

# ACS SPRING 2025 Sci-Mix Presentations

MARCH 24, 2025, 8-10 PM PST

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## Division of Agricultural and Food Chemistry (AGFD)

### **Strawberry shield: Unveiling the antimicrobial paper defenses**

(4175201)

Division of Agricultural and Food Chemistry

Presenter(s): camille pruit

Poster Board #: 100

### **Characterization of organic acids in fruited sour beers**

(4177714)

Division of Agricultural and Food Chemistry

Presenter(s): Neil Tiwari

Poster Board #: 101

### **Antidiabetic activity screening of Costa Rican plant extracts: Inhibition of advanced glycation-end products**

(4180929)

Division of Agricultural and Food Chemistry

Presenter(s): Maria Belen Gomez

Poster Board #: 102

### **Hydrophobic plant protein-polysaccharide blend facilitates low-temperature production of sustainable meat alternatives**

(4184107)

Division of Agricultural and Food Chemistry

Presenter(s): Nicholle Kirsten Tan

Poster Board #: 103

### **Physicochemical characterisation and investigation of antioxidant properties of Southwest Missouri floral honey and honey related**

### **product Propolis using FRAP, GC/MS, GPC, XRF and DSC**

(4184720)

Division of Agricultural and Food Chemistry

Presenter(s): Lillabeth Milam

Poster Board #: 104

### **Avocado oil based oleogels: a comparative analysis of the physical characteristics of various structuring agents**

(4184741)

Division of Agricultural and Food Chemistry

Presenter(s): Christopher Carter

Poster Board #: 105

### **Comparison of phenolic composition, flavonoid content, and antioxidant properties among cacao nibs sourced from different origins**

(4185693)

Division of Agricultural and Food Chemistry

Presenter(s): Samantha J. Hazen

Poster Board #: 106

### **Development of benchtop NMR techniques for kombucha analysis**

(4186781)

Division of Agricultural and Food Chemistry

Presenter(s): Abbie Grace Morgan

Poster Board #: 107

### **Development of a kinetic model for the dynamics of kombucha fermentation**

(4186787)

Division of Agricultural and Food Chemistry

Presenter(s): Jaden Lynn Perrin

Poster Board #: 108

**Nitrite content in cured meats commercialized in Costa Rica: A comparative study from 2022 to 2024**

(4186807)

Division of Agricultural and Food Chemistry  
Presenter(s): Michel Porras Fonseca  
Poster Board #: 109

**Production of Maillard reaction intermediates during mashing and boiling of a single malt, single hop (SMaSH) beer**

(4189719)

Division of Agricultural and Food Chemistry  
Presenter(s): Angelina Lo Presti  
Poster Board #: 110

**Applying FT-ICR MS with formula assignment algorithm on the Chinese Medicine Characterization**

(4189884)

Division of Agricultural and Food Chemistry  
Presenter(s): Kenneth Yui-Hang Chow  
Poster Board #: 111

**Sommelier training of an artificial nose**

(4191327)

Division of Agricultural and Food Chemistry  
Presenter(s): Larissa Negom | Lauren Crumb  
Poster Board #: 112

**Evaluation of antioxidant activity in Costa Rican plants using the oxygen radical absorbance capacity (ORAC) method**

(4191502)

Division of Agricultural and Food Chemistry  
Presenter(s): Esteban Gamboa

Poster Board #: 113

**Chemical inhibition of enzymatic browning during mealworm (*Tenebrio molitor*) protein extraction**

(4194053)

Division of Agricultural and Food Chemistry  
Presenter(s): Changqi Liu  
Poster Board #: 114

**Analysis of lead and cadmium in dark chocolate bars and cocoa powders**

(4196111)

Division of Agricultural and Food Chemistry  
Presenter(s): Raymond C Dudek  
Poster Board #: 115

**Effects of Papaya ringspot virus on organic molecules in squash leaves**

(4196244)

Division of Agricultural and Food Chemistry  
Presenter(s): Gregory Palomar  
Poster Board #: 116

**Effects of parental nutrition on offspring development of Alzheimer's Disease**

(4197298)

Division of Agricultural and Food Chemistry  
Presenter(s): Nick Boehly  
Poster Board #: 117

**Training a machine learning algorithm to estimate plant biomass from single agricultural images**

(4197501)

Division of Agricultural and Food Chemistry  
Presenter(s): Marco M Allard

Poster Board #: 118

**Annona muricata leaves and stem as an antibacterial agent against Gram-positive and Gram-negative bacteria**

(4198493)

