

**# 27 - Poster session: Bioengineering**

Monday, November 06, 2023 3:30 PM - 5:00 PM

Regency Ballroom R/S, Hyatt Regency Orlando

BOARD NUMBER	Title	First Name	Last Name	Paper Number
<b>Biocatalysis and Biobased Products</b>				
1	Photoenzymatic Asymmetric Hydroamination of Simple Aliphatic Amines and Vinyl Arene Olefins	Wesley	Harrison	27a
2	Understanding and Engineering Chain Translocation in Assembly-Line Polyketide Synthases	Alexander	Soofoo	27c
3	Polyethylene Terephthalate (PET) Plastic Intermediates Deconstruction in One Pot <i>B. Subtilis</i> Bioprocess	Apurv	Mhatre	27d
4	Cellulose Hydrolysis Using Chitosan Coated Enzyme-Magnetic Nanoparticle	Heejoon	Park	27e
5	Process Development and Techno-Economic Analysis of Biomass-Derived GVL Production As an Intermediate for Chemo-Enzymatic Bio-Jet Fuel Production	Joungho	Park	27f
6	Polymer Motion Energizing Enzyme Conformational Dynamics and Catalytic Kinetics in Organic Solvents	Yupei	Jian	27g
7	Simulation-Based Evaluation of the Pre-Treatment of Acid Raw Materials in Biodiesel Production	Heleno	Bispo	27h
8	Improving Biomass-Derived Graphene Coating on Transitional Metals	Suriya Narayanan	Ramasubramanian	27i
9	Impact of pH Adjustment on Hydrogen Production in Pressurized Gas Fermentation	Gwon Woo	Park	27j
10	Development of a Cell Culture-Derived Viral Insecticide to Control the Spread of <i>Drosophila Suzukii</i>	Keven	Lothert	27k
<b>Cell Culture Engineering and Biopharmaceutical Manufacturing</b>				
11	Bioreactors Scale-up and Optimization from Lab to Manufacturing Scale	Nima	Yazdanpanah	27m
12	Fluorescence Complementation Enables Quantitative Imaging of Transcription Factor Delivery in Plants	Henry	Squire	27n
13	Effect of Oxidative Stress on Pertactin Productivity in <i>Bordetella Pertussis</i> Fermentations: A Study on Glutamate-Induced ROS Inhibition	Abhishek	Mishra	27o
<b>Protein Science and Engineering</b>				
14	Probing the Origins of Collateral Fitness Effects of Mutations	Cameron	Goff	27q
15	Enhanced Protein Stability Enabled By Mixtures of Ionic and Amphoteric Surfactants Compared to Each Alone	Tridwip	Sen	27r
16	Adaptability of 22 Functional Cas12a Orthologs Using a Combinatorial Approach for Nucleic Acid Detection in Clinical Samples	Dylan	Carman	27s
17	Comparison of GST and SUMO Fusion Tags for Enhanced Yield and Purity of Recombinant Osh4	Andrew	Loveland	27t
18	Understanding the Inherent Bias in the Activity of Mismatch Specific Exonuclease	Rushant	Sabnis	27u
19	Engineering Bispecific Receptor Decoy Antagonists to Treat Neovascular Eye Diseases	Emily	Ariail	27v
20	Metabolic Engineered <i>Escherichia coli</i> Strains to Express Flavoprotein Monooxygenases from Actinomycetes Isolated from the Atacama Desert for Industrial Applications.	Irene	Martinez	27w
21	Computational Design of Peptides As Detectors, Drugs, and Biomaterials	Sudeep	Sarma	27x
22	Characterizing Cas12i Proteins As Novel Enzymes for Diagnostics and Gene Editing	Carlos	Orosco	27y
23	Assessing Prediction Fairness of AlphaFold2 in Drug Discovery	Usman	Abbas	27z
24	Directed Evolution of an Alpha-Synuclein Degrading Enzyme	Lawton	Long	27aa
25	Meta-Analysis of Proteolytic Cleavage Specificity Using Machine Learning	Suhyeon	Kim	27ac
26	8-Oxo-7,8-Dihydroguanosine Alters RNA Degradation Behavior of Polynucleotide Phosphorylase	Lucas	Miller	27ad

BOARD NUMBER	Title	First Name	Last Name	Paper Number
27	Environmental Dependence of Collateral Fitness Effects	Erh-Yeh	Tsou	27ae
28	Novel Lasso Peptides Produced By Actinobacteria from the Atacama Desert	Valeria	Razmilic	27af
29	Discovery and Characterization of a Structurally Unique Heterocyclic Peptide Enterolysin S	Chengyou	Shi	27ag
30	<i>In Situ</i> Characterization of Ammonia-Dependent Enzymes	Adam	Caparco	27ah
31	Artificial Lipid Biomembranes for Full-Length Sars-Cov-2 Receptor	Ting	Wang	27aj
32	Multiplexing of Cas Orthologs for Disease Detection	Briana	Pizzano	27ak
33	Programmable RNA Detection with CRISPR-Cas12a	Grace	Shoemaker	27al
34	Balancing Monoatomic Ion-Biomolecular Interactions in the Polarizable Drude Force Field	Yiling	Nan	27cl
<b>Biosensors and Biodiagnostics</b>				
35	An Ultrasensitive Amplification-Free Nucleic Acid Detection Using CRISPR Chain Reaction v2	Minji	Chang	27am
36	Nanopore Sequencing of 8-Letter Xenonucleic Acids	Hinako	Kawabe	27an
37	Dielectric Characterization of <i>Babesia Bovis</i> Using the Crossover Frequency Technique on a Point and Planar Electrodes Microfluidic Device	Raphael	Oladokun	27ao
38	Quantifying Plasma Exosomes for Early Cancer Detection Using Rotational Brownian Motion of Janus Particles	John	Sinclair	27aq
39	A Low-Cost Flow Cytometer for Blood Cell Analysis.	Mahrukh	Mir	27ar
40	Development of a Supercontinuum Laser-Based Confocal Microscope System for Excitation-Scanning Hyperspectral Imaging	Silas J.	Leavesley	27as
41	A Rapid, Fully Automated Modular Electrochemical Platform Based on a Porous Flow-through Electrode for Sensing Biological Molecules of Interest	Sagnik	Basuray	27at
42	A Point-of-Care Device Capable of High-Throughput Diagnostic Testing Using Recombinase Polymerase Amplification (RPA)	Aubrey	Schultz	27au
43	PAM-Independent Detection of Nucleic Acid Targets with CRISPR-Cas12a	Santosh	Rananaware	27av
44	Production and Application of SARS-CoV-2 Pseudotyped Virus for Screening Antiviral Efficacy of Test Compounds on a High-Throughput Platform	Maisha	Feroz	27aw
45	Nonfluorescent Ratiometric Sensing Utilizing CRISPR-Cas12a-Induced DNA Supercoil Relaxation	Noor	Mohammad	27ax
<b>Metabolic Engineering</b>				
46	Engineering <i>Corynebacterium Glutamicum</i> for Biomanufacturing of $\beta$ -Ketoacidate from Lignin-Derived Aromatics	Arren	Liu	27ay
47	Engineering Novel Microbes for Upcycling Waste Plastic and Solving Climate Crisis	Tae Seok	Moon	27az
48	Continuous Production of Acetic Acid By <i>Eubacterium Limosum</i> KIST612 Using an External Membrane Module	Myounghoon	Moon	27ba
49	Enzymatic Optimization of the Biosynthetic Production of Paraxanthine By Site-Saturated Mutagenesis with Enhanced Formaldehyde-Sensitive Selection	Meredith	Mock	27bb
50	Harnessing Robustness of Thermophilic <i>Bacillus Coagulans</i> for Conversion of Switchgrass Hydrolysates to Designer Bioesters at Elevated Temperatures	David	Dooley	27bd
51	Agent-Based Metabolic Modeling for the Rational Engineering of <i>Chlamydomonas Reinhardtii</i>	Sandra	Gomez Romero	27be

