

Monday, November 14, 2022 3:30 PM - 5:00 PM

North Hall E, Phoenix Convention Center

BOARD NUMBER	Title	First Name	Last Name	Paper Number
17	Sampling of Contact Lens Saline for Sars-Cov-2 Virus Detection Applications	Hazim	Aljewari	664b
18	A Polyketide Synthase-Based Platform for Making Plastic Monomers of Polydiketoenamines	Zilong	Wang	164a
19	Thermoacidophilic Archaea Enhance Bioleaching of Chalcopyrite for Copper Recovery	Mohamad Javad	Haghighat Manesh	164c
20	Enzymatic Reactive Extraction of Fermentation Products for the Production of Short-Chain Esters	Danika	Kartchner	250b
21	Engineering Human Mesenchymal Bodies for Exosome Secretion in a Novel 3-D Printed Microchannel Bioreactor.	Xingchi	Chen	164d
22	Leveraging Advances in Proteomics to Mathematically Model Cell Signaling Processes: A Case Study on TGF $\beta$ Signaling in Valve Interstitial Cells	Daniel P.	Howsmon	164e
23	Amyloid Aggregation of Enzymes Under Non-Denaturing Conditions	Jin Ryoum	Kim	164f
24	Peptide Aggregation Induced Immunogenic Rupture (PAIR) on Breast Cancer Spheroid Model	Gokhan	Gunay	164g
25	Systematic Evaluation of Protein-Small Molecule Conjugates on Yeast Surface	Manjie	Huang	164h
26	Modulated Cell-Free Protein Synthesis System for Biomanufacturing of Multiple Disulfide Bond Containing Therapeutic Proteins	Claire	Lanclos	164i
27	Engineer Novel Functional Proteins in Plant Cell Culture for Industrial and Biomedical Applications	Jianfeng	Xu	164j
28	Acoustic Force Spectroscopy Enables Multiplexed Single-Molecule Characterization of Protein-Carbohydrate Binding	Shishir	Chundawat	164k
32	Designing Versatile Beta Roll Peptide Scaffolds	Matthew	Lucia	164l
32	Designing Versatile Beta Roll Peptide Scaffolds	Devin	Golla	164l
29	Thermostable Enzymes for Error Correction of DNA	Rushant	Sabnis	164m
30	A Novel Thermophilic Enzyme for DNA Based Error Correction	Rushant	Sabnis	164q
31	Exploring Structure-Function Relationships Governing Activity of the Cyanobacterial Bicarbonate Transporter SbtA	Sydney	Parrish	164n
33	A Novel Thiolase with Enhanced Activity of ATP-Independent Triacetic Acid Lactone (TAL) Production	Seokjung	Cheong	164o
34	Engineering Antibody Fusion Proteins for Targeted Intracellular Therapeutic Delivery	Kyle	Kaeo	164p
35	The Influence of Electrostatic Distribution on Small Molecule Binding of Coiled-Coil Protein Microfibers	Julia	Monkovic	164r
36	Synthesis and Evaluation of Megamolecule Dendrimers in Cancer Therapy	Blaise	Kimmel	164s

