

532 - Poster Session: Catalysis and Reaction Engineering (CRE) Division

Wednesday, November 16, 2022 3:30 PM - 5:00 PM

North Hall E, Phoenix Convention Center

BOARD NUMBER	Title	First Name	Last Name	Paper Number
1	Overcoming Propane Dehydrogenation Equilibrium Limitations Using a Catalyst/Membrane Hollow Fiber System	Rawan	Almallahi	683d
2	Continuous Carbon Recovery from HTL Aqueous Phase	Heather	LeClerc	532a
3	Applying Energy Conversion and Catalyst Rationale Towards Sustainability, Hydrogen Production and Nuclear Waste Management	Dylan	Rodene	532b
4	Morphology-Dependent Catalytic Activity of Wrinkled Silica Sphere Supported Palladium for One-Pot Furfural Hydrogenation	Yeeun	Kim	532c
5	Modification of Surface Acidity of Pd/TiO ₂ Catalysts for Hydrogenation of Furfural	Hye Jin	Song	532d
6	Ketonization and Etherification Reactions for Sustainable Biomass Conversion	Chenyang	Li	532e
7	Thermochemical Modulation on Boron-, Phosphorus-, and Sulfur-Containing Siliceous Zeolites for Renewable Tetrahydrofuran Dehydration-Decyclization to Butadiene	Raisa Carmen	Andeme Ela	532f
8	Synthetic Natural Gas Production Based on Steam Hydrogasification of Agriculture-Derived Waste Streams	Zhongzhe	Liu	532g
9	Oxidation Kinetics of Fe Doped Magnesium Manganate Systems	Jayni	Hashimoto	532i
10	Design of Bi-Functional Zeolite-Based Catalysts for Bio-Oil Upgrading into Fuels	Seba	AlAreeqi	532j
11	Electrocatalytic Upgrading of Model Compounds Derived from Pyrolysis Oil	Jeffrey	Page	532k
12	Enhancing Activity of Ligand-Modified Supported Metal Catalysts for Hydrodeoxygenation	Zachary	Blanchette	532l
13	<i>Valorization of Glycerol from the Biodiesel Industry to Obtain Oxygenated Additives</i>	Francisco Murilo	Tavares de Luna	532m
14	Investigating the Effect of Solvents over Brønsted Acid Sites of Zeolite Using Alkylamine Hofmann Elimination	Han	Chen	532n
15	Elucidation of Reaction Kinetics between Supercritical Methanol and Cellulose-Derived 1,2-Propanediol for Biofuel Production	Raka	G. Dastidar	532o
16	Effect of Temperature and Pressure on CO ₂ and Steam Gasification of Nigerian Biomass Char	Jieun	Kim	532p
17	Production and Evaluation of Esterification Catalysts Based on Starch-Derived Mesoporous Carbons (Starbons®) Using Colombian Starches As Feedstock	Milena	Zabala	532q
18	In-Situ Operando and Ex-Situ Study on Light Hydrocarbon-like-Diesel and Catalyst Deactivation Kinetic and Mechanism Study during Deoxygenation of Sludge Oil	Alsultan	Abdulkareem	532r
19	Biomass Produces Glycolic Acid	Ziqi	Zhou	532s
20	Electromagnetic Catalysis for Fusion Pump Oil Detritiation	Alaba	Ojo	532t