BOARD NUMBER	Title	First Name	Last Name	Paper Number
<b>Synthetic Biology and Applications</b>				
52	Engineering High-Throughput Fluorescent Reporters for Selenocysteine Incorporation	Devon	Kulhanek	27bf
53	Feedforward Loop-Based Antithetic Controller for Improved Adaptation Dynamics	Thales	Spartalis	27bg
54	Single and Multiplexed Gene Repression in Solventogenic <i>Clostridium</i> Via Cas12a-Based CRISPR Interference	Rochelle	Joseph	27bh
55	Streamlined Yeast Cell Reactors with Residence Time Control to Engineer and Profile Protein-Modifying Enzymes	Sage	Nelson	27bi
56	Heterologous Derived Proteins Tethered to the Surface of Yeast: Arming <i>Saccharomyces Cerevisiae</i> with Sars-Cov-2 Receptor Binding Domain and Green Fluorescent Protein.	Shadrach	Ibinola	27bj
57	Investigating the Relaxase Behavior and Replication Functionality of the Mobilization Protein <i>Mobv</i> in the Plasmid pBBR1	Mark	Kathol	27bk
58	Leveraging the Carbon Storage Regulatory Network to engineer Complex Post-Transcriptional Gene Circuits	Trevor	Simmons	27bl
59	Dynamic DNA Nanoaggregation Driven By Ionic Self-Association	Sneha	Mukherjee	27bm
60	Engineering of Tunable Cell Network with Endogenous Template Activation of Non-Excitable Cells	Junkai	Xie	27bn
61	Assemblytron: Flexible Automation of DNA Assembly with Opentrons OT-2 Lab Robots	John	Bryant	27bo
62	Bringing Physical Signals into Cell-Free Expression	Junzhu	Yang	27bp
63	Engineered Biological Security Systems: Introducing Biotic Cryptography and Encryption	Dowan	Kim	27bq
64	Specific Codons Control Cellular Resources and Fitness	Nikhil U.	Nair	27br
65	Glutathione-Responsive Disulfide-Containing Poly ( $\beta$ -amino esters) Nanogels for Drug Delivery Applications	Thomas D.	Dziubla	27bs

BOARD NUMBER	Title	First Name	Last Name	Paper Number
<b>Systems and Quantitative Biology</b>				
66	Regulating Cell Function to Accelerate Bone Cell Growth Using Micro-to-Nano Crumpled Mxene Multilayers.	Mohammad	Asadi Tokmedash	27bt
67	Framework for Optimizing Modulations of Enzyme Expression Levels and Kinetic Parameters for Computational Microbial Strain Design	Patrick	Suthers	27bu
68	Investigating the Effects of Surface Stiffness on Human Mesenchymal Stem Cell Immunomodulatory Potential	Sara	Olsen	27bv
69	Caffeine Affects Horizontal Gene Transfer in Bacteria	Tracy	Mei	27bw
70	Illuminating Cell Entry Pathways of Sars-Cov-2 By Replicating Distinct Host Environments on a Bioelectronic Sensor	Susan	Daniel	27bx
71	Deep Neural Networks for Predicting Single Cell Responses and Probability Landscapes	Heidi E.	Klumpe	27by
72	The Effects of Pfas-Induced Activation of ER Stress Sensor IRE1 $\alpha$ and Its Downstream Pathways for DNA Damage Repair	Kevin	Chen	27bz
73	Investigation of Interaction of Stress Response, Virulence, and Antibiotic Resistance in <i>Listeria Monocytogenes</i> through Protein Network Analysis	Robert	Hanes	27ca
80	Development of a Genome-Scale Metabolic Model for <i>Auxenochlorella Protothecoides</i> to Enable Rational Engineering	Jacob	Tamburro	27cb
80	Development of a Genome-Scale Metabolic Model for <i>Auxenochlorella Protothecoides</i> to Enable Rational Engineering	Mark	Vigliotti	27cb
74	Bacterial Metabolites Required for Post-Embryonic Development in <i>C. Elegans</i>	Min	Feng	27cc
75	Analysis of Pmad and Medea Expression in BMP Pathway in S2 Cells and <i>Drosophila</i> Germline Stem Cells Niche	Hung-Yuan	Chen	27cd
76	A Systems Engineering Computer-Assisted Biomarker Detection Framework for Autism Spectrum Disorder Using Proteomic Data	Farnaz	Yousefi Zowj	27cf
77	An SPNS1-Dependent Lysosomal Lipid Transport Pathway That Enables Cell Survival Under Choline Limitation	Wentao	Dong	27cg
78	A Novel Method to Measure Transcriptional Maturity of Engineered Liver Cells	Daniel	Guiggey	27ch
79	Multi-Omic Characterization of CHO Cells Reveals Fluxomic Diversity and Amino Acid Utilization Bottlenecks in High-producer Clones	Saratram	Gopalakrishnan	27ci
81	Constraining the Predictions of Conserved SMAD Signaling Pathway through Parameter Identifiability Informed Experimental Design.	Razeen	Shaikh	27cj
82	Using Experimentally Validated ML Models to Predict the Thawing Time of Biologics during Large Scale Freeze-Thawing Cycles	Venkatraman	Nagarajan	27ck