\*Posters listings updated as of 11/7/2022

BOARD NUMBER	Title	First Name	Last Name	Paper Number
37	Leveraging Synthetic Biology and Gut-on-a-Chip Systems to Investigate the Mechanistic Role of H <sub>2</sub> S in the Gut	Justin	Hayes	164t
38	Novel Magnetic Biosensor for COVID-19 Surveillance through Wastewater-Based Epidemiology	Stefano	Ciannella	164u
39	Yeast Surface Display of Sars-Cov-2 Receptor Binding Domain (RBD) for Diagnostic Purposes	Shadrach	Ibinola	164w
40	The Change of Magnetic Susceptibility of Red Blood Cells Depending on the Density.	Hyeon	Choe	164y
41	Identifying Key Biomarkers and Underlying Mechanisms behind Pediatric Influenza Infection	Lauren	Luciani	164z
42	Human Forebrain Organoid-Derived Extracellular Vesicle Labelling with Iron Oxides for in Vitro Magnetic Resonance Imaging	Chang	Liu	164aa
43	Red and White Blood Cell Magnetic Analysis and Separation: Potential for Hematologic Disease Diagnosis	Sowrav	Barua	164ab
44	Characterization of Mneongreen in the Cell-Free Protein Synthesis System and Optimizations of Signal Output for Biosensor Application	Caroline	Copeland	164ad
45	Biosensor Engineering for Reliable Production Detection	Jennifer	Kaczmarek	164ae
46	Combining the Use of Predictive Modelling Tools and Experimental Data to Optimize Formulation Design for Novel Modalities in Biologics	Julia E.	Vela Ramirez	164af
47	Engineering Ligand-Specific Biosensors for Aromatic Amino Acids, Neurochemicals, and Other Structurally Similar Compounds	Tae Seok	Moon	164x
47	Engineering Ligand-Specific Biosensors for Aromatic Amino Acids, Neurochemicals, and Other Structurally Similar Compounds	Chenggang	Xi	164x
48	Developing a Novel Microbial Host and Synthetic Biology Tools for Valorizing Waste Polyethylene Terephthalate and Lignin-Derived Compounds	Tae Seok	Moon	164ar
48	Developing a Novel Microbial Host and Synthetic Biology Tools for Valorizing Waste Polyethylene Terephthalate and Lignin-Derived Compounds	Jinjin	Diao	164ar
48	Developing a Novel Microbial Host and Synthetic Biology Tools for Valorizing Waste Polyethylene Terephthalate and Lignin-Derived Compounds	Yifeng	Hu	164ar
49	Monitoring the Activity of Optogenetically Engineered Cardiomyocytes Using Microelectrode Arrays Chips	Emmanuel	Tzanakakis	164ac
49	Monitoring the Activity of Optogenetically Engineered Cardiomyocytes Using Microelectrode Arrays Chips	Zijing	Chen	164ac
50	Overexpression of Native Gene Presumably Encoding for D-Xylose Reductase in <i>Escherichia coli</i> leads to High Xylitol Production	Angelo	Banares	164ag
51	Leveraging Propionate-Induced Growth Inhibition in <i>Corynebacterium Glutamicum</i> to Evolve Improved Methylmalonyl-CoA-Dependent Polyketide Synthases	Chunjun	Zhan	164ah

\*Posters listings updated as of 11/7/2022

BOARD NUMBER	Title	First Name	Last Name	Paper Number
52	Metabolic Engineering of Four Host Microbes for the Production of Green Leaf Volatiles and Precursor Molecules	Qingyun	Dan	164ai
53	Introduction of Abiological Reactions into Biosynthesis	Jing	Huang	164aj
54	Functional Characterization of paclitaxel Transporters in <i>Taxus Cuspidata</i> to Enhance Secretion	Md Tahsin	Rahi	164ak
55	Characterizing a cAMP/Crp Mediated Metabolic Futile Cycle in Bacterial Persisters	Hanny	Ngo	164al
56	Environment Constrains Fitness Advantages of Division of Labor in Microbial Consortia Engineered for Metabolite Push or Pull Interactions	Ross P.	Carlson	164am
57	Engineering <i>Y. Lipolytica</i> for the Biosynthesis of Geraniol	Ayushi	Agrawal	164an
58	Understanding Strain Instability in <i>Yarrowia Lipolytica</i>	Philip	Gitman	164ao
59	Effect of Alternative Sigma Factors on Metabolic Activity in <i>E. coli</i>	Ryan	Armstrong	164aq
60	Plastics Degradation By the Yellow Mealworm Gut Microbiota and Associated Enzyme Studies	Ross	Klauer	164as
61	Kinetic Rates and Image Based Single Cell Profiling for Characterizing Autophagy.	Nitin Sai	Beesabathuni	164at
62	Integrating Metabolomics and Fluxomics to Study Cancer Metabolism in Low Glucose Environments	Aliya	Lakhani	164au
63	Human Liver Diverticulum Triggers Liver Organogenesis	Natesh	Parashurama	164av
63	Human Liver Diverticulum Triggers Liver Organogenesis	Daniel	Guiggey	164av
64	Spatiotemporal Imaging and Analysis of Mouse and Human Liver Bud Morphogenesis	Natesh	Parashurama	164aw
64	Spatiotemporal Imaging and Analysis of Mouse and Human Liver Bud Morphogenesis	Daniel	Guiggey	164aw
65	FOXA1/2 Depletion Drives Global Reprogramming of Differentiation State and Metabolism in a Human Hepatic Cell Line and Human Stem Cell-Derived Hepatic Progenitor Cells	Natesh	Parashurama	164ax
65	FOXA1/2 Depletion Drives Global Reprogramming of Differentiation State and Metabolism in a Human Hepatic Cell Line and Human Stem Cell-Derived Hepatic Progenitor Cells	Daniel	Guiggey	164ax