BOARD NUMBER	Title	First Name	Last Name	Paper Number
21	Textile Wastewater Treatment Using Coiled Flow Inverter (CFI) As a Photo-Reactor	Kamal	Nayan	532u
22	Catalytic Conversion of Plastic Waste to Liquid Fuel	Kamal	Nayan	173n
23	Hydrothermal Production of Microalgal Bio-Oil Intensified with Supercritical CO ₂ and Carbon-Based Catalysts	Armando	Quitain	532v
24	Furfural Conversion over Transition Metal Carbides in the Condensed Phase	Woodrow	Wilson	173m
25	Pulse-Heated Analysis of Solid Reactions (PHASR) to Promote a Plastic Circular Economy: Intrinsic Kinetics of Polyethylene Pyrolysis	Isaac	Mastalski	532w
26	Advances in Plastic Recycling: Intrinsic Kinetics of Polypropylene Pyrolysis from Pulse-Heated Analysis of Solid Reactions (PHASR)	Nathan	Sidhu	532x
27	Near and Supercritical Water As a Tunable Solvent for Recycling Multilayer Plastic Films	Madison	Reed	532y
28	Role of Solid Acid in Low-Temperature Hydrocracking of Polyolefins to Fuels	Pavel	Kots	532z
29	Computational Study of Heterogenous Propene Metathesis on WO _x /SiO ₂ Catalysts	Anne	Le	173c
30	Functionalized TiO ₂ Nanotubes for Selective Dehydration and Hydrogenation of Polyols	Dai-Phat	Bui	173e
31	Effect of Water on Dehydration of Polyalcohol over Brønsted Zeolites	Han	Chau	173u
32	Characterization and performance of metal-oxide/Aluminum silicates catalysts to remove methyl mercaptan from natural gas	Gerson	Martinez Zuniga	532em
33	Understanding the Mechanism of C-N Coupling in Electrochemical CO ₂ Reduction on Metal Surfaces	Tianyou	Mou	532ab
34	Cooperative Site and Electrolyte Design for Optimizing Interfacial Electrokinetics of CO ₂ Reduction	Tianyou	Mou	173aa
35	Computational Screening and Experimental Validation of Binary and Ternary Metal Nitrides for the Solar-Driven Thermochemical Production of Green Ammonia	Daniel	Notter	532ac
36	Glucose Oxidation to Aldonic and Aldaric Acids Using Molecular Oxygen	Janvit	Terzan	532ad
37	Beyond Tafel Fitting for Kinetic Analysis of Electrochemical CO ₂ Reduction	Kaitlin	Corpus	532af
38	Elucidating the Reverse Water Gas Shift Reaction Mechanism on Single-Atom Fe ₁ -K/γ-Al ₂ O ₃	Oluwatosin	Ohiro	532ag
39	Partial Oxidation of Methane to Value-Added Chemicals Using Metal Carbonate-Based Catalysts	Seungdon	Kwon	532ah
40	Impact of Pressure on Fuel Production Via Redox	Justin	Tran	532ai
41	Surface Compositional and Chemistry Tuning of Ni-Zn Catalyst for Low-Temperature Dry Reforming of Methane.	Olusola	Johnson	532aj
42	Ni-Doped Ca _x Ti _y O ₃ Perovskite As a Catalytic Sorbent for an Integrated CO ₂ Capture and Subsequent Dry Methane Reforming	Seongbin	Jo	532ak

BOARD NUMBER	Title	First Name	Last Name	Paper Number
43	Design and Discovery of Encapsulated Electrocatalysts for the Electrooxidation of Small Organic Molecules	Nicole	Llewellyn	532am
44	Stabilizing Supported Ni Catalysts for Dry Reforming of Methane By a Multicomponent Atomic Layer Deposition	Sol	Ahn	532an
45	2D-3D Catalytic Interface Modulated Electroreduction of Carbon Dioxide to Ethylene	Fanglin	Che	532ap
46	CuNi Catalyst and Its Structural Evolution for Electrochemical Reduction of CO ₂	Bokki	Min	173ae
47	Promoting Electrochemical CO ₂ Reduction Via Boosting Activation of Adsorbed Intermediates on Iron Single-Atom Catalyst	Jiayi	Chen	173ag
48	On the Character of the Fe Active Site in Fe-Doped NiOOH Catalysts during Oxygen Evolution Reaction	Joakim	Halldin Stenlid	532aq
49	Aqueous-Phase Heats of Adsorption of Phenolics in Mixed Electrolytes	Ankit	Mathanker	532ar
50	Selective Electrochemical Hydrogenation of Cis, Cis – Muconic Acid on Transition Metals	Deep M.	Patel	532as
51	Breaking Adsorption-Energy Scaling Limitations of Electrocatalytic Nitrate Reduction Via Machine Learned Insights	Hemanth	Pillai	532at
52	Understanding of the Reaction Mechanism and Insight into the Multi-Step Elementary Reaction in Glycerol Oxidation Reaction in Ni, Nico, and Co Hydroxides	Jinwoo	Hwang	532au
53	Mechanistic Study of Efficient Urea Oxidation Reaction on Ni-Layered Double Hydroxides Under Alkaline Medium	Kyuin	Shim	532av
54	Unraveling the Mechanisms of Electrocatalytical Reduction of Furfural Via Tailoring Interfacial Environments	Wenzhen	Li	532aw
55	Dynamic Promotion of Heterogeneous Catalysis By Oscillating Electric Potentials	Max	Huelsey	532ax
56	Unveiling the Surface Kinetics of DMF Modified Pt-Based ORR Catalysts By Molecular Dynamics Simulations	Cheng	Zhu	173r
57	Methane Pyrolysis for Hydrogen and Carbon Nanofibers	Jessica	Hauck	532ay
58	Effects of Hierarchically Structured ZSM-5 Zeolite on Methanol to Hydrocarbons Reactions	Jaehee	Shim	532az
59	Liquid-Phase Alkylation of Biomass-Derived Phenols over Zeolites for the Production of Jet-Fuel Range Aromatics	Hanbyeol	Kim	532bc
60	Ce Added Mo/HZSM-5 Catalyst for Natural Gas Dehydroaromatization and Regeneration	Sang Yun	Kim	532bd
61	Bifurcation Analysis of the Oxidative Dehydrogenation of Ethane over M1 Phase Catalysts in Shallow Autothermal Reactor	Jiakang	Chen	532bf
62	Catalytic Descriptors for Selective Methane Chlorination through Electrophilic Pathway	Yuyeol	Choi	532bg
63	Enhancing the Propylene Selectivity in the Methanol-to-Olefins Reaction over SAT-Type Molecular Sieves	Faisal	Alshafei	532bh

