58 - Interactive Session: Applied Mathematics and Numerical Analysis

Tuesday, November 07, 2023 3:30 PM - 5:00 PM

Regency Ballroom R/S, Hyatt Regency Orlando

BOARD NUMBER	Title	First Name	Last Name	Paper Number
121	Towards an Integrated Wide Approach for Upstream Field Recovery	Shakeel	Ramjanee	58a
122	Towards an Integrated Approach for Upstream Recovery	Shakeel	Ramjanee	58b
124	Analytical Solutions for the Modeling, Optimization, and Control of Microwave-Assisted Freeze Drying	Prakitr	Srisuma	58c
125	Computational Modeling of Cell Migration in Complex Chemokine Environments	Kailei	Liu	58d
126	Simulating Solute Transport through the Kidney Glomerulus Using Febio	Nicholas O.	Glover	58e
127	An Improved Algorithm for Flux Variability Analysis	Dustin	Kenefake	58f
128	Using Dynamic Metabolic Modeling to Predict the Transcriptional Regulation of Cuticle Biosynthesis.	Lohani	Esterhuizen	58g
129	A Computational Model of the Interplay of Pancreatic Islet Beta-Cells and Alpha-Cells on the Secretion of Insulin and Glucagon	Emmanuel	Tzanakakis	58h
130	Stability and Bifurcation Analysis of Natural Convection Effects in Liquid Hydrogen Tank Dual Layered Insulations	Swapnil	Sharma	58i
131	Development of an Optimal Maintenance Scheduling Framework for Maintenance 4.0 Applications	Louis	Allen	58j
132	Simulation and Optimization of Gas Based Ammonia Plant Using Advanced Tools of MS Excel	Bhupen	Mehta	58k
133	A Smart Computing-Based Protocol for Analysis of Certain Classes of Complex Chemical Reactions	Satish	Parulekar	58l
134	Quantum Algorithms for Optimization over Discrete Variables	Nicolas	Sawaya	58m
135	Mathematical Modelling of Gene Delivery in Patients with Haemophilia B	Elnaz	Jamili	58n
136	A Techno-Economic Model and Decision-Making Matrix for Wastewater Biosolids Reuse Application	Elizabeth	Abraham	58o
137	Design and Optimization of Hydrogen-Blended Natural Gas Pipeline and Separation Systems	Shiya	Gu	58p
138	An Enhanced Particle Swarm Optimization Employing Quasi-Random Numbers with Application to Efficient Removal of Pfas from Water	Shiva	Kannan	58q

BOARD NUMBER	Title	First Name	Last Name	Paper Number
# 59 - Interactive Session: Data and Information Systems				
Tuesday, November 07, 2023 3:30 PM - 5:00 PM				
Regency Ballroom R/S, Hyatt Regency Orlando				
139	Measure This, Not That: Pareto Optimal Trade-Offs between Model-Based Information Content and Measurements Cost (Poster corresponding to plenary presentation)	Jialu	Wang	59a
140	Real-Time Fault Detection Models for Smart Manufacturing: A Case Study with Heat Exchanger Equipment and Innovation Platform	Lucky	Yerimah	59b
123	Towards an Integrated Approach for Upstream Field Recovery	Shakeel	Ramjanee	59c
142	Hybrid Bayesian-Based Surrogate Optimization for Sustainable Process Design within Planetary Boundaries	Sachin	Jog	59d
143	Probabilistic Lifespan Prediction of Lithium-Ion Batteries Under Varying Operating Protocols Using Gaussian Process Regression	Seyeong	Park	59e
141	Automated Synthesis of Hybrid Models for Ionic Separations	Luis	Briceno-Mena	59f
141	Automated Synthesis of Hybrid Models for Ionic Separations	Teslim	Olayiwola	59f
145	Modeling and Predictive Control of Hybrid Dynamical Systems Using Machine Learning Methods	Zhe	Wu	59g
147	Smells like AI: Harnessing Machine Learning for Advanced Olfactory Experience Reproduction and Odorant Optimization	Idelfonso	Nogueira	59h
148	A Novel Recurrent Neural Network for Hydroprocessing Unit Modeling Using Neural Circuit Policies and Attention-Based Encoder-Decoder	Shu-Bo	Yang	59i
149	A Parametric Cost Function Approximation Algorithm for Multiscale Decision-Making	Kaiyu	Cao	59j
150	Data-Driven Linear Predictive Control of Nonlinear Processes Based on the Reduced-Order Koopman Operator	Xuewen	Zhang	59k
151	Modelling of Non-Conventional Streams in the Context of Circular Economy-the Case of Hydrothermal Liquefaction	Antonios	Kokosis	59l
152	Data Embedding and Hybrid Modeling for Industrial Fluid Catalytic Cracking	Antonios	Kokosis	59m
153	A Graph Attention Network Based Approach for Interpretable and Domain-Aware Modeling of a Wellhead Water Treatment System	Jasmine	Sekhon	59n
154	Development of Algorithms for Mass and Energy Constrained Dynamic Neural Network Models	Angan	Mukherjee	59o
155	Design of Microfluidic Chromatographs through Reinforcement Learning	Mohammad	Shahab	59p
156	Investigating the Effects of Tunable Experimental Parameters on hiPSC-Cms Maturation Via Clustering Techniques	Shenbageshwaran	Rajendiran	59s
157	Improving Industrial-Scale Bioreactor Performance: Development and Validation of Computationally Efficient Compartment-Based Models Using Real Plant Data	Parth	Shah	59t
158	Learning Dynamical Process Models Using Plant Data: A Real-World Case Study in the Sustainable Manufacturing of Insulation Products	Siddharth	Prabhu	59u
159	Automating the Discovery of Reaction Networks for Complex Reaction Systems from Spectroscopic Measurements	Karthik	Srinivasan	59w
160	Data-Driven Supply Chain Monitoring Based on Canonical Variate Analysis	Jing	Wang	59x
161	Optimal Sensor Network Design for Maximizing Net Present Value and Its Application to Corrosion Monitoring in a Power Plant	Chandra Sekhar	Somayajula	59y
162	Combined Use of Recursive Neural Network (RNN), Convolutional Neutral Network (CNN), and Attention Mechanism on Cycling Data of Lithium Ion Battery for Lifespan Prediction	Jaewook	Lee	59z
163	Adversarial Data in Demand Side Management	Eike	Cramer	59aa

BOARD NUMBER	Title	First Name	Last Name	Paper Number
164	Generalization Error Bounds for Neural Networks Modeling Two-Time-Scale System Dynamics with Application to Model Predictive Control of Nonlinear Processes	Aisha	Alnajdi	59ab
146	Control Lyapunov-Barrier Function-Based Safe Reinforcement Learning for Nonlinear Optimal Control	Zhe	Wu	59ac
165	Reinforcement Learning (RL)-Based Process Controller Design: An Implementable Approach	Hesam	Hassanpour	59ad
166	Efficient Hybrid Modeling and Sorption Model Discovery for Non-Linear Advection-Diffusion-Sorption Systems: A Systematic Scientific Machine Learning Approach	Carine	Rebello	59ae
167	Using Artificial Neural Networks for Real-Time Tuning of PID Controllers	Tate	Bestwick	59af
168	Chemistry-Aware Retrosynthesis and Forward Reaction Prediction Using Smiles Grammar Tree Transformer	Vipul	Mann	59ag
169	Control Invariant Set Enhanced Reinforcement Learning for Process Control: Improved Sampling Efficiency and Guaranteed Stability	Song	Bo	59ah
170	A Comprehensive Decision Making and Networking Facility for the Biorefining Community	Franjo	Cecelja	59ai
171	Hybrid Methods for Battery State of Charge Estimation Based on Electrochemical Model	Seunghyeon	Oh	59aj
172	Structure-Based Prediction of Kinase Activation amidst a Varied Mutational Landscape Using Privileged Learning	Yiming	Wang	59ak
173	Identifying PDAC Diagnostic Biomarkers Utilizing Machine Learning Combined with Genome-Scale Metabolic Modeling	Tahereh	Razmpour	59al
180	Self-Optimizing Control Methodology Using Surrogate Models for Complex Systems: A Jupyter-Based Application for Flexible Exploration and Adjustment	Heleno	Bispo	59am
180	Self-Optimizing Control Methodology Using Surrogate Models for Complex Systems: A Jupyter-Based Application for Flexible Exploration and Adjustment	Marcilio	Maximo	59am
174	Chemical Substance Diagnosis System Based on Knowledge Inference and Machine Learning for Chemical Exposure Symptoms	Kangseop	Kim	59an
175	Augmented Control Using Reinforcement Learning and Conventional Process Control	Daniel	Beahr	59ao
176	Intelligent Size Characterization of Granules By Machine Learning Method	Mehrdad	Khakbiz	59ap
177	Designing pH-Temperature Responsive Microgels with Targeted Transition Temperature Using a Novel Partial Least Squares (PLS) Model Inversion Technique	Seyed Saeid	Tayebi	59ar
178	Prediction of Chemical Toxicity and Exposure Symptoms Based on Knowledge Graph Embedding and Language Models	Young Min	Jung	59as
179	Data-Driven Adaptive Sparse Identification of Time-Varying Nonlinear Dynamics for 2,3-Bdo Distillation Column	Yeongryeol	Choi	59at
181	Intelligent Robotic Platform for Closed-Loop pH Adjustment of Personal Care Formulations	Aniket	Chitre	59av