## # 28 - Poster session: Engineering Fundamentals in Life Science

Monday, November 06, 2023 3:30 PM - 5:00 PM

Regency Ballroom R/S, Hyatt Regency Orlando

BOARD NUMBER	Title	First Name	Last Name	Paper Number
83	Engineering an $\alpha$ -P-Selectin Antibody for Quantifying Drug Delivery in Glioblastoma	Omar	Abed	28b
84	Novel Treatment of <i>Streptococcus Pneumoniae</i> and Nontypeable <i>Haemophilus Influenzae</i> -Coinfected Otitis Media	Xiaojing	Ma	28c
85	Combining Targeted $\alpha$ -Particle Therapy with Chemotherapy: A Two-Pronged Approach to Combat Breast Cancer Brain Metastases	Pooja	Hariharan	28d
86	Experimental and Simulation Investigation on Application of Metal-Organic Frameworks to Multi-Drugs Carrier	Ayumi	Ohashi	28e
87	Optogenetic-Mediated Preconditioning As a Novel Approach to Protect Cells from Stress-Induced Injury	Seulhee	Kim	28f
88	A Matlab-Based Analysis of the Dynamics and Organization of <i>Staphylococcus Aureus</i> Surface Adhesion in a Bioflux 200 System	Sarees	Shaikh	28g
89	Survival of Aging CD264 <sup>+</sup> and CD264 <sup>-</sup> Populations of Human Bone Marrow Mesenchymal Stem Cells Is Independent of Colony-Forming Efficiency	Kim	O'Connor	28h
90	Versatile, Rapid, and Trackable Light-Activated Drug Release from Nanocarriers Using a Photo-Cleavable Prodrug Approach for Precise Immuno-Oncology.	Victoria	Hempstead	28i
91	Apoptotic Effects of Low Molecular Weight Fucoïdan Released from PEGDA Nano-Particles Encapsulated in Chitosan on MDA-MB-231 and MCF-7 Cell Lines	Hazim	Aljewari	28j
92	Microfluidic Oscillators Enable Dynamic Concentration Flow Profiles	Xiaoqian	Wang	28k
93	Leveraging Synergy of Hitchhiking Nanocarriers and Chemotherapy to Overcome Delivery Challenges in Glioblastoma	Aira	Sarkar	28l
94	Customized Biodegradable 3D-Printed Bone Grafts with Biomimetic Porosity	Nilesh R	Bhoi	28m
95	Engineering a 3D Multilayer Multicellular Model of Endometrial Cancer for High Throughput Drug Screening with paclitaxel Loaded Poly (caprolactone) Nanoparticles	Claire	Rowlands	28n
97	Optimization of Functionalized Hydrogels for iPSC-Derived Midbrain Dopaminergic Neuron Culture	Nicole	Marguerite	28o
98	Aged and Young Breast Matrix Bound Vesicles in Breast Cancer	Jun	Yang	28p
99	3D-Printed Implantable Neural Arrays Based on Templated Conductive Polymer Electrodes	Seoyeon	Won	28q
100	The Sars-Cov-2 Virus at Interfaces: A Molecular Dynamics Simulation Study	Simon	Stephan	28r
104	Multivalent Anchoring of Cell Wall Binding Domains By Using Split Fluorescent Proteins	Shirley	Xu	28s
105	Promising Routes for Mitigating RBC Storage Lesions in As-3	Jenifer	Gomez Pastora	28t
106	Evaluation of Structure-Activity Function of a Lasso Peptide Using High-Throughput Screening	Alina	Thokkadam	28u
107	Designing Recombinant Protein-Based Sensory Vesicle System	Bornita	Deb	28v
101	Artificial Intelligence-Based Parametrization of Next Generation Systems Biology Models	Achilleas	Karakoltzidis	28w
102	Miner: An Ontology-Based Approach for Advancing Toxicological and Public Health Sciences	Achilleas	Karakoltzidis	28x
103	Enhancing Next Generation Systems Biology Models with Deep Learning for Initial Conditions Specification	Achilleas	Karakoltzidis	28y
96	Modeling Nanocarrier Efficacy in a Three-Dimensional Multicellular Model of Endometrial Cancer	Claire	Rowlands	28z
108	M2 but Not M1 Macrophages Can be Induced to Migrate Against the Direction of Shear Flow	Alexander	Buffone	28aa

BOARD NUMBER	Title	First Name	Last Name	Paper Number
109	The Potential of Tetrahydrobiopterin As an Early Biomarker of Cardiovascular Diseases: A Computational Analysis	Saptarshi	Kar	28ab
110	Aspa Mediated Persistence State in <i>Escherichia coli</i>	Rauf	Shiraliyev	28ac
111	Development of a Genetically-Encoded Delivery Vehicle for Biomoleculadelivery into Plants	Mark	Legendre	28ad
112	Application of Metal-Organic Frameworks for Pharmaceutics Fields: Improvement of Water Solubility and Multi-Drugs Carrier	Shuji	Ohsaki	28ae
113	On-Demand Electrochemically Controlled Fluorescein Release from an Ultrasonically Powered Implant	Mohammad	Mofidfar	28af
114	Investigating Synthetic Biological Membranes with Sensitivity to Low-Strength Electric Fields	Thomas	Kinard	28ag
115	Role of Extracellular Vesicles in Maintaining Stemness in Breast Cancer Metastasis	Spenser	Brown	28ah
116	A Microphysiological System for Modeling Enteric Neuron and Epithelium Interactions in the Gut	Kyla	Nichols	28ai
117	A Microbead-Based Artificial Germinal Center (aGC) Model for the Proliferation and Differentiation of Human B Cells in Vitro	Pearlson Prashanth	Austin Suthanthiraraj	28aj
118	Investigating the Role of H <sub>2</sub> S in Liver Fibrosis	Neeti	Gandhi	28ak