BOARD NUMBER	Title	First Name	Last Name	Paper Number
64	Insights into the Influence of Crystal Structure on Strong Metal-Support Interactions over Rh/TiO ₂ Catalysts – Applications in Parahydrogen-Induced Polarization NMR	Hanqin	Zhao	532bi
65	Enhancing Reactivity in Olefin Metathesis over Mo-Based Bimetallic Catalyst	Anoop	Uchagawkar	532bj
66	Enhancing Epoxidation Activity with Hydrogen Peroxide over Highly Dispersed Tantalum Incorporated Mesoporous Silicates	Anoop	Uchagawkar	532cl
67	Aiding Methane Activation Catalysis with Reactor Engineering: Synthesis and Optimization of Catalytic Hollow Fiber Membrane Systems for Oxidative Coupling of Methane	James	Wortman	532bl
68	Regeneration Strategies to Maximize Catalyst Stability and Productivity for Methane Dehydroaromatization Via Periodic-Switch, Pulse Feeding, and Catalysts Integration	Mamoun	Al-Rawashdeh	532bm
69	Tuning the Reactivity for Propane Dehydrogenation By Using Well-Defined, Single-Phase Pt-Sn Nano-Catalysts	Baraa	Werghe	532bn
70	The Role of Co-Co Nanoparticles Supported on Silica in Fischer Tropsch Synthesis: Evidence of Enhanced CO Dissociation and Olefin Hydrogenation.	Nothando	Shiba	532bp
71	Importance of Precise Nickel Siting and Dispersion in Supported Nickel Dry Reforming Catalysts	Jonathan	Lucas	532bq
72	First-Principles Calculations to Predict the Plasma Effects for Non-Oxidative Coupling of Methane on the Transition Metal-Doped TiO ₂	Hyeonae	Im	532bs
73	Effect of Surface Oxidation of Cr ₂ O ₃ (0001) on Propane Dehydrogenation: A Multiscale Study	Matej	Huš	532br
74	Using Ru-Doped TiO ₂ Clusters for Photoactivation of N ₂	Matej	Huš	532ei
75	Probing the Role of Reserved Molten Salt during Methane Steam Reforming Under Low Steam to Carbon Conditions over Ni-Sn-Al Ternary Oxide Catalysts	Xinxin	Dong	532bu
76	Simulation of Naphtha Cracking for Ethylene Production	Asfaw	Gezae Daful	532bv
77	Optimization and Screening of Iron Supported on Clinoptilolite As a Low-Temperature Fischer-Tropsch Synthesis Catalyst	Roick	Chikati	532bw
78	Understanding the Formation of Possible Intermediate in MDA on Molybdenum Anchored over ZSM-5 and Effect of Light Hydrocarbons on Carburization of Mo in Mo/ZSM-5 Catalyst.	Iqra	Ahangar	532bx
79	Hydrogen-Based Processing of Mineral Iron Carbonate; Iron Production Combined with Catalytic CO/CO ₂ Hydrogenation	Matthäus	Siebenhofer	173ad
80	Exploring the Impact of Ionomer Composition and Loading on the Activity of Nonprecious Hydrogen Evolving Electrocatalysts	Manjodh	Kaur	532bz