BOARD NUMBER	Title	First Name	Last Name	Paper Number
	# 60 - Interactive Session: Systems and Process Design			
	Tuesday, November 07, 2023 3:30 PM - 5:00 PM			
	Regency Ballroom R/S, Hyatt Regency Orlando			
183	An Optimization Model for the Integration of the Hydraulic Fracturing with a Power Plant Considering CO2 As Fracture Fluid	Luis Fernando	Lira-Barragán	60a
184	Simultaneous Integration of Machine Learning in a Mixed-Integer Nonlinear Programming Formulation to Optimize Gas Production and Water Management in Shale Gas Reservoirs	Luis Fernando	Lira-Barragán	60b
182	Modeling and Simulation of a Process That Converts Ethane to Low Density Polyethylene	Omar	Almaraz	60c
185	Simultaneous Optimization of Electrochemical CO_2 Reduction Process and Reaction System	Youngwon	Lee	60d
186	Physics-Guided Autonomous Design for Acid-Stable Water Oxidation Catalyst	Areum	Han	60e
187	Explainable Artificial Intelligence (XAI)-Based Causality Analysis for Chemical Process	Yuna	Ko	60f
189	Control of the Absorption so $_2$ with Naoh Solution in Packed Columns Using Aveva Process Simulation	Milene	Codolo	60k
188	Heuristic-Aided Emulgels Design for Food and Cosmetic Applications	Alvaro	Orjuela	60l
191	Analysis of Correlation between Microbubble and Precipitated Calcium Carbonate Size Using Image Processing Model for Carbon Utilization Process	Yup	Yoo	60m
192	An Energy Efficient Process Design for Ethyl Levulinate Production Using Double Reactive Distillation Columns	Devrim	Kaymak	60n
193	Process Development and Analyses for Production of Green Hydrogen Using Liquefied Natural Gas Cold Energy	Bomin	Choe	60o
194	A Novel Carbon Emission Optimization Method for Chemical Processes Based on Thermodynamic 1st and 2nd Law: Naphtha Cracking Center Application	Wonjun	NOH	60p
195	Multiscale Modeling of Dry Reforming of Methane to Study the Effect of Catalyst Morphology	Hye Min	Choi	60q
196	A Hybrid Catalytic Route to Ethanol from Residue Gases Via the Dimethyl Ether and Methyl Acetate Synthesis: Process Design and Techno-Economic Analysis	Minseong	Park	60r
197	Synthesis of Indirect Multi-Plant Heat-Integrated Water Allocation Networks	Jack	Chou	60s
190	Study of CO2 Absorption in Packed Columns Using Aveva Process Simulation	Milene	Codolo	60v

61 - Interactive Session: Systems and Process Operations

Tuesday, November 07, 2023 3:30 PM - 5:00 PM

Regency Ballroom R/S, Hyatt Regency Orlando

BOARD NUMBER	Title	First Name	Last Name	Paper Number
198	Decision-Focused Surrogate Modeling for Mixed-Integer Optimization (Poster corresponding to plenary presentation)	Shivi	Dixit	61a
199	Neural Network Models for Predicting Impurity Removal Amount in ARDS Process and Operation Condition Optimization Using Genetic Algorithm	Yungun	Jung	61b
201	Simulation and Optimization of the Supply-Chain of Plastic Recycling with Environmental Considerations	Elisavet	Anglou	61c
202	Temporal Intergrated Planning of Design, Shipping Scheduling, and Energy Management System for International Hydrogen Supply Chain	Sunwoo	Kim	61d
203	Reliable Design and Optimization of Crystallization Systems Under Uncertainty	Yash	Barhate	61e
204	Applying a Comprehensive View of Resilience to Power Distribution Network Optimization	Benjamin P.	Riley	61f
205	Adjustable Robust Optimization for the Synthesis of Continuous Rufinamide Manufacturing Process Under Uncertainty	Wenhui	Yang	61g
206	Integrated Design and NMPC-Based Control Under Uncertainty and Naturally Ordered Structural Decisions: A Discrete-Steepest Descent Approach.	Luis	Ricardez-Sandoval	61h
200	Uncertainty Quantification of Physics Informed Neural Networks Using Bayesian-Last-Layer Approach, and Its Application to Real-World Bioprocess	Shu	Yang	61i
200	Uncertainty Quantification of Physics Informed Neural Networks Using Bayesian-Last-Layer Approach, and Its Application to Real-World Bioprocess	Huiyi	Cao	61i
207	A Framework for Resilient Multi-Product Supply Chains: An Application to Healthcare	Miriam	Sarkis	61k
208	Reducing Solution Times of Continuous Production Scheduling MILP Models with Record Keeping Variables	Amin	Samadi	61l
209	Perspective Reformulation of Stochastic Agrochemical Supply Chain Optimization Problem with Mean-Variance Risk Management	Saba	Ghasemi Naraghi	61m
210	Integration of Production Planning and Scheduling Problems with Uncertainty and Feasibility Analysis	Ziqing	Guo	61n
211	Multi-Stage Stochastic Programming for the Planning of a Mobile Modular Closed-Loop Supply Chain	Congqin	Ge	61o
212	Energy Flow Redistribution for Optimal Operation of Heat Exchanger Networks	Sujit	Jogwar	61p
213	Management of Multi-Microgrid System with 2D CNN Forecasting Model and End-Effect Mitigation Using Value Function	Dongho	Han	61q
214	Clustering-Based Forecasting Framework for the Energy Sector	Funda	Iseri	61r

BOARD NUMBER	Title	First Name	Last Name	Paper Number
220	Applications of Data-Driven Approaches in Chemical Process and Energy System Optimization	Mohammed	Alkatheri	61s
220	Applications of Data-Driven Approaches in Chemical Process and Energy System Optimization	Ali	Almansoori	61s
215	Use of Bayesian Optimization for Efficient Finding of Optimal Operating Condition of Simulated Moving Bed Process	Woohyun	Jeong	61t
216	Optimization of Waste Water Plant Operations	Komal	Rathore	61u
217	Quantitative Studies of Decomposition Algorithm Efficiencies for Global Nonconvex Stochastic Optimization Problems	Pengfei	Cheng	61v
218	Accelerating Process Design and Optimization with Novel Computational Tools	Patrik	Furda	61w
219	Generalised Optimisation Framework for Process Synthesis and Intensification in the Equation-Oriented Environment	Chao	Liu	61x
221	Learning to Select the Best Optimization Solution Strategy: An Algorithm Selection Approach	Ilias	Mitrai	61y
222	Stochastic Community Detection: Novel Solution Approach and Application to Sustainable Process Operations	Andrew	Allman	61z
223	Adaptive Real-Time Exploration and Optimization for Safety-Critical Industrial Systems: The Arteo Algorithm	Mehmet	Mercangoz	61aa
224	A Comparison of Nonlinear Optimal Control Trajectory Sensitivity Formulations	Edward	Gatzke	61ab
225	Discrete Nonlinear Optimization: Modeling and Solutions Via Novel Hardware and Decomposition Algorithms	Pedro	Maciel Xavier	61ac