Division of Agricultural and Food Chemistry  
Presenter(s): Javier Emanuel Santiago-Martell  
Poster Board #: 119

**Division of Analytical Chemistry (ANYL)**

**Analysis of cannabinoids and metals in legally distributed CBD and THC products**

(4185174)

Division of Analytical Chemistry  
Presenter(s): Megan Tomasic | Aaron Mohney  
Poster Board #: 122

**Unveiling the production of hydroxamic siderophores in pathogenic bacteria: Novel XAD-FBMN-IMS strategy**

(4179409)

Division of Analytical Chemistry  
Presenter(s): Lucía Ageitos  
Poster Board #: 123

**Direct injection ESI-MS analysis of proteins with high matrix content: Utilizing Taylor–Aris dispersion**

(4180499)

Division of Analytical Chemistry  
Presenter(s): Ruben Szabo  
Poster Board #: 124

**Native multi-dimensional monitoring workflow for at-line characterization of mAb titer, size, charge, and glycoform heterogeneities in cell culture supernatant**

(4190304)

Division of Analytical Chemistry  
Presenter(s): Sanghati Bhattacharya  
Poster Board #: 125

**Advanced characterization of sulfur-containing compounds in jet fuels by using high-resolution mass spectrometry**

(4180880)

Division of Analytical Chemistry  
Presenter(s): Mark Romanczyk  
Poster Board #: 126

**Lipid nanoparticle impurity analysis: Leveraging mass spectrometry to monitor impurities and aldehyde in raw materials and formulated drugs in regulated environments**

(4178290)

Division of Analytical Chemistry  
Presenter(s): Duanduan Han | Andrew Leightner  
Poster Board #: 127

**Structural characterization of stressed monoclonal antibodies using native ion mobility mass spectrometry**

(4180571)

Division of Analytical Chemistry  
Presenter(s): Haisley Windsor  
Poster Board #: 128

**Microplastic pollution on California beaches: An emerging environmental concern**

(4185720)

Division of Analytical Chemistry

Presenter(s): Kimberly Morales

Poster Board #: 129

**Immune system determines metabolic perturbation in Chagas disease**

(4191489)

Division of Analytical Chemistry

Presenter(s): Ariel Pernela

Poster Board #: 130

**Two-dimensional liquid chromatography method for assembly homogeneity analysis and mass spectrometric characterization of RNA nanoparticles**

(4177349)

Division of Analytical Chemistry

Presenter(s): Yidi Wu

Poster Board #: 131

**Characterization and separation of impurities in a GalNAc ligand**

(4181097)

Division of Analytical Chemistry

Presenter(s): Zhou Li

Poster Board #: 132

**Alpha LogD: Leveraging MS compatibility for optimized LogD measurements**

(4177730)

Division of Analytical Chemistry

Presenter(s): Leo Charly Goetz

Poster Board #: 133

**Optimization of fluorescence correlation spectroscopy: characterization of novel fluorophores**

(4191945)

Division of Analytical Chemistry

Presenter(s): Jalen Dixon

Poster Board #: 134

**Dark field vs. interferometric scattering (iSCAT) spectroscopy for tracking changes in nanoparticles during dissolution**

(4196399)

Division of Analytical Chemistry

Presenter(s): Sanjay Sridhar

Poster Board #: 135

**On-the-spot safety: real-time ochratoxin A screening via plasmonic nanotechnology**

(4184771)

Division of Analytical Chemistry

Presenter(s): Andres Fabian

Poster Board #: 136

**Algorithms and analysis method of spectroscopic ellipsometer for closed-loop autonomous platform**

(4189523)

Division of Analytical Chemistry

Presenter(s): Gahee Kim

Poster Board #: 137

**Photoactivated plasmonic nanohybrid fibers with prolonged trapping of excited charge carriers for SERS analysis of biomolecules**

(4175449)  
Division of Analytical Chemistry  
Presenter(s): Arti Sharma  
Poster Board #: 138

### **Development of an AI-augmented and smartphone-based handheld Raman spectrometer**

(4185752)  
Division of Analytical Chemistry  
Presenter(s): Javier Enrique Hodges | Kailee Renee Marchand | Jonathan McGraw  
Poster Board #: 139

### **Raman spectroscopy and machine learning for medical diagnostics and forensic applications**

(4205466)  
Division of Analytical Chemistry  
Presenter(s): Igor K Lednev  
Poster Board #: 140