*Posters listings updated as of 11/7/2022

BOARD NUMBER	Title	First Name	Last Name	Paper Number
81	Chemical Looping Air Separation with Sr _{0.8} Ca _{0.2} Fe _{0.9} Co _{0.1} O _{3-Δ} Perovskite Sorbent: Packed Bed Modeling, Verification, and Optimization	Runxia	Cai	532ca
82	Spinel Cobalt Oxide As an Inexpensive, Stable and Selective Chloride Evolution Electrocatalyst in Acidic Chloride Solution	Sulay	Saha	532cb
83	Mechanistic Investigation of Electrochemical C(sp ³)-H Oxidation for the Late-Stage Methylation of Complex Amines	Kaida	Liu	532cc
84	Application of Hydrophobic Alkyl Ligand on Palladium Catalyst for Direct Synthesis of Hydrogen Peroxide	Seok-Ho	Lee	532cd
85	Probing Discharge Mechanisms in Aprotic Na-O ₂ Batteries and Their Implications on the Overall Cell Performance	Kunal	Velinkar	532ce
86	Understanding Electrocatalytic Phenomena Using Grand Canonical DFT	Abdulaziz	Alherz	532cf
87	Investigation of Active Sites for Electrochemical Bromine Evolution Using Nitrogen-Doped Carbon Nanostructures	Dishari	Basu	532cg
88	Highly Active Multifunctional Lanthanum Perovskite Electrocatalysts (LaMn _x Co _{1-x} O ₃ (0≤x≤1)) By Tuning the Mn to Co Ratio in Alkaline Medium	Sadiyah	Shafath	532ch
89	Effects of Particle Addition on Sonochemical Degradation of Phenol	Daisuke	Kobayashi	532ck
90	Facile Activation of Mixed Light Alkanes with Ozone in Pressure-Tunable Condensed Phases	Hongda	Zhu	532cm
91	Catalytic Conversion of Methane to Methanol over Copper Ion-Exchanged MFI Type Zeolites	Venugopal	Balashanmugam	532cn
92	Catalytic Surface Chemistry of Non-Noble Transition Metal Borides in the Selective Hydrogenation of Unsaturated Aldehydes and Nitro Compounds	Sijie	Guo	532co
93	The Optimization in Catalysis Due to Better Adsorption to the Gold Surface within the SBA-15 Pores	Zengran	Sun	532cp
94	Impact of Pretreatment on the CeO ₂ Structure and Catalytic Activity for CO Oxidation	Kyung-Min	Lee	532cq
95	Density Functional Theory (DFT) for Selective Carboxylic Acid Hydrogenation on Ag, Cu-TiO ₂ Catalysts	Jeremy	Hu	532cr
96	Condensed Phase Catalytic Conversion of Benzyl Alcohol to Phenol Using High-Frequency Ultrasound: A Combined Experimental and DFT Investigation	Samir H.	Mushrif	173ac
96	Condensed Phase Catalytic Conversion of Benzyl Alcohol to Phenol Using High-Frequency Ultrasound: A Combined Experimental and DFT Investigation	Shang	Jiang	173ac
97	Novel Kinetic Model for the Ethyl Acetate Synthesis By Direct Addition on a Silicotungstic Acid Catalyst.	Joris	Thybaut	532cs
98	Role of Surface-Solvent Interactions on Alkene Epoxidation Catalysis within Ti-MFI	Chris	Torres	173v
99	Enhancing Thermal Resistance and Performance of Three-Way Catalyst By Physical Mixing of Bimetallic Catalysts	Hyoseong	Woo	532ct

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BOARD NUMBER	Title	First Name	Last Name	Paper Number
100	Aqueous Phase Heats of Adsorption of Phenolics in Aqueous Environments: Role of Chaotropic and Kosmotropic Species	Wendy	Yu	532cu
101	Black Carbon across Decadal Length Scales: Biofuel Content Dependence	Randall	Vander Wal	532cv
102	Trends in Catalytic Activity of Single-Atom M/TiO ₂ Catalysts Towards CO Oxidation	Liping	Liu	532cw
103	Theoretical Methods for Assessing the Feasibility of PFOA Oxidation on Photo-Catalyst Surfaces	Yu	Chen	532cx
104	Cu Loaded Hierarchical MFI Zeolite Synthesis and the Effect of Its Physicochemical Properties As Hydrocarbon Trap during Cold Start Test	Jinseong	Kim	532cy
105	Catalytic Remediation of Chlorophenolic Compounds in Drinking Water: Understanding the Reaction Mechanism Using DFT Simulations	Chaitra	Shenoy	532da
106	Role of Co and Mn on Low-Temperature NO _x Adsorption Behaviors of Layered-Double-Hydroxide-Based Passive NO _x Adsorber	Yeji	Choi	173w
107	Classifying Zeolite Material Selection for O ₂ Sorption Pump Materials Using Machine Learning and a Density Functional Theory	Steven	Wilson	532db
108	Sulfur-Trioxide Decomposition over β -SiC Foam Supported CuFe ₂ O ₄ in the Sulfur-Iodine Cycle	Sachin	Tomar	532dc
109	The Critical Role of Hidden Basic Sites of Na-ZSM-5 in the Dehydration of Lactic Acid	Jungho	Jae	532dd
110	Stabilizing Atomically Dispersed Cu for Low-Temperature Water-Gas Shift Reaction	Yiwei	Yu	532de
111	Metal Incorporation into Zeolites <i>Via</i> Acid-Base Mediated Ion Exchange for Methane Dehydroaromatization	Jacek	Pecyna	532df
112	Manipulation of Amorphous Precursors to Enhance Zeolite Nucleation	Zhiyin	Niu	532dg
113	Programmable Catalysts Inspired By Semiconductor Devices	Sallye	Gathmann	532dh
114	Shape-Selective Silver Catalysts for Ethylene Epoxidation	Kaveh	Shariati	532di
115	Ionic Liquids Regulated La-Mn Composite Metal Oxides for Selective Oxidation of Cyclohexane	Hao	Li	532dj
116	Gold Nanoparticles with Tailored Size and Their Application As Unusually Stable and Efficient Propylene Epoxidation Catalyst	Nidhi	Kapil	532dk
117	Investigating the Sustainability of the Different Types of Catalytic Sites in Aminosilica Materials	Jee-Yee	Chen	532dl
118	Single Molecule Studies of the Aldol Condensation of Nile Red Aldehyde with Silica-Bound Acetophenone	Keith	Hohn	532dm
119	Enhancement of Thermal Stability of Binder-Added Mo/HZSM-5 for Methane Dehydroaromatization and Regeneration	Ju	Nayeong	532do
120	Programmable Catalysts: Metal/Oxide-Graphene Catalytic Condensers	Tzia Ming	Onn	532dp
121	Reaction Calorimetry for Adsorption Thermodynamics in Zeolite	Ajibola	Lawal	532dq
122	Ti ₅₅ C _x (x=38,44)@Pt ₉₂ Cuboctahedral Core-Shell Nanoclusters for Oxygen Reduction Reaction: A DFT Study	Hye Bin	Yun	532dr