63 - Poster Session: Materials Engineering & Sciences (08D - Inorganic Materials)

Tuesday, November 07, 2023 3:30 PM - 5:00 PM

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BOARD NUMBER	Title	First Name	Last Name	Paper Number
89	Pathway to Develop a Carbonate-Based Protective Layer in Zinc Ion Batteries	Anuja	Tripathi	63a
90	Improving Uniformity of W-Re Alloys by Pore Volume Impregnation of Tungsten Powder	Davis R.	Conklin	63b
91	Effect of Wool Substrate and Its Processing on the Performance of Conductive Textiles	Alyssa	Grube	63d
92	Material Properties of Recycled Glass Sand: A Case Study Conducted with Glass Half Full Nola	Julie	Albert	63e
93	Unlocking Kinetically-Limited Nucleation Regimes through Continuous Modular Microfluidics	Jacob	Crislip	63f
94	In Situ Characterization of Zeolite Surface Growth Using Atomic Force Microscopy	Zhiyin	Niu	63g
95	Elucidating the Mechanism of Nanosheet Pillaring in MFI-Type Zeolites	Muhammad Fiji	Firdaus	63h
96	*A Priori* Data Collection for Thermodynamic Modeling of Off-Stoichiometric Metal Oxides Via Bayesian Methods	Steven	Wilson	63i
97	Preparation of Two-Dimensional Fe_3O_4 Nanoparticles Transformed from a-Fe_2O_3 Analogues and Their Applications in Magnetic Field-Assisted Microalgal Biorefinery Process	Yujeong	Jeong	63j
98	Autonomous Synthesis of Eco-Friendly Metal Halide Perovskite Nanocrystals	Sina	Sadeghi	63k
99	A Pyrogallate-Based Metal-Organic Framework with a Two-Dimensional Secondary Building Unit	Stavroula	Kampouri	63l

64 - Poster Session: Materials Engineering & Sciences (08F - Composite Materials)

Tuesday, November 07, 2023 3:30 PM - 5:00 PM

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BOARD NUMBER	Title	First Name	Last Name	Paper Number
111	From Brown Tides to 3D Printers: Fabrication & Characterization of Novel Sargassum-Based Polymer Composite Filaments for 3D Printing	Sebastian	Toro Bernal	64a
112	An Exploratory Study on the Development of Sargassum Algae-Based Biodegradable Polymer Composites Via Selective Laser Sintering.	Omar	Movil	64b
112	An Exploratory Study on the Development of Sargassum Algae-Based Biodegradable Polymer Composites Via Selective Laser Sintering.	Stephanie	Garcia	64b
113	Liquid Metal Polymer Composites to Enable Soft Robotics and Stretchable Electronics	Amanda	Koh	64c
114	Engineering Magnetic Composites for Improved Shear Behavior through Orthogonal Means	Amanda	Koh	64d
115	Prediction of Organic Compound Aqueous Solubility Using Interpretable Machine Learning-a Comparison Study of Descriptor-Based and Topological Models	Arash	Tayyebi	64e
116	Sustainable Generator and in-Situ Monitor Forreactive Oxygen Species Using Photodynamic Effect Ofsingle-Walled Carbon Nanotubes in Ionic Liquids	Erin	Witherspoon	64f
117	Highly Stretchable P3HT Containing Core-Shell Composite Fibers from Coaxial Electrospinning	Humayun	Ahmad	64g
118	Development of a Novel PEO-Based Solid Electrolyte for Lithium-Sulfur Batteries	Basem	Al Alwan	64j

BOARD NUMBER	Title	First Name	Last Name	Paper Number
	# 65 - Poster Session: General Topics on Separations			
	Tuesday, November 07, 2023 3:30 PM - 5:00 PM			
	Regency Ballroom R/S, Hyatt Regency Orlando			
226	Hollow Fiber Membrane Module Fabrication for the Separation of R-410A	Luke	Wallisch	65a
227	Process-Based Solvent Screening for Efficient Extractive Distillation	Sahil	Sethi	65b
228	Poster: Real-Time Induced Magnetic Vibration to Reduce Membrane Fouling: Experimental and Modeling Investigation	Jasneet	Pala	65c
229	"Highly Charged Ion-Exchange Membranes for Treatment of Highly Impaired Waters Via Electrodialysis"	Carolina	Espinoza	65d
230	Investigating Reactive Oxygen Species of Chitosan-Graphene Oxide Composites for Water Treatment Membranes	Audie	Thompson	65e
231	Numerical Simulations with Continuous Flow in Magnetic Separator	Hyeon	Choe	65f
232	Unexpectedly High Propylene-Selective Mixed-Matrix Membranes with Additive-Incorporated Facile *in-Situ* ZIF-8 Filler Formation Process	Yinying	Hua	65g
233	Effect of Capping Group Binding on Chemical Reactivity	Chinmay	Mhatre	65h

	# 149 - Interactive Session: Systems and Process Control			
	Tuesday, November 07, 2023 3:30 PM - 5:00 PM			
	Regency Ballroom R/S, Hyatt Regency Orlando			
BOARD NUMBER	Title	First Name	Last Name	Paper Number
234	Case Studies on the Combined Identification and Offset-Free Control of Chemical Processes (Poster corresponding to plenary presentation)	Steven	Kuntz	149a
235	Fast Zone-Model Predictive Control for Full Battery Pack of Electric Vehicles	Changbeom	Hong	149b
236	A Machine Learning Assisted Approach to Model Predictive Control with Multi-Objective Optimization and Multi-Criteria Decision Making	Zhiyuan	Wang	149c
237	Model Predictive Control of an Axial Dispersion Tubular Reactor with Recycle: A Distributed Parameter System with State Delay	Behrad	Moadeli	149d
238	Distributed Control of Integrated Process Systems – an Experimental Study	Sujit	Jogwar	149e
239	Dynamic Analysis and Model Predictive Control of a Biochemical Reactor Under Delayed Uncertain Measurement and Multi-Rate Actuation/Sampling	Guilherme	Ozorio Cassol	149f
240	Multiscale Kinetic Modeling and Optimization: In-Depth Analysis of Cellulose Degradation for Enhanced Pulping Process and Superior Paper Quality	Juhyeon	Kim	149g
242	The Theoretical Basis of Ratio Control	Sigurd	Skogestad	149h
243	Self-Optimizing Control for Secondary Controlled Variable Selection	Chenchen	Zhou	149i
244	Practical Control Laws with Quantum Computation	Jihan	Abou Halloun	149j
245	Considerations of Space Manufacturing: Utilizing Earth-Based Resources for Modeling and Control Applications While Considering Communication Delay	Kip	Nieman	149k
241	Harnessing Feedback Control Strategy for Improved Core Annular Flow Stability in Heavy Oil Transportation	Erbet	Costa	149l
241	Harnessing Feedback Control Strategy for Improved Core Annular Flow Stability in Heavy Oil Transportation	Patrick	Lima	149l
247	Machine Learning-Based Predictive Irrigation Scheduling	Bernard	Agyeman	149n
249	Data Driven Economic Model Predictive Control of a Rotational Molding Process	Aswin	Chandrasekar	149o
250	Hybrid Subspace-Rnn Based Approach for Modelling of Non-Linear Processes	Aswin	Chandrasekar	149p
251	Model-Based Control for Liquid-Liquid Extraction	Daniel	Moser	149q
252	Parameter Estimation for Bioprocesses Cognizant of Measurement Noise Distribution	Lauren	Weir	149s
253	Advanced Model Predictive Control Strategies for Large-Scale Dynamic Systems Based on Data-Driven Artificial Neural Networks	Weiguo	Xie	149u