### **Visualization and interpretation of seesaw motion associated with molecular nanomachines in living cells**

(4169282)  
Division of Analytical Chemistry  
Presenter(s): Ning Fang  
Poster Board #: 141

### **Explaining the two-photon absorption spectra of dyes and fluorescent proteins with a new quantum mechanical effect, resembling Herzberg-Teller coupling**

(4195549)  
Division of Analytical Chemistry  
Presenter(s): Mikhail Drobizhev  
Poster Board #: 142

### **Evolution of understanding of the nanomaterials protein corona: designing for targeting, consequences of protein shedding and prediction of corona compositions**

(4184592)  
Division of Analytical Chemistry  
Presenter(s): Iseult Lynch  
Poster Board #: 143

### **Potential-dependent ATR-SEIRAS and EQCM-D analysis of interphase formation in zinc battery electrolytes**

(4182449)  
Division of Analytical Chemistry  
Presenter(s): Katherine Betts  
Poster Board #: 144

### **Selectively pyrolyzed parylene-N with Nanoscribe two-photon laser for MEMS development**

(4187475)  
Division of Analytical Chemistry  
Presenter(s): He Zhao  
Poster Board #: 145

### **Integrated fingertip wearable microgrid system for autonomous energy management and metabolic monitoring**

(4195066)  
Division of Analytical Chemistry  
Presenter(s): Shichao Ding  
Poster Board #: 146

### **Telomerase activity detection in uterine biopsy samples: An**

### **electrochemical assay**

(4196630)

Division of Analytical Chemistry

Presenter(s): Joyce Marie Perez Gonzalez

Poster Board #: 147

### **Characterizing small biologically relevant molecules based on their heterogeneous electron transfer rates and reaction mechanisms using a microband electrode array**

(4183980)

Division of Analytical Chemistry

Presenter(s): Blake A. Sterling

Poster Board #: 148

### **Numerical approximations of the fate of chemical species from a sample introduced into a redox-magnetohydrodynamics (R-MHD) microfluidics chamber**

(4192047)

Division of Analytical Chemistry

Presenter(s): Shirin Hesari

Poster Board #: 149

### **GRP78-targeted carbon dot-based nanodrug delivery system for combined cancer therapy through epigenetic bromodomain inhibition and DNA annihilation**

(4198487)

Division of Analytical Chemistry

Presenter(s): Sajini D Hettiarachchi

Poster Board #: 150

### **Where does the uncertainty lie? calculated vs. experimental limits of detection of pesticides on cut**

### **flowers: Triple Quadrupole Gas Chromatography-Mass Spectrometry (GC-MS/MS)**

(4198740)

Division of Analytical Chemistry

Presenter(s): James D Mizvesky

Poster Board #: 151

### **Dual structure-switching aptamer cascade: A rapid and sensitive SARS-CoV-2 detection method**

(4179277)

Division of Analytical Chemistry

Presenter(s): Seong Uk Son

Poster Board #: 153

### **Monitoring oxidative degradation of desmosines by MALDI MS2 ion trap approach**

(4193604)

Division of Analytical Chemistry

Presenter(s): Muhammad Ali

Poster Board #: 154

### **Metabolomic insights of rhizosphere PFAS uptake, transportation, and bioaccumulation in mung bean sprouts**

(4196109)

Division of Analytical Chemistry

Presenter(s): Amrita Dhakal

Poster Board #: 155

**Division of Biochemistry  
and Chemical Biology  
(BIOL)**

**Peptide-encoded libraries for the  
discovery of covalent ligands for  
oncogenic protein targets**

(4184718)

Division of Biochemistry and Chemical Biology  
Presenter(s): Ching-Pei Hsu  
Poster Board #: 160

**Impact of apolipoprotein E and  
amyloid beta monomer, oligomer,  
and fibril interaction on uptake by  
human astrocytes**

(4185606)

Division of Biochemistry and Chemical Biology  
Presenter(s): Kamila Nurmakova  
Poster Board #: 161

**Anion binding induced  
denaturation of  $\beta$ -hairpins:  
Implications for the salting-in  
Hofmeister Effect**

(4187986)

Division of Biochemistry and Chemical Biology  
Presenter(s): Thien Tran  
Poster Board #: 162

**Understanding enzyme activity  
regulation by genetically-encoded  
metal-responsive chemical  
switches**

(4169061)

Division of Biochemistry and Chemical Biology  
Presenter(s): Payal Payal  
Poster Board #: 163