**# 165 - Poster Session: Engineering Fundamentals in Life Science**

Monday, November 14, 2022 3:30 PM - 5:00 PM

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BOARD NUMBER	Title	First Name	Last Name	Paper Number
67	Mutation of a Conserved, Hydrophobic, Cryptic Epitope Improves Manufacturability and Immunogenicity of the Sars-Cov-2 RBD	Sergio	Rodriguez Aponte	165a
68	Tailoring the Size of Biodegradable Poly (sulfobetaine) Hydrogels for IgG Pulmonary Delivery	Songpei	Xie	165b
69	Sprayable, Antimicrobial Hydrogels to Improve Wound Infection Treatment	Riannon	Smith	165c
70	Constructing Zonular Articular Cartilage Using a Varied Shear Bioreactor	Terreill	Robertson	165d
71	A Comparative Assessment of the Response of Primary and Metastatic Ovarian Cancer Cells to Cisplatin in 3D Models of Various Structural and Biochemical Configurations	Melina	Kitsiou	165e
72	Mouse Obesity Increases Peg-Based Micelle Liver Uptake and Decreases Lipid Nanoparticle Liver Uptake through the Modified Activity of Kupffer Cells and Lsecs	Paul	Dalhaimer	165g
73	Pulmonary Functionality Changes Following Titanium Dioxide Particulate Exposure and Antioxidant Protection	Jordan	Hoops	165h
74	In Vitro Human Spine Model Manufacturing and Applications to Intrathecal Drug Delivery	Ayankola	Ayansiji	165i
75	Biomimetic Virus Nanoparticles for Oral Vaccine Delivery across Gut Organoid Mucosal Models	Qun	Wang	165k
76	Triggered Release of Light-Responsive Model Prodrugs from Polymeric Core-Shell Nanocarriers Via UV Irradiation	Amy	Moreno	165l
77	Label-Free Optical Electrophysiology Harnessing Bio-Electrochromic Materials Interface	Yuecheng Peter	Zhou	165m
78	Characteristics of Electrically Responsive Ferrocene-Conjugated Chitosan/Alginate Hydrogel for Biomedical Application	Byung-Wook	Park	165n
78	Characteristics of Electrically Responsive Ferrocene-Conjugated Chitosan/Alginate Hydrogel for Biomedical Application	Prakriti	Dhungana	165n
79	Non-V600E Braf Mutations in Melanoma and Their Response to Different Clinically Approved Braf Inhibitors	Sabrina	Pricl	165j

**# 166 - Poster Session: Food and Bioprocess Engineering**

Monday, November 14, 2022 3:30 PM - 5:00 PM

North Hall E, Phoenix Convention Center

BOARD NUMBER	Title	First Name	Last Name	Paper Number
80	Enhanced Response to Non-V600E BRAF Mutations in Melanoma By Self-Assembled Nanovector Assisted Drug Delivery	Sabrina	Pricl	166g
81	Computational Protein Analysis and Design of Aldehyde and Alcohol Dehydrogenases for Enhanced Butanol Biosynthesis in Solventogenic Fermentation	Curtis	Moore	166a
82	Are Plant-Based Meat Alternatives More Sustainable ?	Rui	Shi	166b
83	Investigation of Antimicrobial Resistance in <i>Listeria Monocytogenes</i> from 2010 through 2021	Robert	Hanes	166c
84	Effect of Processing Conditions and Investigating Vitamin B-12 Retention in Fortified Soymilk Powder	Priya	Singh	166d
85	Enzyme Engineering of Beta-Glucosidases for Enhanced Thermal Stability and Activity	Emre	Erkanli	166e
86	Transient Expression of Varying Gelatin Fragment Lengths in <i>Nicotiana Benthamiana</i> to Synthesize Microcarriers for Cultured Meat Production	Justin	Wong	166f
87	Development of an Engineered Co-Culture Consortium for in Situ Depolymerization of Cellulose	Apurv	Mhatre	166i
88	Metabolic Process Engineering of <i>Clostridium Tyrobutyricum</i> $\Delta cat 1::Adh E2$ for Enhanced n-Butanol Production: Effects of Mannitol and Methyl Viologen on Flux Distribution	Jialei	Hu	166j
89	Conversion of CO <sub>2</sub> to Bioplastics By a Sequential Cultivation of <i>Clostridium Formicoaceticum</i> and <i>Pseudomonas Putida</i>	Opeyemi	Bello	166k
89	Conversion of CO <sub>2</sub> to Bioplastics By a Sequential Cultivation of <i>Clostridium Formicoaceticum</i> and <i>Pseudomonas Putida</i>	Forough	Doustkhahvajari	166k
90	Canola Protein Production Using Different Extraction and Concentration Methods: <i>In Vitro</i> protein Digestibility, Functional Properties and Process Yields	Cristina	Chairez Jimenez	166m
91	Effect of the Addition of Hydrolyzed Soybean Protein Isolate, Transglutaminase and CaCl <sub>2</sub> on the Production of Panela-Type Cheeses with Partial Substitution of Milk Protein	Ana Maritza	Reyes-González	166n
92	Engineering the Cyanobacterial Photosynthetic Electron Transport Chain to Improve Photosynthetic Efficiency	Nima	Hajinajaf	499e