BOARD NUMBER	Title	First Name	Last Name	Paper Number
255	Physics-Informed Neural Networks (PINNs) for Modeling Dynamic Processes Based on Limited Physical Knowledge and Data	Mehmet	Velioglu	149v
256	Parameter Estimation in Bioprocesses Using Bayesian Inference	Nigel	Mathias	149w
257	Hybrid Series/Parallel All-Nonlinear Dynamic-Static Stochastic Neural Networks: Development, Training and Application to Chemical Processes	Angan	Mukherjee	149x
258	Physics-Informed Neural Networks (PINNs) for Process Systems with Model Plant Mismatch	Prashant	Mhaskar	149y
259	Reinforcement Learning Based Control of Fed-Batch Production Reactor	Mariana	Monteiro	149z
260	Synthesis of Decarbonized Hydrogen Production Processes Using the Attainable Region Framework	Cornelius	Masuku	149aa
246	Considerations of Closed-Loop Control on Quantum Computers Using a Modified Grover's Algorithm for Simulation of a Chemical Process	Kip	Nieman	149ab
261	Optimization-Based State and Parameter Estimation for Distributed Parameter Pipeline Systems	Lu	Zhang	149ac
262	A Constraint-Based Modeling Framework with Deep Reinforcement Learning and Multi-Objective Optimization for Control of Mammalian Cell Cultures	Satish	Parulekar	149ad
263	Bayesian Identification of Nonlinear, Sparse, Dynamic Models	Samuel	Adeyemo	149ae

BOARD NUMBER	Title	First Name	Last Name	Paper Number
	# 150 - Poster Session: Materials Engineering & Sciences (08B - Biomaterials)			
	Tuesday, November 07, 2023 3:30 PM - 5:00 PM			
	Regency Ballroom R/S, Hyatt Regency Orlando			
57	Microparticles to Detoxify Neonicotinoid Insecticides in Managed Pollinators	Julia	Caserto	150a
58	Using Melanin Nanoparticles As Drug Carriers for Long-Lasting Nerve Blocks	Xiaosi	Li	150b
59	Culture Strategy to Increase Bacterial Cellulose Productivity.	Irene	Martinez	150c
60	Elucidation of Structural Proteins Used in Construction of Mud Dauber Nests and Caddisfly Cases	Jesse	Roberts	150e
61	Effects of Surfactant HLB Values and Charges on the Phase Transition Behavior of Thermoresponsive Polysaccharides	Rabeya Sharmin	Lima	150f
62	Unique Nonclassical Pathways of Cholesterol Crystallization in Biomimetic Media	Dipayan	Chakraborty	150g
63	Capitalizing on the Cooperative Action of Multiple Modifiers to Control the Crystallization of Calcium Oxalate	Vraj	Chauhan	150h
64	Improving Mechanical Properties of Biopolymeric Films Used in Wound Healing Through Incorporating Nanosheets Derived from TiB_2	Akshant	Kumawat	150i
65	Engineering Nanofiber Scaffolds with Biomimetic Cues for Differentiation of Neural Crest-like Stem Cells to Schwann Cells	Mohamed Alaa	Mohamed	150j
66	Surface and Sub-Surface Analyses of Electrospun Gelatin and Gelatin-Chondroitin Sulfate Scaffolds for Biological Applications	Huiyong	Li	150k
67	Engineering Macromolecular Hydrophobicity to Induce Phase Separation and Control Microstructure in Biomaterials to Enhance Cellular Function	Saniya Yesmin	Bubli	150l
68	Thermally Induced *in Situ* Formation of Polymersomes with Sustained Release of Tetrodotoxin	Qi	Li	150m
69	Multi-Site Esterification: A Reversible Approach to Encapsulate Therapeutic Peptides	Mark	Bannon	150o
70	Injectable Senolytic Hydrogel Depot for the Clearance of Senescent Cells	Giovanni	Bovone	150p
71	Controlled Delivery of N-Acetylcysteine from PLGA Microparticles Prevents Oxidative Stress in Neural Stem Cells	Nadeesani	Sirinayake	150q
72	The Effect of Crosslinker Concentration on Competitive Release Kinetics and Physical Characteristics of Thermo-Responsive, Lignin-Based Soft Composites	Missoury	Wolff	150r
73	Viscoelasticity of Hyaluronic Acid Matrix Regulates Spinal Cord Organoid Differentiation and Morphogenesis	Xingchi	Chen	150s
74	LL37 and Collagen-Binding Domain-Mediated LL37 Binding with Type I Collagen: Quantification Via QCM-D	Ziqi	Wei	150t
75	Assessing the Production and Cytocompatibility of *Plodia Interpunctella S*ilks as Polymeric Biomaterials	Jasmine	McTyer	150v
76	Unraveling the Enhancing Effect in Proliferation of Human Mesenchymal Stem Cells Cultured on Biopolymeric Coatings	Roaa	Hadi	150w
77	Confirming the Extent and Mechanisms of the Immunosuppressive Enhancement of hMSCs Initiated By Col/Hep Layer By Layer Coatings	Justin	Putman	150x
78	Silver Oxide Coatings for Preventing Pathogen Transfer through Fomites	Mohsen	Hosseini	150y
79	Liquid-Metal Based Flexible Multi-Electrode Neural Array	Alexandra	Boyadzhiev	150z
80	Antibiotic Loaded ZIF-8 for Enhancing Dental Resin Antibacterial Activity	Kaiwen	Chen	150aa

BOARD NUMBER	Title	First Name	Last Name	Paper Number
81	Microphysiological Prostate Cancer-on-a-Chip System for *in Vitro* Evaluation of Nanotherapeutic Delivery	Nicole	Habbit	150ab
82	Development of a Mouse Model for Evaluation of Wound Healing Implants and Devices	Dina	Gadalla	150ac
83	Stiff and Injectable Biopolymeric Hydrogels with Dynamic Covalent Chemistry	Renato	Navarro	150ad
84	Hierarchically Porous Slit3-Releasing PLGA/Hydroxyapatite Composite Scaffold for Bone Tissue Engineering	Ali	Alshami	150ae
85	3D Printing Reactive Photopolymers from Thiol-Ene and Thiol-Epoxy "Click" Reactions for Biomedical Tissue Scaffolding Implants	Andrew	Weems	150af
86	Promoting Regenerative Tendon Healing through Materials Design in Polymeric Engineered Extracellular Matrix	Tayler	Hebner	150ag
87	Engineering Enzymatic Membranes for CO_2 Capture Via Melt Coextrusion	Samuel	Hays	150ai
88	Thyroid hormone selective recognition: Elaboration of levothyroxine-selective molecularly imprinted nanostructured films	Federico A.	Fookes	436h

151 - Poster Session: Materials Engineering & Sciences (08E - Electronic and Photonic Materials)

Tuesday, November 07, 2023 3:30 PM - 5:00 PM

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BOARD NUMBER	Title	First Name	Last Name	Paper Number
100	Advanced Manufacturing of Thin-Film Devices from Laser-Induced Graphene	Jacob	Heil	151a
101	Screening Aqueous Battery Chemistries for Widespread Deployment: Combining Material Distribution, Thermodynamics, & Efficiency in a Levelized Cost of Energy Stored Model	Muntasir	Shahabuddin	151b
102	Pretreatment and Copper Ion Diffusivity Optimization in High Speed Cu Pillar Electroplating for CMOS Packaging	Soo woong	Park	151c
103	Study on the Mechanism of SPS with Chloride Ion during Cu Microvia Pulse-Reverse Electrodeposition	Hui ju	Seo	151d
104	Polymers and Polymer-Plasmonic Nanocomposites with Enhanced Chiral Optical Activity	Shema	Rachel Abraham	151e
105	Structure-Tunable Chiral Plasmonic Resonators By Electroless Deposition	Michael	Veksler	151f
106	*Ab Initio* study of the Electronic and Optical Properties of Lanthanum-Doped and Magnesium-Doped Strontium Titanate Structures for Advanced Gas Sensing Applications	Jordan	Chapman	151g
107	NiO/β-(AlxGa1−x)2O3/Ga2O3 Heterojunctionlateral Rectifiers with Reverse Breakdownvoltage >7 Kv	Hsiao-Hsuan	Wan	151i
108	Surface Equilibration Mechanism Controls the Stability of a Model Co-Deposited Glass Mixture of Organic Semiconductors	Shinian	Cheng	151j
109	Understanding the Solution-State Aggregate Structures of Donor Polymers and Their Impact on the Morphology and Device Properties of Organic Solar Cells	Azzaya	Khasbaatar	151k
110	3D Structure SnO_4 on Planar Cu Foam for Stable and Dendrite–Free Lithium Deposition	Bin	Yao	212b