## # 29 - Poster session: Food and Bioprocess Engineering

Monday, November 06, 2023 3:30 PM - 5:00 PM

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BOARD NUMBER	Title	First Name	Last Name	Paper Number
120	Influence of Citric Acid Pretreatment and Different Temperatures on the Convective Drying of Banana	Patricia	Azoubel	29a
120	Influence of Citric Acid Pretreatment and Different Temperatures on the Convective Drying of Banana	Adriano	Souza	29a
119	Preparation of Low-Sugar Jujube Powder through Facultative Anaerobic Fermentation Process As Prebiotics	Tianhao	Chen	29b
121	Production of Rice Bran Oil from Rice Bran By Using Solvent Extraction Technique	Syed Farzan	Ali Shah	29c
122	Fungally and Bacterially Antifouling Coatings for Galvanized Steel Surfaces	Minchen	Mu	29e
123	Optimisation of Microbial Protein Fermentation, Using a Hybrid of Learning-Based Control and Model Predictive Control.	Tom	Vinestock	29f
124	Integrated Fermentation Process with Microbial Consortia for Acetate Production from Lignocellulosic Biomass	Surya	Tamang	29g
125	Improving Efficacy of Cyclophosphamide in the Treatment of Murine Colon Cancer By Remodulating Gut Microbiota with Jujube Powder	Huiren	Zhuang	29h
126	Recent Advances in the Employment of Probiotics for the Syntheses of Bacteriocins, Sugar Alcohols, Bioactive Peptides and Other Food Additives	Bababode	Kehinde	29i
127	<i>Oyster Mushroom Drying in Tray Dryer: Parameter Optimization, Drying Kinetics and Characterization</i>	Talbachew Tadesse	Nadew	29k
128	Uncovering the Role of Impurity Sugars on the Crystallization of D-Tagatose Crystal: Experiments and Molecular Dynamics	Dongbo	Wang	29l
129	De Novo Biosynthesis of Butyl Butyrate Using Heterologous Lipase in <i>Clostridium Tyrobutyricum</i>	Geng	Wang	29m
130	Carbon-Economic Biosynthesis of Polymalic Acid and Malic Acid from Ethanol and Biomass Feedstocks	Xiang	Zou	29n
131	Enhanced Butanol Production from Lignocellulose Hydrolysate By Engineered <i>Clostridium Tyrobutyricum</i> with Alleviated Glucose-Mediated Carbon Catabolite Repression	Qingke	Wang	29o
132	A Cotransformation Strategy for Combinatorial Engineering Paralogous Genes in <i>Clostridium Acetobutylicum</i>	Chao	Zhu	29p
133	Biochar Regulates Anaerobic Metabolism for Increased Production of Biohydrogen	Weiming	Li	29q
134	Disrupting Sporulation in Engineered <i>C. Tyrobutyricum</i> Strain Showed Increased Butanol Production and More Stable Bioprocess	Zonghao	Zhang	29r
135	Energy-Efficient Butanol Production By <i>Clostridium Acetobutylicum</i> with Histidine Kinase Regulation to Improve Strain Tolerance and Process Robustness	Chuang	Xue	29s
136	Metabolic Engineering of <i>Clostridium Tyrobutyricum</i> for Butyl Butyrate Production from Glucose and Mannitol	Jufang	Wang	29t
137	<i>Fixing Carbon Dioxide in Situ during Ethanol Production By Formate Dehydrogenase</i>	Wenjie	Yuan	29u
138	Metabolic Engineering of <i>Thermoanaerobacterium Aotearoense</i> SCUT27 for Biofuels Production from Sucrose and Molasses	Hongxin	Fu	29v
139	Engineering Self-Assembled Nanoreactors for Enhanced Biocatalysis	We	Kang	29w
140	Transforming How the World Makes Chemicals:Sustainably Produced Bio-Based Chemicals that are <i>Made to Scale</i> <sup>TM</sup>	Jacob	Wolf	29x

**# 30 - Poster Session: Nanoscale Science and Engineering Forum***Monday, November 06, 2023 3:30 PM - 5:00 PM**Regency Ballroom R/S, Hyatt Regency Orlando*

<b>BOARD NUMBER</b>	<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Paper Number</b>
161	Electrochemical Windows of Sulfone-Based Electrolytes for Lithium Metal Batteries: A Density Functional Theory and Cluster-Continuum Model Investigation	Minhee	Park	30a
162	Uniformly Embedded Cobalt Phosphide Nanoparticles in Carbon Nanofibers As Sulfur Host Via Co-PBA in-Situ Growth for High-Performance Li-S Batteries	Zhi	Liu	30b
163	Modeling Elastic Properties of Hydrogel Depending on Effective Structures Using Mixed Force-Field Coarse Graining Method	Seunghyok	Rho	30c
164	High Resolution Measurement of Potential-Dependent Electrochemical Activities on HOPG Using Scanning Electrochemical Cell Microscopy (SECCM)	Myunghoon	Choi	30d
165	Wetting Transparency of Free-Suspended Single-Layer Graphene on Liquid Substrate.	Fan	Yang	30e
166	Feedback Control System of Iron Catalyst in Reactors Using Deep-Injection Floating Catalyst Chemical Vapor Deposition (DI-FCCVD)	Mingrui	Gong	30f
167	Facile Synthesis of Halogen Terminated Mxene from Different MAX Phases for Electromagnetic Interface Shielding	Shane	Reed	30g
168	Rheo-Electric Investigation of Carbon Black Suspensions Undergoing Shear-Induced Microstructural Rearrangement	Paolo	Ramos	30h
169	Lyotropic Liquid Crystals of Cellulose Nanocrystal/Boron Nitride Nanotube Mixtures: Phase Behavior and Aligned Assemblies	Eren	Katnas	30i
170	Scalable Manufacturing of Inorganic Nanomaterials Using Jet Mixing Reactors	Priya	Jana	30j
171	Threshold and Excess Electrolyte-to-Sulfur (E/S) Ratios in Lean-Electrolyte Li-S Batteries	Xiaosi	Gao	30k
172	Glycopolymer-Wrapped Carbon Nanotubes Detection of Viral Proteins	Brandon	Heppe	30l
173	Polymer-Cerium Oxide Nanocomposites Synthesized By Hydrothermal Method for Bone Tissue Regeneration Applications	Shreya	Pawar	30n
174	Surface Modifications to Functionalized Outer Coating of Magnetic Nanoparticles to Target Medical Dyes in Solution and Their Impact on Contaminated Water Compositions.	Evan	Wetmore	30o
175	Creation of Carbohydrate-Decorated Organic Color Centers Via Copper-Free Click Chemistry	Nina	Dzombic	30p
176	Lipid Nanoparticle Structure and Immune Response Regulate mRNA Organ Tropism and Pup Growth during Pregnancy in Mice.	Namit	Chaudhary	30q
177	The Particle Drifting Effect – Impact of Membrane, Sink Condition, Particle Size, Drug Solubility, and Colloid Type	Na	Li	30r



**# 31 - Poster Session: Decarbonization by Electrification***Monday, November 06, 2023 3:30 PM - 5:00 PM**Regency Ballroom R/S, Hyatt Regency Orlando*

BOARD NUMBER	Title	First Name	Last Name	Paper Number
241	Modeling and Techno-Economic Assessment of an Air-to-Syngas Process	Hussain	Almajed	31a

**# 116 - Poster Session: Fluid Mechanics***Monday, November 06, 2023 3:30 PM - 5:00 PM**Regency Ballroom R/S, Hyatt Regency Orlando*