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123	Mechanistic Study of Hydride Formation over Graphene-Supported Metal Nanostructures	Simuck	Yuk	532ds
124	Designing Catalytically Active and Thermally Stable Nanoparticles Via <i>in-Situ</i> Exsolution	Haotian	Yang	532dt
125	Analysis and Augmentation of Guest-Host Interaction Energy Models As CHA and AEI Zeolite Crystallization Phase Predictors	Xuyao	Gao	532du
126	Application of Strong Electrostatic Adsorption Using Formed Alumina Commercial Supports for Pt Catalyst	Roosbeh	Seifollahy-Astaraee	532dv
127	Co-Precipitation Continuous Synthesis of the Ni-Rh-Ce _{0.75} Zr _{0.25} O ₂ Catalyst in the Membrane Dispersion Microreactor System for <i>N</i> -Dodecane Steam Reforming to Hydrogen	Qiangqiang	Xue	532dw
128	Flame Stabilized Atomically Dispersed Pd for CO Oxidation	Erdem	Sasmaz	532dn
128	Flame Stabilized Atomically Dispersed Pd for CO Oxidation	Musa	Najimu	532dn
129	Effects of Domain Size and Support Composition on the Reactivity and Reducibility of Oxide-Supported Tungsten Oxide Clusters	Anukriti	Shrestha	173a
130	Dynamic Evolution of Metal Nanoparticles in Bifunctional Systems for Catalytic Chemical Upgrading	Laura	Paz Herrera	532dx
131	Synthesis of Highly Porous Polymer Microspheres with Interconnected Open Pores and Their Application As Catalytic Microreactors	Hyeonbo	Shim	532el
132	Reactive CFD and NMR: Bringing research areas together for detailed, full-field validation	Kevin	Kuhlmann	532dy
133	A New Correlation for Pressure Drop through Unbounded Randomly Packed Beds of Spherical Catalyst Particles over the Entire Range of Reynolds Number	Anthony	Dixon	532dz
134	Clarifying Trust of Machine-Learned Catalyst Predictions with Uncertainty Quantification	Cameron	Gruich	532ea
135	Infusing Theory into Deep Learning for Interpretable Stability Prediction of Transition Metal Alloys	Yang	Huang	532eb
136	Incorporation of Covariance of DFT Energy Ensembles into Gnn Models for the Trustworthy Catalyst Design Method	Janghoon	Ock	532ec
137	Theory-Infused Neural Network for Interpretable <i>D</i> -Band Moments Prediction	Shih-Han	Wang	532ed
138	Accuracy of DFT Functionals: A Benchmarking Study to Understand NO Binding on Pd-CHA	Surya Pratap	Solanki	532ee
139	Active Machine Learning Towards Closed-Loop Optimization for High Throughput Experimentation	Alexander	Pomberger	173x
140	Automated Kinetic Rate Equation Discovery – a Methodological Framework	Miguel Ángel	de Carvalho Servia	173z
141	On the Performance of Differential Evolution Optimization in Kinetic Parameter Determination of Propene Polymerization through Modeling & Simulation	Nikhil	Prakash	173ab

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BOARD NUMBER	Title	First Name	Last Name	Paper Number
142	Machine Learning Prediction of Adsorption Energies over Heterogeneous Catalysts	Alexander	Summers	173af
143	Development of Novel Catalyst for Ammonia Oxidative Decomposition	Soohang	Lee	532ef
144	Single-Atom Alloy Pd/Pt in Fe As Catalysts for Electrocatalytic Nitrate Reduction	Yuanqi	Liu	532eg
147	Parametric Sensitivity Analysis of the Transient Adsorption-Diffusion Models for Hydrocarbon Transport in Microporous Materials	Vladyslav	Shostak	532el
148	Recent Progress on Optimizing Haber-Bosch Ruthenium Catalysts through Multiscale Modelling	Blaž	Likozar	532eh
149	Design of a Novel Ru-Based Nrr Catalyst Using a Framework Integrating DFT and Kmc	Chi-Ho	Lee	532ej
146	Hydrotreatment of Soybean Oil for Green Fuels with Ni-Mo/Zeolite Y Catalysts	You-Lin	Lin	532h
146	Hydrotreatment of Soybean Oil for Green Fuels with Ni-Mo/Zeolite Y Catalysts	Bing-Hung	Chen	532h
151	Pelletized SiO ₂ -Supported La _{0.5} Ba _{0.5} FeO ₃ for Low-Temperature CO ₂ to CO Conversion By a Reverse Water-Gas Shift Chemical Looping Process	John	Kuhn	532al
153	UV LED Photocatalytic Device for Reducing Evaporative Fuel Vapor Emissions	Catherine	Almquist	173y