**Discovery of novel DCAF16 ligands  
for targeted protein degradation**

(4177188)

Division of Biochemistry and Chemical Biology  
Presenter(s): Miguel Angel Campos  
Poster Board #: 164

**Conditional control of  
benzylguanine reaction to the self-  
labeling SNAPtag protein**

(4182570)

Division of Biochemistry and Chemical Biology  
Presenter(s): Isabella Demyan  
Poster Board #: 165

**Dual-locked enzyme-activatable  
bioorthogonal fluorescence turn-  
on imaging of senescent cancer  
cells**

(4184286)

Division of Biochemistry and Chemical Biology  
Presenter(s): Xinzhu Wang  
Poster Board #: 166

**Engineering *Pichia pastoris* as a  
tool for the heterologous  
characterization of octocoral  
enzymes**

(4185522)

Division of Biochemistry and Chemical Biology  
Presenter(s): Aodhan Beattie  
Poster Board #: 167

**Investigating drug-membrane  
interactions with synthetic  
echinocandin derivatives**

(4186921)

Division of Biochemistry and Chemical Biology  
Presenter(s): Akilah Isabel Mateen  
Poster Board #: 168



**Use local reporting to characterize the thermodynamics signatures of  $\beta$ -turns and carboxylic acids/ carboxylates**

(4190941)

Division of Biochemistry and Chemical Biology

Presenter(s): Priyanka Prusty

Poster Board #: 169

**Modeling oxidative damage in  $\gamma$ S-crystallin with selective incorporation of 5-hydroxytryptophan**

(4192802)

Division of Biochemistry and Chemical Biology

Presenter(s): Yeonseong Seo

Poster Board #: 170

**Bile inhibits bacterial toxins by promoting structural imbalance, aggregation, proteolysis, and oxidation**

(4196175)

Division of Biochemistry and Chemical Biology

Presenter(s): Jaylen Esther Simone Taylor

Poster Board #: 171

**Exploring the remarkably flexible cyclase activity of bacterial flavoproteins and their sequence-function relationships**

(4198064)

Division of Biochemistry and Chemical Biology

Presenter(s): Felix Hubert

Poster Board #: 172

**2-Carbamate analogs of 5-thio-GlcNAc (5SGlcNAc) are mechanistically novel inhibitors of**

**UDP-GlcNAc biosynthesis**

(4198183)

Division of Biochemistry and Chemical Biology

Presenter(s): Rhianna Lysse Haynie-Cion

Poster Board #: 173

**Characterization, anti-glycation, anti-inflammation, and lipase inhibitory properties of Rauvolfia vomitoria leaf extract: In vitro and in silico evaluations for obesity treatment**

(4185277)

Division of Biochemistry and Chemical Biology

Presenter(s): Akpovwehwee Anigboro

Poster Board #: 174

**Amyloid-forming peptides derived from the SARS-CoV-2 spike protein damage lipid membranes**

(4179110)

Division of Biochemistry and Chemical Biology

Presenter(s): Anjola Adewoye

Poster Board #: 175

**Exploring the mechanisms of temperature compensation in cyanobacterial clock proteins**

(4188042)

Division of Biochemistry and Chemical Biology

Presenter(s): Athira Chilambittaserry

Chandradasan

Poster Board #: 176

**Exploring ALPHA-FOLD predicted structures of Nudix proteins to investigate binding site dynamics through implicit solvent molecular dynamics simulations**

(4190234)

Division of Biochemistry and Chemical Biology  
Presenter(s): PRIYA BENNY BENNY  
CHIRIYANKANDATH  
Poster Board #: 177

**Investigating the effects of backbone modifications on the aggregation of alpha-synuclein in vitro**

(4190474)

Division of Biochemistry and Chemical Biology  
Presenter(s): Evan Yanagawa  
Poster Board #: 178

**Synthesis and characterization of clicked cubosomes-graphene oxide noble hybrid platform for synergistic tumor cell targeting and drug delivery**

(4196136)

Division of Biochemistry and Chemical Biology  
Presenter(s): Mir Monir Hossain  
Poster Board #: 179

**Discovery of a kinetically attenuated Ethynylbenziodoxolone probe for chemoproteomic profiling of slow-binding and reversible cysteine-reactive drugs**

(4196326)

Division of Biochemistry and Chemical Biology  
Presenter(s): Brittney Racioppo  
Poster Board #: 180