BOARD NUMBER	Title	First Name	Last Name	Paper Number
321	Effect of Roughness on Particle Laden Turbulent Channel Flow	Mehul	Kumar	116a
322	Effect of Non-Equilibrium Parameters on the Aging of Thermoreversible Colloidal Suspension	Khushboo	Suman	116b
323	An Efficient Method of Dew Harvesting By the Corona Discharge	Sang	Joo	116c
324	Direct Measurement of Droplet Coalescence in a Pulsed Disc and Doughnut Column	Zhongshu	Yang	116d
325	Novel Star Polymer for Efficient Fluid Loss Control in Oil-Based Mud	Guoqing	Jian	116e
326	The Ernst Ratz Analytical Solution in a High Speed Rotating Cylinder Revisited	Dr. Sahadev	Pradhan	116f
327	A 'semi-Toy' Molecular Constitutive Model for Entangled Polydisperse Linear and/or Star Flexible Polymers with Contour Length Fluctuations	Joontaek	Park	116g
328	Analysis of Lipid Vesicles with Surface Acoustic Wave Stimulation	Maria Camila	Gomez Medina	116h
329	Effect of a Deep Corrugated Wall on the Natural Frequencies and the Faraday Instability of a Fluid Interface	Thomas	Corbin	116i
330	Analysis of Viscoplastic Lubrication during the Core-Annular Flow of High Viscous Oil.	Ekta	Tayal	116j
331	Fabrication of Magnetically Responsive Microstructure (MRM) Film using Spray Coating Deposition Method	Jongyun	CHOI	116k
332	Dynamics of forced and unforced autophoretic particles	Kailasham	Ramalingam	116l

**# 117 - Poster Session: Environmental Division**

Monday, November 06, 2023 3:30 PM - 5:00 PM

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BOARD NUMBER	Title	First Name	Last Name	Paper Number
189	Reversing Eutrophication with a Low-cost Chemisorbent – from Lab Research to Industrial Scale and Field Studies	Latif	Ullah	117a
190	Occurrence of Antibiotics and Antibiotics-Resistant Bacteria and Its Mitigation in Drainage Discharge Channel	Malvin Subroto	Pamudji	117b
191	Liquidgel Technology for Disinfection and Odor Control in Waste Handling Facilities	Malvin Subroto	Pamudji	117c
192	New Odor and Corrosion Control Technologies for Concrete Stormwater Drainage and Sewer System	Malvin Subroto	Pamudji	117d
193	Techno-Economic Optimization Scenario of Three-Stage Membrane Separation and CO <sub>2</sub> Liquefaction Process	Jung Moo	Lee	117e
194	Choosing the Best Decentralized Wastewater Treatment Systems to be Applied in the Developing Countries	Mohamed	Mostafa	117f
195	Effect of Using Nanomaterial in Concrete Mixture Production	Mohamed	Mostafa	117g
197	A Systematic Study of Hexavalent Chromium Adsorption and Removal from Aqueous Environments Using Chemically Functionalized Amorphous and Mesoporous Silica Nanoparticles	Eun-Hye	Jang	117h
198	Sustainable Carbon Capture and Utilization Process Evaluation from Economic, and Environmental Perspectives	Ha-Jun	Yoon	117i
199	Development of 0.1 Ton/Day Plastic Pyrolysis-Combustion System of Circulated Fluidized Bed Reactor	Hyungseok	Nam	117j
200	Plastic Pyrolysis Oil in Fluidized Bed and Fixed Bed Reactors	Yujin	Choi	117k
201	<i>Chemical Sector Risk Management Agency Resources for Enhanced Resilience</i>	Ashley	Pennington	117l
201	<i>Chemical Sector Risk Management Agency Resources for Enhanced Resilience</i>	Cheryl	Louck	117l
202	Reuse of Zeolites for Sorption of Pfas	Charles	Ponge	117m
203	Poster: Thin-Film Nanocomposite Membranes Functionalized with Fe-Based Metal-Organic Frameworks for Enhanced Removal of Small and Uncharged Urea from Water	Tin	Le	117n
204	TEMPO-Oxidized Cellulose Nanofibril Aerogels for Carbon Capture	Xakin	Ramirez Isunza	117o
205	Elevated Tropospheric Ozone Impacts on Soybean Production in the United States from 1985 to 2015	Kristina	Wagstrom	117p
206	Deployable Pfas Effluent Treatment Systems	Jose	Mattei-Sosa	117q
207	Predictions of Hydrochar Properties Using Molecular Structure Determined By Solid State NMR	Karen	Agro	117r
208	Effect of Metal Oxide Support on K/Mn-Based Catalysts for VOC Oxidation	Md Sarwar	Kamal	117s
209	Meeting Increased Methane Emissions with Methanotrophs: Addressing Mass Transfer Problems in Reactor Design	Robert	Bertrand	117u
210	Nanofiber Based Colorimetric Sensors for the Detection of Organic Analytes in Complex Environmental Media	Colton	Duprey	117v
211	Environmental Impacts of Direct Carbonation and Indirect Carbonation in Calcium Carbonation Manufacturing Using Slag	Kyeong Ho	Kim	117x
212	A Pyrolysis-GC/MS Study of Volatile Compounds Generated during the Pyrolysis of Wood-Based Fuels Used in Firefighter Training	Mahsa	Lotfi Marchoubeh	117y
213	Copper and Gallate MOF for Electrosorption of Cadmium Ions	Hyunjung	Kim	117z
214	Metal Hexacyanoferrate-Embedded Electrospun PVA/CA Nanofiber for Effective Cesium Ions Remediation	Hyunjung	Kim	117aa
216	2D Cu-Fetcpp MOF Assembled on Znti-LDH to Construct 2D/2D Direct Z-Scheme Heterojunction for Enhanced Photocatalytic CO <sub>2</sub> Reduction	Xiaohong	Yin	117ab
217	A Thorough and Evaluative Examination of the Elimination of Heavy Metal Ions from Wastewater	Syed Farzan	Ali Shah	117ac
218	Hydrothermal Oxidation of H <sub>2</sub> S Scavenging Wastewater	Marco	Maschietti	117ad