**# 167 - Poster Session: Materials Engineering & Sciences (08A - Polymers)**

Monday, November 14, 2022 3:30 PM - 5:00 PM

North Hall E, Phoenix Convention Center

BOARD NUMBER	Title	First Name	Last Name	Paper Number
<b>Electroactive &amp; Electronic Materials</b>				
95	Synthesis of a Transition-Metal Based Bis-Terpyridine Functionalized Triazine Network for Electroactive Applications	Dana	Abdullatif	167a
96	MOFs-Derived Filler-Reinforced Composite Polymer Electrolyte for Solid-State Lithium-Sulfur Batteries at Room Temperature	Basem	Al Alwan	167d
97	Ion Conductive High Li+ Transference Number Polymer Composites for Solid-State Batteries	Zachary	Tronstad	167e
<b>Modelling</b>				
98	Modeling $\alpha$ -Olefin Copolymerization for Applications in Energy – Study of Alternatives of Synthesis	Funs	Franco Herrero	167f
99	Computationally-Efficient High-Fidelity Modelling of the High-Pressure Polymerization of Ethylene in Tubular Reactors Using Parallel Computing.	FUNS - Mariano	Asteasuain	167g
100	Polypropylene Grafted with Maleic Anhydride: A Stochastic Model.	FUNS - Mariano	Asteasuain	167q
101	Using Drude Oscillators to Capture Ion Solvation in Generic Coarse-Grained Molecular Dynamics Simulations of Polymer Electrolytes	Mengdi	Fan	167h
102	Performance of Thermally Rearranged Polymers for Olefin/Paraffin Separation from All-Atom Molecular Dynamics Simulations	Mohammed	Al Otmi	167i
103	Effect of Dispersity on the Rheological Properties of Polyolefins from Coarse - Grained Molecular Dynamics Simulations	Taofeek	Tejuosho	167j
104	Computational Fluid Dynamics Analysis of Mercury Adsorption By Porous Sulfur Copolymers	Riffat	Amna	167l
104	Computational Fluid Dynamics Analysis of Mercury Adsorption By Porous Sulfur Copolymers	Lourdes	Vega	167l
105	Periodicity of Lamellar and Hexagonally Packed Cylindrical Phases in a Periodic Box	Qiang	Wang	167m
106	Bayesian Calibration, Validation, and Selection of Phase Field Models for Block Copolymer Self-Assembly	Lianghao	Cao	167n
107	Atomistic Simulation Study of a Polycarbonate/Silica Composite System: Dynamics of the Interphase	Lilian	Johnson	167o
108	Elucidating the Role of Network Topology Dynamics on the Coil-Stretch Transition Hysteresis in Extensional Flow of Entangled Polymer Melts	Mahdi	Boudaghi	131d