533 - Poster Session: Environmental Division*Wednesday, November 16, 2022 3:30 PM - 5:00 PM**North Hall E, Phoenix Convention Center*

BOARD NUMBER	Title	First Name	Last Name	Paper Number
154	Perstraction: A Membrane-Assisted Liquid-Liquid Extraction Process for Removing Pfas from Water	Catherine	Almquist	533c
155	Selective Capture and Mineralization of CO ₂ /SO _x Gas Using Industrial Wastewater.	Won Yong	Choi	533a
156	Plastic Pyrolysis Gas Purification and Polymorph Control of Metal Carbonate Using Captured CO ₂ By Deep Eutectic Solvents	Kyumin	Jang	533b
157	A Study on Imidazole-Alkanolamine-Based Deep Eutectic Solvents (DES) Functionalized for Low-Concentration Sulfur Dioxide Absorption	Dongwook	Lee	533d
158	Thermo-Responsive Hydrogel with Deep Eutectic Mixture Co-Monomer As Drawing Agent for Forward Osmosis	Anelyn	Bendoy	533e
159	Surface Phenomenon Affecting Removal Efficiency of Nitrate from Water on Dispersed Single Atoms in Cu Metal Catalyst: An Ab-Initio Study	Srishti	Gupta	533g
160	Bench-Scale Testing of Electrochemical Recovery of Phosphorus from Post-Digester Municipal Wastewater Driven By Magnesium Salt	Lawrence	Ajayi	533h
161	Decrease of Biological Contamination from Municipal Wastewater By Entrapped Nzvi in Cellulose Acetate: Operating Conditions, Reduction Mechanisms with AI Applications	Robert	Peters	533m
161	Decrease of Biological Contamination from Municipal Wastewater By Entrapped Nzvi in Cellulose Acetate: Operating Conditions, Reduction Mechanisms with AI Applications	Mohamed	Mostafa	533m
161	Decrease of Biological Contamination from Municipal Wastewater By Entrapped Nzvi in Cellulose Acetate: Operating Conditions, Reduction Mechanisms with AI Applications	Ahmed	Mahmoud	533m
162	The Characterization of Corrosion Inhibitors from Quinazolinones and Benzoxazines Derivatives By Electrochemical Methods	Muzammil	Nishar Ahmed	533j
163	Understanding Integrated Carbon Negative Systems	Elizabeth	Abraham	533k
164	Magnetic Hierarchical Titanium-Ferrocyanide for the Removal of Radioactive Cs from Water	Hee-Man	Yang	533l
165	Remote Monitoring, Supervisory Control and Technoeconomic Evaluation of Advanced High Recovery Wellhead Water Purification and Desalination Systems	Yoram	Cohen	533n
166	Cationic Dye Adsorption on Metal Organic Framework: An Equilibrium Study	Saif	Mehdi	533q
167	A Comprehensive Study to Evaluate the Removal Capacity of Heavy Metal Ions and Dissolved Organics from Produced Water Using Vadose Zone Soils for Soil Aquifer Treatment	Jisha	Ali	533r

BOARD NUMBER	Title	First Name	Last Name	Paper Number
168	Joining Lab Experiments and CFD-Amozone Model for Deep Understanding of Batch Ozonation and Improve Experimental Method	Ingmar	Nopens	533s
169	Application of Waste Materials As Demulsifier for Oil/Water Separation	Muhammad Shahzad	Kamal	533t
170	Hydrogen Production Via Ammonia Decomposition over Ni-Pt/Al ₂ O ₃ using Electrical Heater: A Multi-Objective Optimization	Ali	Cherif	533u
171	Methanotrophic Activity in the Deep Environment: Enhancement of Methane Catalysis Rates	Dipayan	Samanta	533w
172	Understanding the Transport and Fate of the Microplastic Particles in a Main Wastewater Treatment Plant: Case Study of a Typical Plant in Western Iran	Shafieh	Karami	533y
173	Advanced Oxidative Degradation of Polyethylene for Sustainable Upcycling	Shoumik	Sadaf	473e
175	Chemical Recycling of Agricultural Waste Plastic By Pyrolysis: Case of Study of Province of Buenos Aires, Argentina	Maria Soledad	Diaz	629b
175	Chemical Recycling of Agricultural Waste Plastic By Pyrolysis: Case of Study of Province of Buenos Aires, Argentina	Patricia	Hoch	629b
177	A Life Cycle Assessment Study of Wind Power Based Multi- Source Energy Systems	Jun Hyung	Ryu	533i