BOARD NUMBER	Title	First Name	Last Name	Paper Number
215	Zinc Hexacyanoferrate Composite from Temperature-Controlled Pyrolyzed ZIF: Electrochemical Adsorption of Cesium Ions in Aqueous Solutions	Hyunjung	Kim	117ae
219	Hydrothermal Oxidation of Spent H <sub>2</sub> S Scavengers in a Continuous-Flow Reactor: Preliminary Results	Alessandro	Perrucci	117ag
220	Realizing a Resilient Aquaculture Environment Via Biological Processes	Jianzhong	He	117ah
222	Removal of Heavy Metals from Aqueous Solution through Biosorption Using Magnetotactic Bacteria	Prabhakar	Choudhary	117ai
196	Comparison on Efficiency of Iron and Aluminum Nanoparticles for Methylene Blue Removal from Aqueous Solutions	Mohamed	Mostafa	117aj
223	Combining Ion Exchange and Deammonification for Sustainable Ammonium Removal from Mainstream Wastewater	Sheyla	Chero-Osorio	117ak
224	Enhancing Lead Removal from Wastewater Using Waste-Derived Boron-Doped Carbon	hafiz Muhammad	Aamir	117al
225	A Silk Fibroin-Based Wastewater Treatment System By Automated Air-Delivery	Fengjie	He	117am
226	Photocatalytic Degradation of Congo Red (CR) Dye By Nano Titanium Dioxide Coated Glass Bead Under UV Light	Asad	Khan	117an
221	Analyzing the Rationale and Assembly for Combined Oxidation Processes: Photocatalytic and Peroxide Treatment Coupled with Cavitation for Effluent Treatment	Varaha Prasad	Sarvothaman	117ap
221	Analyzing the Rationale and Assembly for Combined Oxidation Processes: Photocatalytic and Peroxide Treatment Coupled with Cavitation for Effluent Treatment	William	Roberts	117ap
227	Sustainable and ECO-Friendly Algae-Based Produced Water Treatment	Fares	Almomani	117aq
228	Removal of Heavy Metals from Wastewater Using Dead Algae Cells	Fares	Almomani	117ar
229	Development of Nanoengineered Photocatalytic Membranes for the Removal of Contaminants of Emerging Concern in Water: An Integrated System	Adolph Anga	Muleja	117as
230	Piney Point: Breakthrough Solution in the Face of an Environmental Emergency	Don	Luke	117at
231	Extractive Crystallization of Calcium Acetate Deicer from Water Plant Residuals	Samuel	Degife	117au
232	Physicochemical Treatment of Wastewater for Marine Applications	Christian	Seaward	117av
233	Quantifying Carbon Sequestered from Symbiotic Plant-Microbe Interactions for Sustainable Agriculture	Kong	Wong	117aw
234	A Dynamic Material Flow Analysis of the Global Demand of Polymers	Yunhu	Gao	117ay
235	Physicochemical Characterization and Water Quality Assessment of the Cane Creek Lake: A Potential Freshwater Resource Located in Cookeville, TN	Shafieh	Karami	117az
236	Removal of Allergens from Pistachio Shell By Soxhlet Method; An Experimental Study	Leila	Fereidooni	188g
240	Evaluation of Green Hydrogen Production from Enterobacter Sp. Using Waste Effluents from Biodiesel	Fernando	Pessoa	48e
240	Evaluation of Green Hydrogen Production from Enterobacter Sp. Using Waste Effluents from Biodiesel	Gisele	Góes	48e
240	Evaluation of Green Hydrogen Production from Enterobacter Sp. Using Waste Effluents from Biodiesel	Ana Lucia	Barbosa	48e
237	Use of an Adsorbent Produced from Residual Sludge from the Aluminum Industry for the Removal of Chlorpyrifos	Juan F.	Saldarriaga	188a
238	Contribution to the Circular Economy from the Use of Tannery Hair Biochar for the Removal of Emerging Compounds in Polluted Water	Juan F.	Saldarriaga	175a
239	<i>Moving Past Resilience in Progressive Supply Chains from the Perspective of Large-Scale Shipping of Future Energy Carriers</i>	Elizabeth	Abraham	226e

**# 118 - Poster Session: NSEF Graduate Student Poster Competition***Monday, November 06, 2023 3:30 PM - 5:00 PM**Regency Ballroom R/S, Hyatt Regency Orlando*

BOARD NUMBER	Title	First Name	Last Name	Paper Number
181	Biodegradable Polymer Capsule for Long-Term Drug Release	Zhiwei	Zheng	118a
182	Magnetic Nanocomposites for Environmental Remediation	Pranto	Paul	118b
183	Upcycling of Waste Polyvinyl Chloride (PVC)-Based Materials to Electrospun Nanofibers for Water Treatment	Atta Ur	Razzaq	118c
184	Design and Properties of Magnetic Particle Imaging (MPI) Tracers Using Nitrodopa Anchored Coatings.	Neel	Eswaran	118d
185	Automated Fe Quantification Assay to Accelerate Magnetic Nanoparticle Studies	Eric	Imhoff	118e
186	Evaluating the Quality Control of Aqueous Carbon Nanotube Dispersions Using UV-Vis Spectroscopy and Zetasizer Analysis	Victoria	Stege	118f
187	Surfactant Mediated Phase Transfer of Iron Oxide Nanoparticles	Esteban	Bermudez-Berrios	118g
188	Corona Phase Molecular Recognition of the Interleukin-6 (IL-6) Family of Cytokines Using Nir Fluorescent Single Walled Carbon Nanotubes	Xiaojia	Jin	118h
180	Rational Synthesis, Morphology, and Propertyrelationship of Non-Precious Bi-Metallic Hybridnanocomposites for Improving Oxygen Reductionreactions	Mahshid	Mokhtarnejad	118i
180	Rational Synthesis, Morphology, and Propertyrelationship of Non-Precious Bi-Metallic Hybridnanocomposites for Improving Oxygen Reductionreactions	Mariana	Milano-Benitez	118i

**# 197 - Poster Session: Computational Molecular Science and Engineering Forum***Monday, November 06, 2023 3:30 PM - 5:00 PM**Regency Ballroom R/S, Hyatt Regency Orlando*

<b>BOARD NUMBER</b>	<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Paper Number</b>
244	Fusogenic Liposome Formation: A Coarse-Grained Molecular Dynamics Simulations	Tibo	Duran	197a
245	Using Density Functional Theory Calculations to Identify Efficient Catalysts for Dehydrogenation of LOHC	Sung Gu	Kang	197b
246	ms2: A Molecular Dynamics and Monte Carlo Simulation Engine	Simon	Stephan	197c
247	Tuning Lobed Colloid Design to Achieve Porous Morphologies	Brunno	C. Rocha	197d
248	Deep Learning Architecture for Peptide Property Prediction	Daniel	Garzon	197e
249	Decoding Polymer Behavior: The Power of Molecular Modeling	Feranmi	Olowookere	197f
250	Representation Learning Approach for Mapping Protein Surface Patches	Emily	Baum	197g
251	A Study on Supercomputing Utilization and Molecular Structure Exploration Algorithm for Accelerating Material Inverse Design	Min-Ho	Suh	197h
252	Atomic Layer Deposition Simulation Using Stochastic Parallel Particle Kinetic Simulator	Woojin	Kang	197i
253	A High-Throughput Computational Framework for Investigating Protein-Polymer Bioconjugates with Molecular Dynamics Simulations	Ziyue	Dong	197j
254	Implementation of Genetic Algorithms to Optimize Metal-Organic Frameworks for CO <sub>2</sub> Capture	Thang	Pham	197k
255	Elucidating the Molecular Mechanisms By Which Amyloid-Beta Suppresses HSV-1 Infection in the Brain	Bailey	Zinger	197m
256	Molecular-Level Insights into Hydrophilic Interaction Liquid Chromatography Via Molecular Simulations	Hsiao-Feng	Liu	197n
257	Li Ion Diffusion in Solid Electrolyte Analyzed Using Deep Generative Models.	Hiroya	Nitta	197o
258	Modeling Elastic Properties of Polyacrylamide Hydrogel Depending on Effective Structures	Seunghyok	Rho	197p
259	Using Deep Learning Potentials and Graph Lattice Models to Engineer Optimal Proton Conducting Membranes for Fuel Cells	Siddarth	Achar	197q
260	Exploring the Free Energy Landscape of Insulin Multimer Using Metadynamics	Yinhao	Jia	197r
261	Learning Analytical Bond-Order Parameters for Extrapolatable Neural Network Interatomic Potential of Multicomponent Materials	Minjoon	Hong	197s
262	Molecular Interactions, Architecture and Dynamics in Biomolecular Phase Separation	Gregory	Dignon	197t
263	First-Principles Study on the Enhancement of Li-Ion Diffusion By Tuning the Anion Rotation in Various Solid-State Electrolyte	SuSeong	Hyun	197u
264	Novel Sustainable Materials Design with Thermodynamics-Informed Machine Learning	Dinis	Abranches	197v
265	Molecular Dynamics Simulations and Graph-Theoretic Analyses of Nanostructure Formation in Ionic Liquids	Lisa	Je	197w
266	How Do Self-Interaction Errors Associated with Stretched Bonds Affect Barrier Height Predictions?	Priyanka Bholanath	Shukla	197x
267	Pysages: Enhanced Sampling for Ab Initio Dynamics and Machine Learning Potentials	Gustavo	Perez Lemus	197y
268	Permeation of Glycoside Molecules through Lipid Bilayers	Jinhui	Li	197z
269	Machine Learning Anisotropic Coarse-Grained Potentials	Marjan	Albooyeh	197aa
270	Modeling Electrode-Electrolyte Interfacial Effects during Specific Alkali Metal Cation Adsorption Using a DFT/FF-MD Approach	Andrew	Wong	197ab