BOARD NUMBER	Title	First Name	Last Name	Paper Number
317	Sustainable power generation from salinity gradients via Pressure Retarded Osmosis (PRO): Membrane modifications for improved mechanical stability	Magdalena	Malankowska	
318	Dye-desalination membranes constructed using amine functionalized holey graphene oxide (HGO)	Ameya	Tandel	152a
319	Magnetophoretic Migration of Fe_3O_4 Nanoparticles Under Different Magnetic and Flow Field Conditions	Jenifer	Gomez Pastora	152c
320	Enhanced Extraction of Tea Tree Oil By Hydrodistillation with an Alkyl Polyglucoside Surfactant	Duu-Jong	Lee	152d
320	Enhanced Extraction of Tea Tree Oil By Hydrodistillation with an Alkyl Polyglucoside Surfactant	Bing-Hung	Chen	152d
321	Solvent-Controlled Ligand Conformational Energetics in Liquid-Liquid Extraction	Xiaoyu	Wang	152e
322	Scale-up of Perfluoro(butenyl vinyl ether) (PBVE) and Perfluoro(2,2-dimethyl-1,3-dioxole) (PDD) Copolymers for the Separation of R-410A	Abby	Harders	152f
323	Self-Diffusion of Pure and Mixed Gases in Mixed Matrix Membranes with Different MOF Loadings By Pulsed Field Gradient NMR	Omar	Boloki	152g
324	Enantioseparation of Phenylethanol By Three-Phase Crystallization	Lie-Ding	Shiau	152h
325	Multifaceted Approach for Treatment of Polluted Water/Air with Catalytic Membrane Filters	Rollie	Mills	152i
326	Microscopic Diffusion of Liquid Sorbates in Carbon Molecular Sieve Membranes By Pulsed Field Gradient NMR	Sree	Laxmi	152j
327	Carbon Capture Demonstrated at ~1 Tonne CO_2/Day Scale By an Integrated Membrane Skid	Yang	Han	152k
328	Amine-Modified Hyper-Cross-Linked Polymeric Resins for Economically Viable Biogas Upgrading	Olusola	Johnson	152l
329	Novel Synthesis of Polyethylene Terephthalate (PET) Wastes-Derived Activated Carbon for CO_2 Adsorption	Shuangjun	Li	152m
330	Cyclodextrin-Modified Layered Double Hydroxide Thin-Film Nanocomposite Desalination Membrane for Boron Removal.	Liang Ying	Ee	152n
331	Separation of Similar-Sized Gas Molecules (CO, C_2H_4) Using Carbon Molecular Sieve (CMS) Membranes	Deepanjali	Roy	152o
332	Adsorption Behaviors of C2–C3 Olefin and Paraffin on Zeolite 13X	Hyukjun	Byun	152p
333	Adsorption and Desorption Characteristics of Trace Sulfur Compounds on Cu- Activated Carbon	Jung Hyeok	Park	152q
334	Achieving Order of Magnitude Increases in Electrochemical CO_2 Reduction Reaction Efficiency By Product Separations and Recycling	Akriti	Sarswat	152r
335	Photothermal CO_2 Capture from Air Using Amine-Modified Silica Aerogel	Taishi	Kataoka	152s
336	Performance Assessment of Dense and Asymmetric Polymeric Membranes with Metal Organic Framework As Fillers for Biogas Enrichment	Shweta	Negi	152t
337	Azeotropic Hydrofluorocarbons/Hydrofluoroolefins Refrigerant Mixture Separation Using Extractive Distillation with Ionic Liquids Entrainers	Abdulrhman	Arishi	152u
338	Sorption of Pfas from Human Plasma Using Zeolites	Clarice	Sabolay	152v
339	Low-Cost, Made-in-India Hollow Fiber Membranes (HFMs) for Hemodialysis Application	Nidhi	Pandey	152w
340	Green TEAM: Surface-Initiated Free Radical Polymerization of Tethered Electrolyte Active-Layer Membranes.	Elnur	Jabiyev	152x

BOARD NUMBER	Title	First Name	Last Name	Paper Number
341	Semi-Interpenetrating Networks (s-IPN) of Polybenzimidazole-Based Membranes for High-Temperature Pre-Combustion Carbon Capture	Mengdi	Liu	152y
342	Effect of Steam and Air on Methane Dry Reforming Reaction in Pd-Au Membrane Reactor for Hydrogen Production	Omid	Jazani	152z
343	Electrified Lixiviation of Rare Earth Elements from Coal Mining Waste	Lawrence	Ajayi	152aa
344	Techno-Economic Analysis of Membrane-Adsorption Hybrid Process for Direct Air Capture	Yi-Chen	Huang	152ab
345	Development of Cationic Hydrogels and Hydrogel Composites for Removal of Pfas from Aqueous Systems	Maria Victoria	Ximenes Klaus	152ac
346	Poster: Superfine Activated Carbon-Functionalized Adsorptive Thin-Film Nanocomposite Membranes for Selective Pfas Removal from Water	Medha	Kasula	152ad
347	Poster: In-Situ Metal-Organic Frameworks Membrane Surface Functionalization for Water Treatment: Synthesis, Characterization, and Performance.	Himangshu	Mondal	152ae
348	Random Sulfonated Poly(arylene ether sulfone) and Sulfonated Poly(arylene ether ketone) Membranes for Proton Exchange Fuel Cells	Gilberto	Ramos Rivera	152af
349	Title: Zwitterionic and Polyampholyte Tethered Electrolyte Active-Layer Membranesdepartment: Chemical	Mohammad Hossein	Mehdi Pour	152ag
350	Methane Absorption Capacities of Selected Organic Solvents for Turquoise Hydrogen Purification	Hojun	Song	152ah
351	Adsorbent Characteristics for Effective Siloxane Removal from Gas Streams and Silicone Oils : A Study on Chemical and Structural Properties and Separation Selectivity	Jair	Cowie-Williams	152ai
353	Transition from Classical to Nonclassical Mode of Organic Crystallization Just By Increasing the Supersaturation	Manasa	Yerragunta	152aj
352	Poster: Efficient Removal of Micro- and Nano-Plastics from Water Using Ionic Liquid-Based Liquid-Liquid Extraction	Ashish	Srivastava	152ak
355	Selective Removal of Selenium from High-Salinity Water Using MOFs and MOF-Incorporated NF Membrane	Sweta	Modak	152al
356	The Potential of Using Crystallization for the Separation of Full and Empty Capsids	Vivekananda	Bal	152am
357	Biomass Based Activated Carbon Electrodes for Capacitative Deionization in the Context of Nitrate and Phosphate Removal.	Shreenath	Krishnamurthy	152an
358	Applications of Banana Peels Derived Bio-Adsorbent in NOM Removal from Surface Water	Kundan	Kumar	152ao
359	Engineering Hydrogels for Water Sustainability	Youhong (Nancy)	Guo	152ap
360	An Improved Closed-Circuit RO (CCRO) System: Design and Cyclic Simulation	Mingheng	Li	152aq
361	Characterization of Novel Oligo(dT) Affinity Membranes for the Purification of mRNA Vaccines	Miral	Al Sharabati	152ar
362	Dynamic Column Breakthrough Adsorption Studies to Investigate CO_2/H_2 and CO_2/N_2 Separations at Elevated Pressures	Humera	Ansari	152as
363	Accelerating Development of Porous Sorbents for Direct Air Capture Using High Throughput Computing and Machine Learning	Xiaohan	Yu	152at
364	Designing Bottlebrush Poly(1,3-dioxolane) Acetate for CO_2 Capture	Fathy Mohammed Eldesoky	Attia	152au
365	Separation of HFC-32 and HFC-125 Using Polyvinyl Acetate + Ionic Liquid Composite Membranes	Hannah	Uhl	152av
366	Process Optimization of Ann-Based Vpsa Process for Ethane/Ethylene Separation	Myung Kyun	Lim	152aw
367	Controlling Polymer Functionality and Dynamics in Plasticized Gas Separation Membranes Using Click Chemistry	Ryan	Johnson	152ax