534 - Poster Session: Novel Products from Forest and Plant Biomass

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BOARD NUMBER	Title	First Name	Last Name	Paper Number
183	Application of Protocatechuic Acid-Based Deep Eutectic Solvent for Utilization of Engineered Biomass	Anqi	Ji	534b
184	Effects of pH and Multistage ALPHA Process on the Phase Behavior of Kraft Lignin	Oreoluwa	Agede	534c

535 - Poster Session: Fuels and Petrochemicals Division

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BOARD NUMBER	Title	First Name	Last Name	Paper Number
185	Acetylene Powered Thermal Power Plant Boiler	Debshilpi	Patra	535a
186	A Novel Fluid System to Integrate Stimulation, EOR, and CO ₂ Storage in Shale Oil Reservoirs	Yang	Zhao	535b
187	Fluoro- Vs Hydrocarbon Surfactants: Synthesis and Application in Enhanced Oil Recovery	Syed	Hussain	535c
188	pH and Salt-Responsive Dynamic Binary Complexes Based on Supramolecular Complexation with Applications in Unconventional Reservoirs	Bhargavi	Bhat	535f
189	Fast Pyrolysis of Food Waste in N ₂ and CO ₂ after Torrefaction in a Bubbling Fluidized Bed Reactor	Seung-Soo	Kim	535d
190	Thermogravimetric and Kinetic Study of <i>Hemp</i> and <i>Milkweed</i>	Seung-Soo	Kim	535e
191	Upgrading Tire-Derived Pyrolysis Oil Via Distillation for Blending with Fuel Oils	Cara	Schwarz	535g
192	Development of Bioethanol from Molasses: A Modern Approach	Ayush	Gondane	535h
193	Crude Assays Cut Properties	Andrew	Sloley	535i
194	Screening Criteria and Experimental Investigation for Enhanced Oil Recovery at Umm Niqa Oil Field-Kuwait	Adel	Elsharkawy	535j

536 - Poster Session: Particle Technology Forum*Wednesday, November 16, 2022 3:30 PM - 5:00 PM**North Hall E, Phoenix Convention Center*

BOARD NUMBER	Title	First Name	Last Name	Paper Number
Characterization and Structure of Solid Materials				
195	A Revolutionary, Evolutionary Approach to Particle Characterisation	Kit	Windows-Yule	536a
196	Effects of Particle Size, Shape and Moisture Content on the Flowability of Microcrystalline Cellulose Powder	Jordan	Monroe	536c
Processing Methods				
197	A Comparative Evaluation of Ca-Based Wastes for a Oxy-Fuel Circulating Fluidized Bed Combustor	See Hoon	Lee	536d
198	Scale-up of Drying of Supported Catalysts in a Fluidized Bed	Carlin	Leung	536f
199	Conduction and Radiation Heat Transfer in a Rotary Drum	Bhaumik	Bheda	536h
200	Optimization of Low Dose Powder Filling Process for Dry Powder Inhalers	Tanu	Mehta	536p
Engineered Particles				
201	Magnetic Hyperthermia in Biosimilar Colonic Tumor Environment Using Silica-Coated Superparamagnetic Iron Oxide Nanoparticles	Yuming	Zhang	536j
202	Bioactivity of Flame-Made Calcium Phosphate Bionanomaterials for Bone Tissue Engineering	Yael del Carmen	Suárez López	536k
203	Manufacture of Complex-Shaped Tungsten Materials Via Atomic Layer Deposition and Direct Ink Writing	Hailey	Loehde-Woolard	536l
204	Exploring LaFeO ₃ oxygen Carriers for Reactivity Enhancement through Structural Changes in Chemical Looping Partial Oxidation System	Anuj	Joshi	536m
205	Refractory Tungsten ALD Coatings for Nuclear Thermal Propulsion Fuel Elements	Davis R.	Conklin	536n
206	Designing Targeted Magnetic Nanoparticles Via Click Chemistry to Diagnose Inflammatory Bowel Disease	Shno	Asad	536o

537 - Poster Session: Process Development*Wednesday, November 16, 2022 3:30 PM - 5:00 PM**North Hall E, Phoenix Convention Center*

BOARD NUMBER	Title	First Name	Last Name	Paper Number
Blue Ammonia				
209	Energy, Economic and Environmental (3E) Analysis and Multi-Objective Optimization of Natural Gas Based Blue Ammonia Process	BeomJu	Shin	537a
210	3E (Energy, Economic and Environmental) Analysis for Natural Gas Based Blue Ammonia Synthesis Process through Multi-Objective Optimization	BeomJu	Shin	537b
Distillation				
211	Process Intensification of a Complex Ternary Azeotropic Distillation System Via Structural Variations	Minyong	Lee	537c
212	Temperature Driven Internal Heat Integration for Designing a Novel Energy-Efficient Double Annular Reactive Distillation Column	Minyong	Lee	537d
Process Modelling				
213	Production of Ethanol and Acetic Acid from Syngas Via Carbonylation of Dimethyl Ether: Kinetic and Process Modeling	Seungwoo	Kim	537e
Pharmaceutical Manufacturing				
214	Resilient Multi-Site Onboarding, Knowledge Transfer and Process Understanding of Commercial Drug Substance Manufacturing: Virtual Make-a-Batch Exercise	Muhammad	Irfan	537f
215	Development and Demonstration of an Ultra-High Temperature Continuous Racemization Process	Ali	Hasan	537i
Career Development				
216	Building an Exciting Career Supporting the Energy Transition Journey	Vinod Kumar	Venkatakrishnan	537g
217	Photocatalytic Process Optimization for Toxic Gases Removal: Mass Transfer Effect Elimination Efficiency of Chemical Weapon Agent (Simulant)	Youcef	Serhane	537h