BOARD NUMBER	Title	First Name	Last Name	Paper Number
271	Reproducible Workflows for Parameterizing and Simulating Models of Complex Conjugated Copolymers for Organic Photovoltaics	Madilyn	Paul	197ac
272	Computational Screening and Designing of Solid Materials for CO <sub>2</sub> Capture Technology	Yuhua	Duan	197ad
273	Probing the Energy Landscape and Hierarchical Self-Assembly of Magnetic Handshake Panels	Andreia L.	Fenley	197ae
274	Data-Driven Simulation of Chromatin Structure and the Epigenetic Code	Soren	Kyhl	197af
275	Computationally Exploring Structure-Property Relationships of Thermal Transport in Metal-Organic Frameworks Using High-Throughput Screening and Machine Learning	Meiirbek	Islamov	197ag
276	Common Framework Mutations Impact Antibody Interfacial Dynamics and Flexibility	Emma C.	Aldrich	197ah
277	Effect of Molecular Structure on the HOMO-LUMO GAP Using Atomic Signatures As Molecular Descriptors	Donald	Visco	197ai
278	Exploring the Factors behind Adsorbate-Adsorbate Interactions	Shyama Charan	Mandal	197aj
279	Towards the Development of Explainable Graph Neural Network Model for Predicting Viral Antibody-Antigen Binding Interfaces	Srirupa	Chakraborty	197ak
280	Advancing Alchemical Free Energy Methods: Enhanced Flexibility, Parallelizability and Configurational Sampling	Wei-Tse	Hsu	197al
281	Determination of the Lipidated Structure of ApoE through Various <i>in silico</i> Methods	Emma	Lietzke	197am
243	Adsorption of Adeno-Associated Virus Onto Ion-Exchange Chromatographic Media: A Coarse-Grained Molecular Dynamics Study	Tibo	Duran	197an
282	Selective Agonist Design Targeting Cannabinoid Receptor 2	Soumajit	Dutta	197ao
283	First-Principles Study on the Role of Oxygen-Functional Groups in Heterogeneous Interface of MoS <sub>2</sub> /Reduced Graphene Oxide for Sodium Ion Battery Anode	Wonmyung	Choi	197ap
284	Strategic Use of Molecular Simulations to Expand Predictive Capability of Machine Learning Models	Ameey	Thorat	197aq
285	pH Adjustment Driven By Automation and Artificial Intelligence	Alexander	Pomberger	197ar
286	Assessing the Impact of Quantum Mechanical Descriptors on D-Mpnn Performance for Chemical Property Prediction	Angiras	Menon	197at
287	Multi-Fidelity Deep Learning for Data-Efficient Molecular Property Models from Experimental and Computational Data	Kevin P.	Greenman	197au
300	Predicting Reaction Performance in Amide Bond Formation Using Machine Learning: The Role of High-Quality Data	Ye Seol	Lee	197av
300	Predicting Reaction Performance in Amide Bond Formation Using Machine Learning: The Role of High-Quality Data	Claire S.	Adjiman	197av
288	ML-SAFT: A Machine Learning Framework for PCP-SAFT Parameter Prediction	Kobi	Felton	197aw
289	A Universal Approach for Combining Computer-Aided Retrosynthesis and Retrobiosynthesis Tools	Xuan	Liu	197ax
290	Dataset and Models for Predicting Critical Properties of Fluids	Sayandeep	Biswas	197az
291	Physics-Informed Bayesian Optimization Framework for Material Discovery	Maitreyee	Sharma Priyadarshini	197bb
292	Expanding Bigsmiles for Automated Simulations and Machine Learning Representation of Polymeric Systems	Ludwig	Schneider	197bc
293	Expanding Chemical Synthesis Planning to Explore Chemo-Enzymatic Pathways Using Minimal Transitions	Vikas	Upadhyay	197bd
294	Machine Learning-Enabled Modification of Polyamide Reverse Osmosis Membrane	Arash	Tayyebi	197be
295	Transition State Searches on Neural Network Potential Energy Surfaces	Jonah	Marks	197bf