BOARD NUMBER	Title	First Name	Last Name	Paper Number
368	Elucidating the Role of Water Content on Counter-Ion Selectivity in Ion Exchange Membranes Contacted By Binary Salt Mixtures	Harsh	Patel	152ay
369	Peracetic Acid Activated By Reduced Graphene Oxide Catalytic Membrane for Micropollutants Removal from Agricultural Wastewater	Erda	Deng	152az
370	Ultra-High H_2/CO_2 Separation Factors in Aramid-Derived Carbon Molecular Sieve Membranes	Gaurav	Iyer	152ba
371	The Development of Effective Area Correlation of Rotating Packed Beds and Its Application on CO_2 Chemical Absorption Using Monoethanolamine Solutions	Shu-Yuan	Pan	152bb
372	Development of an Efficient and Cost-Effective Photocatalytic Membrane Reactor for the Separation of Dye from Wastewater	Vikash	Kumar	152bc
373	Mixed Matrix Membranes for Separating Hydrofluorocarbon Refrigerant Mixtures	Tessie	May	152bd
374	An Investigation of a 3D CFD Study Exploring the Influence of Feed Spacer Designs on the Effectiveness of High-Permeance RO Membranes	Sung jin	Bae	152be
375	Poly(dimethylsiloxane) (PDMS) Membrane with Tunable Chain Spacing for Ultrafast Ethanol Recovery	Zhengze	Chai	152bg
376	Computer-Aided Molecular Design and Fabrication of Membrane Materials and Their Application in Gas Separation	Jimoh	Adewole	152bh
377	Multi-Ligand Hybrid Approach to Tailoring Zeolite Imidazolate Frameworks for Highly CO_2-Selective Mixed Matrix Membranes	Heseong	An	152bj
378	Biofouling Performance of Aromatic Polyamide Desalination Membranes Containing Functionalized Cellulose Nanocrystals (CNCs)	Connor	Farrell	152bk
379	Dewatering of Aviation Fuel: Development of Superhydrophobic Carbon Nanotube Immobilized Membranes	Sumona	Paul	152bm
380	Selective CO_2 Capture from Mixtures Using Zeolitic Imidazolate Framework Sorbents: A Gcmc and Molecular Dynamics Study	Yacham	Ashok	152bn
382	Chemically Immobilized Silver Nanoparticles on Polysulfone Membrane Filter for High Efficacy Antimicrobial Protection in Face Mask and Air Filtration Applications.	Ebuka	Ogbuoji	152bp
354	Concentration-Driven Transition between Classical and Nonclassical Modes in Organic Crystallization.	Manasa	Yerragunta	152br
381	Impact of Solvent Selection on Oiling-out in Pharmaceutical Crystallization	Francesco	Ricci	152bs
381	Impact of Solvent Selection on Oiling-out in Pharmaceutical Crystallization	Da Hye	Yang	152bs
383	PDMS/polyamide imide-stabilized palladium nanoaparticles for hydrogenation of 4-nitrophenol	Usman	Sharif	152bu

BOARD NUMBER	Title	First Name	Last Name	Paper Number
	# 153 - General Poster Session in Sensors			
	Tuesday, November 07, 2023 3:30 PM - 5:00 PM			
	Regency Ballroom R/S, Hyatt Regency Orlando			
265	The Stability of ALD Thin-Film Coated Electrode Surface in Electrolyte Solutions	Dorian	Thompson	153b
266	Design and Characterization of a 3D-Printed Vertically Stacked Sensor Array for Monitoring Electrochemical Signatures of Microbial Activity in Wetland Sediment	Bukola	Adesanmi	153c
267	Detection of Pyocyanin and Methylene Blue Using Electrochemical Impedance Spectroscopy (EIS) with Electrodeposited Nickel-Iron-Carbon Composite Electrodes	Arash	Bahrololoomi	153d
268	Paper Microfluidic Based Wearable Patches for Biomarker Sensing in Sweat	Sneha	Mukherjee	153e
254	Development of Sol-Gels and Nanoparticle Enhanced Sol-Gels for pH Sensing Performance	Weiguo	Xie	153f
269	Development of Paper-Based Point-of-Care Diagnostics for Detection of Human Respiratory Pathogens Using Loop-Mediate Isothermal Amplification	Josiah	Davidson	153g

BOARD NUMBER	Title	First Name	Last Name	Paper Number
385	Discovery and Mechanism-Guided Engineering of BHET Hydrolases for Improved PET Recycling and Upcycling	Xiujuan	Li	154a
385	Discovery and Mechanism-Guided Engineering of BHET Hydrolases for Improved PET Recycling and Upcycling	He	Huang	154a
386	Computational High-Throughput Screening of Glycerol-Derived Solvents for Plastic Waste Recycling	Ademola	Soyemi	154b
387	Novel Thin Film Composite (TFC) Membranes Fabricated from Upcycled Waste PVC Pipe Support Layer for Water Treatment	Atta Ur	Razzaq	154c
389	Nutrient Sourcing in Optimization of Microbial Plastic Waste Valorization	Kimia	Noroozi	154e
390	Two Enzyme Whole Cell Biocatalysts for Complete PET Degradation	Siddhant	Gulati	154f
391	Waste Plastics Valorization through Pyrolysis Processes: A System Analysis Framework	Amir	Akbari	154g
391	Waste Plastics Valorization through Pyrolysis Processes: A System Analysis Framework	Sam	Barker	154g
392	Catalytic Conversion of Waste PET into Bhet over Mn-Substituted $MgAl_2O_4$ Spinel As a Reusable and Regenerable Heterogeneous Catalyst	Do-Young	Hong	154h
393	Blue Hydrogen Production from Waste Tire: Technical and Economic Assessment	Usama	Ahmed	154i
394	Selective and Efficient Glycolysis of Textile PET, Colored PET, and Multilayer PET Using Ionic Liquids	Fahimeh	Forouzeshfar	154j
395	Kinetics of Polyurethane Foam Acidolysis with Carboxylic Acids	Zach	Westman	154k
396	The Effect of Reactor Configuration and Temperature on Product Yields in a Liquid-Fed Waste Plastic Pyrolysis Pilot Plant	Ali	Zolghadr	154l
397	Polyethylene Terephthalate Depolymerization: Controlled Glycolysis to Oligomers *Via* Microwave Irradiation Using Antimony (III) Oxide	Mojtaba	Enayati	154m
398	Zeolite-Catalyzed Upcycling of Waste Plastic Using Thermal and Microwave Reactor	Thang	Luong	154n
399	Depolymerizing PET Via "Imidazolysis": A New Cleavage Strategy to Obtain Versatile Intermediates	Mousumi Rani	Bepari	154o
400	Molecular Recycling of Mixed Plastic Waste Facilitated By Solvents	Marina	Tsianou	154p
400	Molecular Recycling of Mixed Plastic Waste Facilitated By Solvents	Paschalis	Alexandridis	154p
403	Material Recycling of Acrylonitrile Butadiene Styrene from Toy Waste Using Safer Solvents	Wan-Ting	Chen	154q
402	Reactive Compatibilization of Recycled Polyethylene Terephthalate/Recycled Rubber Particles Blends	Aboulfazl	Barati	154r
404	A Two-Stage Process and a Generalized Molecular-Level Kinetic Model for Polyolefin Pyrolysis: Low Molecular Weight Product Evolution	Zhe	Fu	154s
405	Novel Chemi-Mechanical Recycling Process for Blending of Polyethylene and Polypropylene	Madison R.	Reed	154t
406	Sovothermal Upcycling of E-Waste Plastics into Blendstock Fuels and Chemicals	Toufiq	Reza	154u
407	Tidytron: Reducing Lab Waste Using Validated Wash-and-Reuse Protocols for Common Plasticware in Opentrons OT-2 Lab Robots	John	Bryant	154v
401	A Sustainable Hybrid Catalyst to Depolymerize Recycled Polyethylene Terephthalate	Aboulfazl	Barati	154w
401	A Sustainable Hybrid Catalyst to Depolymerize Recycled Polyethylene Terephthalate	Erfan	Dashtimoghadam	154w