BOARD NUMBER	Title	First Name	Last Name	Paper Number
<b>Polymers for the Environment</b>				
109	Modulation of Interfacial Tension through Amphiphilic Block Copolymer Surfactants for Environmental Sensing	Tyler	Durkin	167r
110	Engineered Surfactants for Improved Sustainability of High Internal Phase Emulsion Polymer Foams	Amanda	Koh	167s
111	Prediction of Carbon-Dioxide Sorption in Polymer/Ionic-Liquids Systems	Tung	Nguyen	167t
112	Oxygen Tolerant Controlled Polymerization with Recyclable Micron-Scale Heterogeneous Photocatalysts	Kirsten	Bell	167u
113	Consecutive Photoinduced Electron Transfers for Visible-Light Photocatalytic Polymer Synthesis	Alan	Aguirre Soto	167v
114	Development of Hydrogel Composites for PFAS Removal in Aqueous Systems	Maria Victoria	Klaus	167aw
<b>Surface Properties</b>				
115	Role of the Polymer Molecular Structure and Surface Interactions on the Corrosion Resistance of Epoxy Coatings on Metals	Yosra	Kotb	167w
116	Reaction-Diffusion-Controlled Photopolymerization in Topographical Structures	Sang Deok	Kim	167x
<b>Polymers for Separations</b>				
117	Engineering the Enhanced Li <sup>+</sup> /Na <sup>+</sup> Separation Efficiency through Ionic Liquid Swollen Block Copolymer Membranes	Maninderjeet	Singh	167y
118	Cs <sup>+</sup> Sequestration from Aqueous Media Using Hyper-Crosslinked Tetraphenylborate	Erwin	Escobar	167z
119	Polymers Membrane Technology for Controlled Drug Delivery System	Rajni Bala	Talwar	167aa
<b>Polymer Recycling &amp; Life Cycle Analysis</b>				
120	Thermomechanical Characterization of Recyclable Diels-Alder Epoxies Loaded with TiN Nanoparticle	Brandon	McReynolds	167ad
121	Effect of Recycled Plastic Mixtures Blends with Coupling Agents Based Maleic Anhydride on Improving Mechanical Properties	Duyoung	Choi	167ac
122	Control of Thermomechanical Properties of a Reversible Epoxy Using Diels-Alder Chemistry	Gaeun	Kim	167ae
<b>Optical Properties of Polymers</b>				
131	Phase Separation-Induced Structural Color in Hydroxypropyl Cellulose Solids	Kyle	George	167af

BOARD NUMBER	Title	First Name	Last Name	Paper Number
<b>Self-Assembly</b>				
123	Relaxation Dynamics of Flow-Assisted Chiral Assembly	Mohsen	Esmaeili	167ah
124	Rapid Ordering of Block Copolymer Films By Sequential Solution Immersion and Thermal Annealing with Asymmetric Reversible Processing	Kshitij	Sharma	167ai
125	Nonisothermal Melt Crystallization Behavior of Semicrystalline Polymers Monitored Using an in Situ Fluorescence Technique	Richard	Nile	167aj
126	Reversible Hybridization of Sequence-Defined Oligocarbamates	R. Kenton	Weigel	167am
127	Synthesis and Characterization of Precision Dendritic Polymers (Dendripols)	Michael	Dearman	167ak
128	Elucidating the Impact of Side Chain Dispersity in Thin Films of Bottlebrush Polymers	Michael	Dearman	167al
129	Designing Hybrid Colloids: A Study of Gold Adsorption atop Polystyrene to Control Morphology of Reactive Nanoparticles	Joanna	Schneider	167an
130	Hierarchical Self-Assembly of Bowtie Shaped Nanostructured Microparticles with Tunable Chiroptical Activity	Prashant	Kumar	167ao
<b>Composites, Thermosets, and Networks</b>				
133	High performance lignin-based coatings	Alessio	Truncali	167aq
122	Prediction of Shape Recovery Performance Based Epoxy Composites Under Various Filler Types and Contents	Duyoung	Choi	167as
134	Degradation Behavior of Multilayer Packaging Films in Presence of a Highly Acidic Sauce	MD. Akiful	Haque	167at
135	An Overview of the Fundamentals and Recent Advances in the Synthesis and Sustainable Applications of Porous Geopolymers	Yusuf	Adewuyi	167au
136	How Adsorption Governs Chain Dynamics in Polymer Nanocomposites	Katelyn	Randazzo	671h