BOARD NUMBER	Title	First Name	Last Name	Paper Number
296	Automated Reaction Exploration of Solid Electrolyte Interphase	Hsuan-Hao	Hsu	197bg
297	Study of Adsorption Behavior of Surfactant Micelles on Surfactant Covered Iron Surfaces Via Molecular Simulation	Abolfazl	Faeli Qadikolae	197bh
298	Evaluation of Polymer-Calcite Interfacial Strength through a Uniaxial Tensile Simulation Study	Keat Yung	Hue	197bi
299	Relationship between Nanoscale Structure and Affinity for Organic-Modified Inorganic Solid/Organic Solvent Interface	Takamasa	Saito	197bj
301	Thermophysical Properties of H <sub>2</sub> /Gas/Brine System Under Subsurface Storage Conditions: Molecular Simulations and Thermodynamic Modeling	Halla	Kerkache	197bk
302	Predicting Percolation in e-Waste Leaching Using a Coarse-Grained Molecular Flow Model	Zachary	Diermyer	197bl
303	Computational Investigation of Interfacial Transport in <i>Bijels</i>	Marco Tulio	Portella	197bm
304	A Computational and Experimental Characterization of the Ligand Environment of a Ni-Oxo Catalyst Supported in the Metal –Organic Framework Nu-1000	Stephen	Vicchio	197bn
305	A Combined Experimental and Theoretical Study on Tuning Selectivity in Furfural Acetalization Reaction on Pd Nanostructures	Pallavi	Dandekar	197bo
306	Computational and Experimental Studies of Selexol Solvent Physical Properties and Its Interactions with H <sub>2</sub> O, H <sub>2</sub> , and CO <sub>2</sub>	Wei	Shi	197bp
307	Computational Assessment of an Amine-Based Solvent Library for High-Salinity Brine Desalination	Gabriel	Barbosa	197bq
308	Toward an End-to-End Computational Framework for Polymer Materials Design	Hanyu	Gao	197br
309	Prediction of Isomorphs By Using Configurational Temperature	Kelly	Badilla	197bs
310	A Systematic DFT Screening of Cationic Faujasite-Type Zeolites for the Selective Capture of NOx from Exhaust Gases	Michael	Badawi	197bt
311	A Molecular Dynamics Study of Growth and Dissociation of Mixed Methane + Carbon Dioxide Gas Hydrates	Soumya	Chatterjee	197bu
312	Molecular Insights from Simulations on MRI Contrast Agents in Different Chemical Environments	Thiago Jose	Pinheiro Dos Santos	197bv
313	Force Fields and Initial Conformations Optimization of Amorphous Polymers in Multi-Scale (atomistic and coarse-grained) Simulations.	Sahar	Zenoozi	197bw
314	Entropic Stabilization Plays a Key Role in the Non-Uniform Distribution of Oxygen Ions and Vacancy Defects in Gadolinium-Doped Ceria	Bharathi	Bandi	197bx
315	Development of a Modifiable Atomistic Cellulose Nanocrystal Model	Arash	Elahi	197by

**# 198 - Poster Session: Pharmaceutical Discovery, Development, and Manufacturing**

Monday, November 06, 2023 3:30 PM - 5:00 PM

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BOARD NUMBER	Title	First Name	Last Name	Paper Number
141	Evaluation on a Combined Cocrystal Screening Method and Its Application on Synthesis of Multicomponent Crystals	Di	Wu	198a
142	Establishing Process Control of High Shear Wet Granulation: Insights on Common Deficiencies from FDA Reviewers' Perspective	Lixia	Cai	198b
143	Blend and Content Uniformity for in-Process Control for Solid or Suspension Oral Dosage Form: Common Deficiencies and Case Studies from Drug Application Assessment	Shu-Wei	Yang	198c
144	Development and Application of Residence Time Distribution (RTD) Models for a Continuous Direct Compression Process	Ricardo	Sousa	198d
145	A Dissolution model for <i>in Vitro</i> Cocrystal Dissolution with Surface and Bulk Precipitation	Nethrue Pramuditha	Mendis	198e
146	In silico Bioreactor Performance Optimization for CO <sub>2</sub> Stripping and pH Distribution	Iman	Mirzaee	198f
147	Model Development and Experimental Validation for Predicting Drug Release in Single-Layer Osmotic Tablets	Bhawana	Tomar	198g
148	Application of Population Balance Models for Pharmaceutical Screening Process Development	Shuichi	Tanabe	198h
149	Investigating Role of Surfactants in the Wetting Behavior of Pharmaceuticals and the Resulting Impact on Dissolution Performance	Prapti	Kafle	198i
150	Experimental Investigations to Study the Release of Drug and Excipients from Bilayer Osmotic Tablets	Anwasha	Mohanty	198j
151	Investigating the Effects of Coil Diameters on the Heating Efficiency of a Twisted-Helix Preheater for Continuous API Synthesis through CFD Modeling	Bennie	Anderson	198k
152	Application of SAFT- $\gamma$ Mie to Solubility Prediction and Solvent Selection	Goncalo	Pereira	198l
153	Model-Based Design Space Assessment for Flow Synthesis of Amination Reaction Via Nucleophilic Aromatic Substitution	Junu	Kim	198m
154	Scale-up Study for Low Dose Powder Filling Using Vacuum Drum Filling System	Tanu	Mehta	198n
155	The Role of Water in the Formation of Crystal Structure: A Case Study of Valnemulin Hydrochloride	Li	Shuyu	198o
156	Model-Based Design of the Next-Generation Decontamination Technology for Sterile Manufacturing	Mohamed Rami	Gaddem	198p
157	Making Dissolution More Biorelevant: How Intestinal Mucus Is Advancing Our Understanding of Supersaturated Drug Formulations	Victus	Kordorwu	198r
158	Synthesis and Characterization of Chitosan Nanoparticles As NOVEL Drug Carrier System Encapsulating Hydrophobic Drug	Richa	Thakur	198t
159	Cryo Jet Milling for Micronization Enhancement of Inhalation Particles	Inês	Gomes	198v



**# 322 - Poster Session: Interfacial Phenomena (Area 1C)***Monday, November 06, 2023 3:30 PM - 5:00 PM**Regency Ballroom R/S, Hyatt Regency Orlando*

BOARD NUMBER	Title	First Name	Last Name	Paper Number
349	A Multi-Layer Gas Diffusion Enzyme Electrode for CO <sub>2</sub> Reduction to Formate	Meng	Xia	322a
350	Impedance Analysis of Pt Microelectrodes in Phosphate-Buffered Saline Electrolyte	Jie Min	Goh	322b
351	A Synthetic Method for Calculations of Solubilities and Diffusion Coefficients of Carbon Dioxide and Nitrogen in Polystyrene	Hossein	Abedsoltan	322c
352	Monitoring CO <sub>2</sub> Mineralization from Seawater with Quartz Crystal Microbalance.	Shiv Shankar	Sangaru	322d
353	Stability and Destabilization of per- and Polyfluoroalkyl Substances (PFAS) Foams	Muchu	Zhou	322e
354	Active Particle Propulsion Due to temporally Asymmetric AC Fields	Nidhi	Diwakar	322f
355	Impacts of Myelin Lipid Compositions on Their Biomechanical Properties and Implications for Demyelination	Yuanzhong	Zhang	322g
356	Interfacial Dynamics of Phospholipids Membranes and Their Interactions with Nanoparticles	Monica	Iepure	322h
357	Investigation of a Simultaneously Hydrophilic and Oleophobic Ionic Liquid Coating	Alan	Tirado	322i
358	Computational Analysis and Atomic Force Microscopy of Physical Properties of Lung Surfactant and Lipid Monolayers	Zachary	McAllister	322j
359	Multiphase Behavior and Hierarchical Pore Structures — Key to Predict Porous Electrodes Performance	Huada	Lian	322k
360	Imaging of Nitrogen Fixation at Lithium Solid Electrolyte Interphases Via Cryo-Electron Microscopy	Xintong	Yuan	322l