BOARD NUMBER	Title	First Name	Last Name	Paper Number
408	Production of Polystyrene Microparticles and Microfibers from Waste Expanded Polystyrene Using Spinning Disk Technique	Raghunathan	Rengaswamy	154x
408	Production of Polystyrene Microparticles and Microfibers from Waste Expanded Polystyrene Using Spinning Disk Technique	Basavaraj M.	Gurappa	154x
409	Formation of PET Oligomers Via Microwave-Assisted Heating	Sean	Najmi	154y
410	Thermal Oxo-Degradation of Post-Consumer Waste Plastics to Increased Yields of Desirable Products Using Less Energy	Jessica	Brown	154aa
411	Real-Time Plastic Waste Recognition with Mid-IR Standoff Detection and Advanced Machine Learning	Yaoli	Zhao	154ab
412	Engineering *Vibrio Natriegens* for Degrading and Assimilating Poly(ethylene terephthalate)	Tianyu	Li	154ad
413	Recovery of Virgin-like Polypropylene from Mixed Plastic Wastes	Parikshit	Sarda	154ae
414	Insights into Co-Pyrolysis of Polyethylene Terephthalate and Polyamide 6 Mixture through Experiments, Kinetic Modeling and Machine Learning	Varaha	Jonnalagedda	154ah
415	Acid-Activated Depolymerization of Polyethylene	Brandon	Howard	154ai
416	MD Simulation of Waste Plastic-Asphalt Compatibility	Aniruddha	Chowdhury	154aj
417	Upcycling Plastics to Value-Added Chemicals Via Electrified Spatiotemporal Heating	Qi	Dong	154ak
418	Upcycling of Waste Poly(vinyl chloride) (PVC) through Depolymerization Under Mild Conditions	Ali	Alshaikh	154al
419	Upcycling Virgin and Waste Polyethylene to Reprocessable Dynamic Covalent Networks Via Free-Radical Grafting of Dialkylamino Disulfide Bonds	Logan	Fenimore	154ao
420	Mechanochemical Degradation of Polyethylene into Waxy Residue, Olefin Containing Products and Gaseous C1-C6 Products	Laura	Wilcox	154ap
421	Evaluating the Economic and Environmental Benefits of Deploying a National-Scale, Thermo-Chemical Plastic Upcycling Infrastructure in the United States	Evan	Erickson	154aq
422	Microwave-Assisted Chemical Recycling of Polyolefinic Plastics for the Production of Monomers	Leilei	Dai	154ar
423	Sustainable Process Design for Valorization of PET Waste	Sweta	Zode	239e

BOARD NUMBER	Title	First Name	Last Name	Paper Number
	# 224 - Poster Session: Thermodynamics and Transport Properties (Area 1A)			
	Tuesday, November 07, 2023 3:30 PM - 5:00 PM			
	Regency Ballroom R/S, Hyatt Regency Orlando			
271	Predicting the Vapor-Liquid Equilibrium Curves of CO_2 and H_2s in Aqueous Blends of Mdea and Piperazine Using Molecular Simulations and Quantum Chemistry Calculations	H. Mert	Polat	224a
272	Calculations of Solubilities and Diffusion Coefficients of Carbon Dioxide and Nitrogen in Polystyrene- Application of a Synthetic Method	Hossein	Abedsoltan	224b
273	Thermodynamic and Transport Properties of Ionic Liquid/Water Mixtures Used in Biomass Dissolution	Karim	Al-Barghouti	224c
274	Cocrystal Formation Using Fatty Acid Toward a Sustainable, Easy and Rapid Pharmaceutical Process	Yuna	Tatsumi	224d
275	A Tutorial on the Bayesian Approach to Inverse Problems (e.g., in heat transfer)	Cory	Simon	224e
276	Density-Pressure-Temperature Measurements of Binary Mixtures of 1-Ethyl-3-Methylimidazolium Bis(trifluoromethylsulfonyl)Imide with Alcohols	Ricardo	Torres	224f
277	Thermodynamics of Lanthanides and Transition Metal Pair Charged Compensating Doped Ceria Materials	Jayni	Hashimoto	224g
278	Interactive Thermodynamics Lecture Modules with Matlab, Simulink, and Simscape	Aycan	Hacioglu	224h

225 - Poster Session: Fundamentals and Applications of Adsorption and Ion Exchange

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BOARD NUMBER	Title	First Name	Last Name	Paper Number
282	Heel Formation During Adsorption-Desorption of VOCs on Honeycomb Zeolite: Effect of Regeneration Parameters	Sina	Esfandiar Pour	225a
281	Adsorption of CO and NO By Na-FAU Zeolites: Effects of Si/Al Ratio, Oxygen and Humidity	Hubert	Monnier	225c
283	Inferring Diffusion Coefficients from Break-through-Curve Measurements Under Uncertainty	Robert	DeJaco	225d
284	Synthesis of Metal-Organic Frameworks and Activated Carbon Composites and Their Carbon Dioxide Adsorption Performance	Hyun Min	Chae	225e
285	Comparative Study on Efficient Adsorption of Metal Ions from Aqueous Solution By Using Various Functionalized Fe_3O_4 Magnetic Nanoparticles.	Olufemi	Ogunjimi	225f
286	Binary Adsorption of Pentafluoroethane (HFC-125) and Difluoromethane (HFC-32): Thermodynamic Modeling of Pure and Binary Adsorption for Process Design	Andrew	Yancey-Jardon	225g
287	Application of Bi-Functional Catalytic Sorbents for Carbon Capture and High-Purity Hydrogen Production.	Pilseok	Kim	225h
288	Development of PET-Based Carbon Monoxide Adsorbents Using Various Activating Agents	JaeHyung	Jung	225i
289	Polyacrylamide Adsorption Onto Calcite Surface Predicted By Molecular Dynamic and Monte Carlo Simulation	Sebastiao	Lucena	225j
290	Enhancing Cyclic Stability of Calcium-Included Layered Double Hydroxide for CO_2 Capture Via Controlling Alkali Metal Portion	Kuei Tan	Lee	225k
291	Triamine-Grafted Mesoporous Silica Materials for Landfill Gas Purification	Dung	Lam	225l
292	Amine-Impregnated Mesoporous Silica Materials for Biogas Upgrading	Brandyn	Nutter	225m
293	Synthesis of Heteroatom-Doped Activated Carbon Using Acrylamide for CO_2 Adsorption	Moon-Kyung	Cho	225n
280	Adsorption of NO, NO2 and CO over Agx Faujasite with Water and Oxygen Gas – DFT, Equilibrium, and Dynamic Experiment Investigations	Hubert	Monnier	225o
294	An Optimised Vacuum Pressure Swing Adsorption System for CO_2 Capture	Yan	Chen	225p
295	Investigating the Potential of Amine-Impregnated Mesoporous Silica Materials As an Alternative CO_2 Adsorbent for Space Life Support Applications	Amirjavad	Ahmadian Hosseini	225q
296	Influence of Hydroscopic Salt Species on the Performance of Hierarchical Silica-Salt Composites for Atmospheric Water Harvesting	Jia Ji	Lin	225r
297	Quantifying Binary Adsorption Equilibria on Small Adsorbent Samples	Gwyneth	Liske	225s
298	Computer-Aided Molecular Design to Identify Corrosion Inhibitors for STEEL Reinforced Concrete	Donald	Visco	225t
299	Effect of Corrosive Gas Species on Promising Metal Organic Frameworks (MOFs) Material Composites for Direct Air Capture (DAC) of Carbon Dioxide (CO_2)	Mario	Zorrilla Valtierra	225u
300	Tuning the Spatial Arrangement of Sol-Gel Based Proton Exchange Membranes	Zhao Ren	Tan	225v