**# 168 - Poster Session: Materials Engineering & Sciences (08B - Biomaterials)**

Monday, November 14, 2022 3:30 PM - 5:00 PM

North Hall E, Phoenix Convention Center

BOARD NUMBER	Title	First Name	Last Name	Paper Number
139	Anti-biofilm Activity of Chiral Carbon Nanoparticles	Misché	Hubbard	168a
140	Biofunctional, Photodegradable Hydrogels for Discovery and Isolation of Bacteria That Drive Membrane Biofouling	Abigail	Salberg	168b
141	Modulating the Differentiation of Human Neural Stem Cells in 3D Contexts By Varying Hyaluronic Acid Chain Length	Anna	Gonzalez	168c
142	Graphene Quantum Dots Prevent the Amyloidogenic Tau Protein Aggregation in Alzheimer's Disease	Runyao	Zhu	168d
143	Structural and Rheological Characterization of Gelation of Cranberry Oligosaccharides	Aniruddha	Kulkarni	168e
144	Suture-Less Approximation of Transected Sciatic Nerve Using Biomaterial Based Nilaas	Mallikarjun	Gosangi	168f
145	Crosslinked Alginate-Based Nanofibers for Biomedical Applications	Emily	Diep	168g
146	Crosslinking Alginate-Based Nanofibers for pH-Controlled Delivery: A Study Examining Crosslinking Solution pH and Co-Solvent Systems	Emily	Diep	168p
147	Silver Nanoparticles As an Effective Antimicrobial Against Otitis Media Pathogens	Xiaojing	Ma	168h
148	Scalable and Modular Supramolecular and Colloidal Hydrogels for Biomedical Applications	Giovanni	Bovone	168i
149	Engineering Amyloid Inspired Peptides for Tunable Assembly	Seren	Hamsici	168k
150	Delivery of Rapamycin and Basic Fibroblast Growth Factor Via Hybrid-Hydrogel for Vascular Healing	Luisa	Palmese	168l
132	Shear-Induced Optical Properties in Photonic Hydroxypropyl Cellulose Solids	Kyle	George	168m
151	Gelma/Gum Arabic Photocrosslinkable Microcapsules	James	Ogilvie-Battersby	168n
152	Biodegradable Microcapsule Designer Using Silk Fibroin Technology	Muchun	Liu	168o
153	Changes in Antimicrobial Efficacy Due to Ionic Binding of Modified Cellulose to Quaternary Ammonium Compounds	Eric	Walker	168q
154	<i>In Situ</i> Synchrotron to Assess the Influence of Clinical Hemodialysis Membrane Morphology on Human Serum Protein Adsorption	Amira	Abdelrasoul	168r

BOARD NUMBER	Title	First Name	Last Name	Paper Number
155	Assay and Solid-State NMR Spectroscopy of Biomembranes and Soft Materials in a Hydrogel/Particle-Based Biomimetic Material System	Malcolm Lane	Gilchrist	168s
156	Multifunctional Nanodelivery System for Prostate Cancer Treatment	Naomi	Addai Asante	168t
157	Protein Resistant Polymer Coatings for Gold Nanoparticles and Surfaces	Christopher	Ruben	168u
158	Engineering Lipid Nanoparticles for Controlled Spatiotemporal Release of Therapeutic Cargo to Enhance Cell Survivability during Stem Cell Transplant Therapy	Rashi	Porwal	168v
159	<i>Translating Polymeric Vehicles between Ribonucleoprotein and Plasmid DNA Cargoes: Do the Same Design Rules Apply?</i>	Ramya	Kumar	168w
160	Chirality-Assisted Drug Delivery in Exosomes for Gene Therapy	Youwen	Zhang	168x

**# 169 - Poster Session: Materials Engineering & Sciences (08D - Inorganic Materials)***Monday, November 14, 2022 3:30 PM - 5:00 PM**North Hall E, Phoenix Convention Center*

<b>BOARD NUMBER</b>	<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Paper Number</b>
161	Engineering Seed-Assisted Syntheses of Pentasil Zeolite Nanosheets	Muhammad	Fiji	169a
162	Elucidating the Mechanism of Faujasite Crystallization By in Situ Scanning Probe Microscopy	Zhiyin	Niu	169b
163	Crystallization of NiO Exposing High-Index Facets By Molten Salt Synthesis	Mariano D.	Susman	169c
164	Choreographing Zeolite Crystallization: It's Elementary	Adam J.	Mallette	169d
165	Bond-Valence Parameterization for the Accurate Description of DFT Energetics in ABO <sub>3</sub> Perovskite Oxides	Ryan	Morelock	169e
166	Beyond Interfacial Resistance: Interface Design for Dendrite-Free All-Solid-State Lithium Metal Batteries (same as student awards submission)	Xinzi	He	169f
167	Synthesis and Characterization of Substituted Aluminophosphates for Oxygen-Nitrogen Separation	Natalia	Ali	169g
168	Studying the Synthesis of Hierarchical Siliceous Zeolites By Post Synthetic Zeolite Surfactant-Templating Method	Kaivalya	Gawande	169h
169	Utilizing Magnetic Heating of Coni Nanoparticles for Electrifying Chemical Conversions	Anja	Sedminek	169i
170	Magnesium Oxychloride Composites: Design, Synthesis and Scaled-up Manufacturing for Next Generation Building Materials	Christopher	Kitchens	169j
171	Influence of Reaction Parameters on the Exsolution of Ni-Ru Bimetallic Alloy in GEO-Inspired Perovskite	Somchate	Wasantwisut	169k
172	Structure-Property Relation of Ti <sub>3</sub> C <sub>2</sub> Mxene/Polyelectrolyte Hybrid Films	Farivash	Gholamirad	562g