**Profiling biomolecular condensates in living cells via  $\mu$ Map proximity labeling platform**

(4200868)

Division of Biochemistry and Chemical Biology  
Presenter(s): Chenmengxiao Pan

Poster Board #: 181

**Decoding sphingolipid biosynthesis: Unveiling the role of cryptic acyl carrier protein "AcpSP" in bacterial metabolism**

(4178682)

Division of Biochemistry and Chemical Biology  
Presenter(s): Sitong Wu  
Poster Board #: 182

**Exploring protein function using LABEL\_seq**

(4192010)

Division of Biochemistry and Chemical Biology  
Presenter(s): Adewunmi Felicia Adebajo  
Poster Board #: 183

**Engineering of plant enzymes for enhanced synthesis of germacranolides**

(4182679)

Division of Biochemistry and Chemical Biology  
Presenter(s): Daria Sokolova  
Poster Board #: 184

**Near-infrared, self-renewable UnaG-Bilirubin tag for single-molecule localization microscopy**

(4185945)

Division of Biochemistry and Chemical Biology  
Presenter(s): Mohamed Saleh Elgawish  
Poster Board #: 185

**Synergistic anticancer therapy by Ascorbic acid enabled ROS generation and ROS responsive prodrug activation**

(4179931)

Division of Biochemistry and Chemical Biology  
Presenter(s): Tafeeque Ali

Poster Board #: 186

**Mitochondria-targeted BODIPY-based ratiometric fluorescent probes for real-time pH sensing in live cells**

(4191918)

Division of Biochemistry and Chemical Biology

Presenter(s): Ishana Kathuria

Poster Board #: 187

**Tetrazine-based bioorthogonal imaging probes with dienophile-dependent fluorogenicity**

(4169189)

Division of Biochemistry and Chemical Biology

Presenter(s): Dahham Kim

Poster Board #: 188

**Site-specific modification of DNA substrates by tRNA guanine transglycosylase from Escherichia coli**

(4188220)

Division of Biochemistry and Chemical Biology

Presenter(s): Ember Tota

Poster Board #: 189

**Cell-type specific bioorthogonal chemistry via enzyme-activation of caged tetrazines**

(4188900)

Division of Biochemistry and Chemical Biology

Presenter(s): Caroline Knittel

Poster Board #: 190

**Advancing molecular design strategies through the systematic integration of an AI framework for virtual screening and a large**

**language model (LLM)-based optimization model**

(4192643)

Division of Biochemistry and Chemical Biology

Presenter(s): PENG GAO

Poster Board #: 191

**Uncovering the biosynthetic pathway towards Ammosamide C production**

(4196025)

Division of Biochemistry and Chemical Biology

Presenter(s): Josseline Ramos Figueroa

Poster Board #: 192

**Post-synthetically modifiable single stranded oligo-decorated conductive polymer enables sensitive electrochemical detection of human salivary miRNAs**

(4199046)

Division of Biochemistry and Chemical Biology

Presenter(s): PRANAY SAHA

Poster Board #: 193

**Improving data representation of metalloproteins in the Protein Data Bank**

(4229346)

Division of Biochemistry and Chemical Biology

Presenter(s): Alison Biester

Poster Board #: 194

**Interaction of RGG-motif peptides with MYC promoter G-quadruplex**

(4197526)

Division of Biochemistry and Chemical Biology

Presenter(s): Elizabeth Camberos | Zoe

Castanon | Alexandra De Anda | Reese McNally

| Tia Nguyen | Nimrat Singh Sran

Poster Board #: 195

**Surface enhanced Raman scattering (SERS) study of essential amino acids adsorbed on gold and silver nanomaterials substrates**

(4198103)

Division of Biochemistry and Chemical Biology

Presenter(s): Valeria I. Catala-Vicente

Poster Board #: 196

**Temperature dependent measurements of homologous extremophile metalloprotein flexibility**

(4198455)

Division of Biochemistry and Chemical Biology

Presenter(s): Trenton Turpin

Poster Board #: 197

**Synthesizing and characterizing KFE8 as a vaccine platform for HPV**

(4198767)

Division of Biochemistry and Chemical Biology

Presenter(s): James Paul Davis

Poster Board #: 198

**Role of polarity around E18 in Plasmodium falciparum malate dehydrogenase**

(4198891)

Division of Biochemistry and Chemical Biology

Presenter(s): Jessica Bell

Poster Board #: 199

**Development of a divergent synthesis of N-methylene-substituted saccharin-based inhibitors for rhomboid intramembrane proteases**