BOARD NUMBER	Title	First Name	Last Name	Paper Number
301	Hierarchically Meso-/Macroporous Resin-Templated Sorbents for CO_2 Capture	Ching-En	Ku	225w
302	High Surface Area Activated Carbon from Plastic Wastes	Savannah	Steger	225x
303	Adsorption of Rare Earth Elements (REEs) in Functionalized Nanoporous Carbons	Dipendu	Saha	225y
304	Adsorbed Natural Gas Storage - Modeling for Heat Management at Industry Scale	Yuguo	Wang	225aa
305	20 K H_2 Physisorption on Metal–Organic Frameworks with Enhanced Dormancy Compared to Liquid Hydrogen Storage	Jaewoo	Park	225ab
306	Equilibrium Isotherms and Diffusion Mechanism of Ammonia in Zeolite 5A Pellets	Hesam	Maleki	225ac
307	Ruptura: An Open Source Code for the Simulations of Breakthrough Curves, Mixture Adsorption Isotherms and Fitting of Pure Component Adsorption Isotherms.	Shrinjay	Sharma	225ad
308	A Novel Particle Resolved CFD Model for the Simulation of Gas Adsorption Process in the Fixed Bed	Runye	Zhang	225ae
309	Removal of Pharmaceuticals and Personal Care Products (PPCPs) from Wastewater Using Metal-Organic Frameworks (MOFs): Screening of Effective Adsorbent	Jyoti Shanker	Pandey	225af
310	Gold Recovery from Simulant Mine Tailings Using Chelating Ion Exchange Resins with Thiosulfate-Thiourea Lixiviant.	Victoria	Shields	225ag
311	Adsorption of Carbon Monoxide for Magnesium Production	Lucas	Arndt	225ah

338 - Poster Session: Materials Engineering & Sciences (08A - Polymers)

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BOARD NUMBER	Title	First Name	Last Name	Paper Number
19	Thioaminals As Degradable Cross-Links in Polymer Networks Via Exchange with Thiols	Cassandra	Sanchez	338a
20	New Chemistry for Revealing Latent Acrylates and Its Implementation in Controllable Polymer Systems	Claire	Niemet	338b
21	Combinatorial Approach to Discover Polymeric Membranes for Dehydration of Polar Solvents	Co D.	Quach	338c
22	The Fabrication of β-Cyclodextrin(BCD)-Crosslinked Homopolymer Membranes	Jialing	Xu	338d
23	Engineering Monomer Complexes in All-Dry Copolymerization	Pengyu	Chen	338e
24	A Versatile Conductive Ternary Polymer Complex Nanocomposite Sensor with Repeatable, Rapid, Autonomous Self-Healing and Unprecedented Mechanical Properties	Colton	Duprey	338f
25	Improving Water Resistance and Film Forming Ability of Cellulose Based Film with Lotus Leaf extract and Gelatin	Behrokh	Shams	338g
26	Fabrication and Characterization of Organic-Inorganic Composite Electrolytes for Solid-State Batteries	Sahand	Serajian	338h
27	Sonication Labile Peg Based Polymer Hydrogels	Meagan	Arguien	338i
28	Molecular Dynamics Simulations to Unravel the Correlation between Chain Local Dynamics, Relaxation of Free Volume Structure, and Transport Properties in Amorphous Polymers	Mohammed	Al Otmi	338k
29	Combining Spin-Coating with Ring Opening Metathesis Polymerization for the Rapid Synthesis of Thin Polymer Films	Zane	Parkerson	338l
30	The Impact of Small Molecular Dopants on a PANI-Pampsa Polymer Complex System	Arya	Ajeev	338m
31	Hiking the Energy Landscape for Block Copolymers Via Sequential Solvent Immersion and Thermal Processing for Versatile Self-Assembly	Kshitij	Sharma	338n
32	Harnessing Liquid Crystallinity to Prepare Macroscopically Organized Organic Solids: An Alternative to Traditional Crystallography	Kushal	Bagchi	338o
33	Design and Synthesis of Responsive Polymer Films By Surface-Initiated Ring-Opening Metathesis Polymerization	Allison	Cordova-Huaman	338p
34	Departures from Expected Diffusive Behavior in Concentrated Associating Polymer Solutions Uncovered Using Single Particle Tracking	Harrison	Landfield	338q
35	High-Throughput Screening of Multilayer Systems for Improved Interlayer Adhesion of 3D Printed Parts	Javaz	Rolle	338r
36	Gelation Behavior of Reversible Thermosets during Formation of Networks Depending on Design of Diels–Alder Precursors	Gaeun	Kim	338s
37	Synthesis of Polystyrene Particles Aiming at Particle Size Control By Tandem Emulsification Method	Ayame	Kawashima	338t
38	Computational Studies to Understand Structure of Ionomer Membranes	Jason	Madinya	338u
39	Comparison of the Stability of Perpendicular Lamellae Formed By Linear Block Copolymers and Their Cyclic Analogs	Rahul	Kumar	338v
42	Covalent Organic Framework-Supported Metallocene for Ethylene Polymerization	Bangban	Zhu	338w
43	Tailoring Comb-Branched Polyolefin Thermoplastic Elastomers Via Tandem Catalysis System.	Minghao	Sun	338x
44	Novel Synthetic Approach to Degradable Bottlebrush Polymers with Tailored Side-Chains	Dongjoo	Lee	338y
45	Novel Single-Step Synthesis Technique for Shape and Size Controlled Poly(divinylbenzene) Particles Using Initiated Chemical Vapor Deposition in Nematic Liquid Crystals	Apoorva	Jain	338z
46	Designing Membranes Using Bottlebrush Poly(1,3-dioxolane) Acetate for CO_2/N_2 separation	Fathy Mohammed Eldesoky	Attia	338aa

BOARD NUMBER	Title	First Name	Last Name	Paper Number
47	Precise Synthesis and Characterization of Discrete Homo- and Di-Block Bottlebrush (co)Polymers	Nduka	Ogbonna	338ab
40	Exploring the Sustainable Potential of LDH-Supported Metallocene Catalysts for LLDPE Production: A Promising Approach	Farrukh	Shehzad	338ac
40	Exploring the Sustainable Potential of LDH-Supported Metallocene Catalysts for LLDPE Production: A Promising Approach	Hassam	Mazhar	338ac
41	Enhancing PLA/PBAT Blends with Sustainable Nanomaterials	Byron	Villacorta	338ad
41	Enhancing PLA/PBAT Blends with Sustainable Nanomaterials	Utsab Roy	Ayan	338ad
48	Substituent Effects on the Hydrolysis of Acetal Bonds to Design Hydrolysable Thermosets from Renewable Feedstocks	Jaclyn	McLaughlin	338ae
49	Reinforced Poly(ionic liquid)-Based Ionogels for Ionic Electroactive Actuators	Kayla	Foley	338af
50	Molecular Dynamic Simulations of Intercrystalline Phases during Polyethylene Crystallization	Lingyi	Zou	338ah
51	Predicting Phase Behavior of a Polymer Electrolyte Using Molecular Simulations	Ganesh Kumar	Rajahmundry	338ai
52	Development of a High-Performance 30nm Nips PTFE Membrane	Karl	Ashkar	338aj
52	Development of a High-Performance 30nm Nips PTFE Membrane	Siavash	Darvishmanesh	338aj
53	A New Generation of Expanded PTFE Membranes for Harsh Chemical Filtration	Siavash	Darvishmanesh	338ak
54	Molecular Modeling of Hydrogen Sorption in Semi-Crystalline High-Density Polyethylene	Omar	Atiq	338al
55	Exploring Potential of Polysaccharide Polyelectrolyte Complexes: Film Formation via Synthesis and Characterization of Quaternized Cellulose and Carboxymethylcellulose	Parisa	Nazemi Ashani	338am

379 - Poster Session: Chemical Engineering Education

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BOARD NUMBER	Title	First Name	Last Name	Paper Number
Computers in ChE				
1	Quantifying Spreadsheet Skills Using an Interactive Textbook	Matthew	Liberatore	379a
2	Matlab Live Scripts for Teaching and Evaluating Fundamental Process Control Concepts	Edward	Gatzke	379b
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