538 - Poster Session: Sustainability and Sustainable Biorefineries

Wednesday, November 16, 2022 3:30 PM - 5:00 PM

North Hall E, Phoenix Convention Center

BOARD NUMBER	Title	First Name	Last Name	Paper Number
Carbon Dioxide Engineering				
152	Role of Ba in Low-Temperature Thermochemical Conversion of Carbon Dioxide with LaFeO ₃ Perovskite Oxides	John	Kuhn	538b
145	Study on Catalytic Carbonylation of Glycerol with CO ₂ in Mild Condition over Cerium Oxide/Zinc Oxide Catalysts	Bing-Hung	Chen	538v
221	Oxidative Coupling of Methane with CO ₂ Using Sr/La ₂ O ₃ and the Effect of Oxygen Addition	Hyewon	Lee	538a
222	Optimizing Pore Space Utilization with Foam for Carbon Storage in Powder River Basin Near the Dry Fork Station	Ying	Yu	538c
223	Evaluation of Novel CO ₂ Capture Process Configurations with Combined Cycle Gas Turbine Plants	Mohammad Nahyan	Arshad	538d
224	Current Technology Development for CO ₂ Utilization into Synthetic Fuels: Challenges and Opportunities	Bachirou Guene	Lougou	538u
Bio-Environmental Engineering				
176	Novel Strategies with Artificial Floating Islands for Water Bodies Restoration As Optimal Control Problems	Maria	Diaz	538g
225	Using the γ -Valerolactone Biorefinery to Fractionate Biomass into Sugar and Phenolic Streams for Microbial Conversion to Fuels and Co-Products	Steven	Karlen	538h
226	Recycling of Plastic Waste Using Dissolution/Precipitation	Christian	Ferger	538j
227	Post-Consumer PET Chemical Recycling into Monomers for the Circular Economy	Richard-Joseph	Peterson	538k
228	Recycling of Plastic Wastes By Solvent-Targeted Recovery and Precipitation	Jiuling	Yu	538l
229	Social and Environmental Assessments of Tourism: A Case-Study	Annamaria	Vujanović	538m
Chemical-Environmental Engineering				
230	Methanolysis of PET As a Model Chemical Recycling Method for Heterochain Polymers	Hannah	Pineault	538o
231	Co-Generation of Hydrogen and High-Value Carbon from Methane in a Gas-Solid Fluidized-Bed Reactor	Woohyun	Kim	538p
232	The Olefin-Intermediate Process (OIP): A Means to Depolymerize & Upcycle Waste Plastics	Lucas	Ellis	538q
233	Development of Biodegradable Plastic Material from Lignin and Depolymerized Synthetic Plastic Copolymer	David	Chem	538r
234	Waste Management in Bio-Diesel Production	Vedant	Telrandhe	538s
235	Hydrogen Release Kinetics of Thermal Hydrolysis of Sodium Borohydride and Hydrate	Savannah G.	Hunt	538t
236	New Era of Carbon Capture and Utilization Technology with Reaction Swing Absorption	Ung	Lee	538w
237	Production of Neo Acids from Biomass Waste	Erha	Andini	538x
238	Electrochemical Conversion of Waste Nitrate to Hydroxylamine	Manish	Mosalpuri	538y

*Posters listings updated as of 11/7/2022

540 - Poster Session: Transport and Energy Processes Division*Wednesday, November 16, 2022 3:30 PM - 5:00 PM**North Hall E, Phoenix Convention Center*

BOARD NUMBER	Title	First Name	Last Name	Paper Number
178	Hybrid Approach for Accelerating the Implementation of Hydrogen Infrastructure Using Experience Based Data Formatting and Systematic Decision-Making Framework	Jun-Hyung	Ryu	540a
179	Supercapacitors Based on Graphene Quantum Dots for Efficient Energy Storage	Betul	Uralcan	540b
180	Optimization of Energy Density in Supercapacitors By Utilizing a Hybrid Artificial Neural Networks-Genetic Algorithm Based Optimization Algorithm	Betul	Uralcan	540c
181	Tuning Gas Diffusion Electrode Construction to Mitigate Flooding and Degradation Processes for Electrochemical CO2 Reduction	Khantey	Lim	540d