**# 170 - Poster Session: Materials Engineering & Sciences (08E - Electronic and Photonic Materials)***Monday, November 14, 2022 3:30 PM - 5:00 PM**North Hall E, Phoenix Convention Center*

<b>BOARD NUMBER</b>	<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Paper Number</b>
177	SMART Solar Transmittance Modulation in Newly Engineered Organic Molecules with Multistimulated Optical Switchability and Reversibility	John Marc C.	Puguan	170a
178	Acute Exposure to e-Cigarette Vapor Promotes Neutrophil-Platelet Aggregation in Murine Pulmonary Microvasculature	Hassan	Alkhadrawi	170b
179	Engineering a Colloidal Metamaterial Comprising of Metamaterial-Capped Janus Particles for Light Harvesting Applications in Cancer Detection and Therapeutics	Samhita	Kattekola	170c
180	State of Charge Estimation of Lithium-Ion Battery Using Surrogate Model Based on Electrochemical-Thermal Model	Seunghyeon	Oh	170e
181	Ionic Liquid-Reinforced Carbon Nanofiber Matrix Enabled Lean-Electrolyte Li-S Batteries Via Electrostatic Attraction	Xinyang	Wang	170f
182	Impact of Dispersion Processing on Ionomer Thin Films	Ashley	Bird	170g

**# 171 - Poster Session: Materials Engineering & Sciences (08F - Composite Materials)***Monday, November 14, 2022 3:30 PM - 5:00 PM**North Hall E, Phoenix Convention Center*

<b>BOARD NUMBER</b>	<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Paper Number</b>
185	Patch Repair of Composites Using Dielectric Barrier Discharge Induced Heating and Curing	Anubhav	Sarmah	171a
186	Mechanically Robust Egyptian Blue Coated "Super Marbles"	Agoston	Kiss	171b
187	Thermal Stability and Flammability Studies of Mxene–Organic Hybrid Polystyrene Nanocomposites	Zhuoran	Zhang	171c
188	Parametric Study of Type-IV Hydrogen Pressure Vessel to Predict the Buckling of Polymeric Liner Under Thermo-Mechanical Load	Akash	Burolia	171e
189	Bioinspired, Conductive Polymeric Composites of End-Capped Oligopeptides	Prerana	Rathore	171f
190	Magnetic Graphene Oxide Grafted with Temperature-Responsive Crown Ether Polymer Brushes As an Adsorbent for Lithium Recovery from Seawater	Khino	Parohinog	171g
191	3D Printing of Poly-Dimethyl Siloxane (PDMS)/Liquid Metal Composites for Micro-Patterning Applications	Dhanush	Patil	171h
192	Sustainable Recycling of Crosslinked Polyethylene (XLPE) Via Foam Engineering	Mohammed	Bawareth	171i

**# 172 - Poster Session: Pharmaceutical Discovery Development and Manufacturing (PD2M)***Monday, November 14, 2022 3:30 PM - 5:00 PM**North Hall E, Phoenix Convention Center*

<b>BOARD NUMBER</b>	<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Paper Number</b>
193	AI-Driven Drug Discovery and Manufacturing Using Automated Ontology-Based Information Extraction	Vipul	Mann	172a
194	Deciphering Longitudinal Optical-Density Measurements to Guide Antibiotic Use: A Model Based Approach	Iordanis	Kesisoglou	172b
195	A Mathematical Model to Predict the Drug Release Profile in Bilayered Osmotic Controlled Release Tablets	Bhawana	Tomar	172c
196	Preparation of Stable Nanoparticles of Curcumin in a Single Step	Parimaladevi	Palanisamy	172d
197	The Batten disease gene product CLN3 is required for the clearance of glycerophosphodiesterases from lysosomes	Wentao	Dong	172e
198	Untargeted metabolomic and lipidomic profiling for Golgi molecular content via immunoprecipitation (Golgi-IP)	Wentao	Dong	172f



**# 173 - General Poster Session**

Monday, November 14, 2022 3:30 PM - 5:00 PM

North Hall E, Phoenix Convention Center

BOARD NUMBER	Title	First Name	Last Name	Paper Number
201	Waste Plastic Upcycling: Microkinetic Modelling of Hdpe Pyrolysis	Aswathy	Raghu	173b
202	Demonstrating the Affect of Polymer Type on Oil Yield in Thermal Depolymerization Using Machine Learning	Elizabeth	Belden	173f
203	Tuning C-Phycocyanin Photoactivity Via pH-Mediated Assembly–Disassembly	Alireza	Abbaspourrad	173h
204	Study on Growth and Metabolite Trend Comparison of <i>Staphylococcus Aureus</i> and <i>Pseudomonas Aeruginosa</i> in Monoculture and Co-Culture System	Heejoon	Park	173i
205	A Deep Learning-Based Feature Extraction Framework for Monitoring High-Order Nonstationary Industrial Processes	Cheng	Ji	173j
206	Machine Learning Analysis of Multimodal Data from a Smartphone-Based Electrochemiluminescence Sensor.	Hyun	Kwon	173k
207	<i>Production of Novel Sars-Cov-2 Spike Truncations in Chinese Hamster Ovary Cells Leads to High Expression and Binding to Antibodies</i>	Shiaki	Minami	173o
208	Multiscale Modeling Approach for Designing Novel Hierarchical Carbon Cathodes for Ultrahigh Capacity Aprotic Li-O <sub>2</sub> Battery	Daniel	Bahamon	173d
208	Multiscale Modeling Approach for Designing Novel Hierarchical Carbon Cathodes for Ultrahigh Capacity Aprotic Li-O <sub>2</sub> Battery	Khizar	Hayat	173d
209	Microed: Cryo-Electron Diffraction of 3D Microcrystals	Alison	Haymaker	173p
210	Understanding Protein Mediated Biomineralization Using Cryogenic Electron Microscopy	Sagnik	Sen	173q
211	Photoelectrochemical Reduction of Oxygen on Two-Dimensional Covalent Organic Frameworks	Syed Ibrahim	Gnani Peer Mohamed	173s
212	Discovering Latent Effective Parameters from Heterogeneous Populations	Nikolaos	Evangelou	173ah
213	Insight to Crystallisation Fouling from 4D X-Ray: A Three Step Process?	Benaiah	Anabaraonye	173ai
214	The Saturation Dependence of BaSO <sub>4</sub> Surface Precipitation Kinetics	Benaiah	Anabaraonye	173ao
215	Inter-Electronic and Inter-Valley Transitions in MoS <sub>2</sub> -WS <sub>2</sub> Heterostructures and Alloys	Sungjoon	Kim	173aj
216	Bacterial Conversion of Methane to Lipids: A Technical Assessment and Benefit-to-Cost Analysis As Methane Abatement Strategy	Lisa Stephanie	Dizon	173ak
217	Computational Design of Therapeutic Drug Formulations to Control Protein Interactions	Gregory	Dignon	173al
218	A Novel Application of the Newcomb-Benford Law to Exposure Data	Byron	Fuentes	173am

\*Posters listings updated as of 11/7/2022

BOARD NUMBER	Title	First Name	Last Name	Paper Number
219	Deepcdp: Deep Learning Charge Density Prediction	Siddarth	Achar	173an
220	High-Temperature Corrosion in Waste-to-Energy (WtE) Boilers and Cement Kiln	Janhvi	Trivedi	173ap
221	A KMC Based Tool to Understand the Chemical Recycling of Polyurethanes	SriBala	Gorugantu	173aq
222	Characterisation of the Crystal Polymorphs of Polyvinylidene Fluoride Using FTIR, Raman and DSC Measurements	Shubham	Mireja	173ar
223	Hollow Fiber Membranes for Evaporative Cooling	Andrew	Lin	173as
224	Integrated production of chemicals and fuels in the pulpindustry: techno-economic and environmental analysis ofblack liquor gasification-based processes	Moises	Santos	173at