(4188112)

Division of Biochemistry and Chemical Biology

Presenter(s): Gabriel N Morais

Poster Board #: 200

**Exploring a novel immune modulation approach for monomeric interferon gamma (IFN $\gamma$ ) design**

(4169329)

Division of Biochemistry and Chemical Biology

Presenter(s): April Guo-Yue

Poster Board #: 201

**Characterization of SS-31 analogues containing the unique amino acid 2-thiohistidine**

(4175805)

Division of Biochemistry and Chemical Biology

Presenter(s): Mariposa K Davis

Poster Board #: 202

**Determining the structural stability of a coiled-coil peptide sequence using temperature-controlled fluorescence spectroscopy**

(4177355)

Division of Biochemistry and Chemical Biology

Presenter(s): Trey Coloney

Poster Board #: 203

**Exploring surface interactions between Alpha4N and molecular scaffolds**

(4184396)

Division of Biochemistry and Chemical Biology

Presenter(s): Kiersten Buck

Poster Board #: 204

**Investigating the effects of patient variants and phosphorylation on**

### **the BRCA1/PALB2 interaction**

(4191016)

Division of Biochemistry and Chemical Biology

Presenter(s): Audrey Nicole Dolt

Poster Board #: 205

### **Sustainable microbiome management through kinetic analysis and biofilm quantification of *L. rhamnosus***

(4191052)

Division of Biochemistry and Chemical Biology

Presenter(s): Yuxin Fang | Irene Jung

Poster Board #: 206

### **Proteomic profiling of bacterial peptidoglycan in autophagy**

(4191439)

Division of Biochemistry and Chemical Biology

Presenter(s): Max Gianakopoulos

Poster Board #: 207

### **Exploring the impact of knock-in mutations of *Ignicoccus islandicus* malate dehydrogenase**

(4199007)

Division of Biochemistry and Chemical Biology

Presenter(s): Jessica Bell

Poster Board #: 209

Division of Biochemical Technology (BIOT)

### **Chemical excitation of fluorophores for smartphone-readable molecular diagnostics**

(4192110)

Division of Biochemical Technology

Presenter(s): Anjali Drugkar

Poster Board #: 211

### **Optimizing continuous downstream bioprocessing: Flowrate control, data reconciliation and automation for monoclonal antibody production**

(4198107)

Division of Biochemical Technology

Presenter(s): Jacinta Okpanum

Poster Board #: 212

### **Utilizing deep-learning methods at the proteomic-scale for superior non-small cell lung cancer drug design**

(4188009)

Division of Biochemical Technology

Presenter(s): LIANA BRUGGEMANN

Poster Board #: 213

### **AI-driven process optimization for downstream AAV production**

(4189097)

Division of Biochemical Technology

Presenter(s): Kelvin Paschal Idanwekhai

Poster Board #: 214

### **Identification and engineering of prokaryotic Argonaute candidates for in vivo biotechnology application**

(4200481)

Division of Biochemical Technology

Presenter(s): Kevin Solomon

Poster Board #: 215

### **High-throughput screening of viral immune escape using a chip-based platform**

(4193067)

Division of Biochemical Technology

Presenter(s): Maisha Feroz  
Poster Board #: 216

### **Hybrid protein-DNA systems to augment biomolecular data storage capacities**

(4177546)

Division of Biochemical Technology  
Presenter(s): Magdelene Lee  
Poster Board #: 217

### **Novel affinity ligands for adenovirus purification from mammalian cell lysates**

(4188979)

Division of Biochemical Technology  
Presenter(s): Yuxuan WU  
Poster Board #: 218

### **Interplay of substrate ratios in acetogenic fermentations of syngas components with the autotrophic membrane-based biofilm reactor**

(4197532)

Division of Biochemical Technology  
Presenter(s): Kartik Bhagat  
Poster Board #: 219

### **Expanding the prebiotic menu for probiotics and live engineered biotherapeutics**

(4179647)

Division of Biochemical Technology  
Presenter(s): Sanjeeva kumar Murali  
Poster Board #: 220

### **Accelerated design and evaluation of Alpha-1 Antitrypsin constructs using ALiCE, a plant-based cell-free**

### **protein synthesis platform**

(4181543)

Division of Biochemical Technology  
Presenter(s): Anindya Karmaker  
Poster Board #: 221

### **Investigating the effect of chemical structural changes in surface-tethered multimodal ligands on cluster formation: A molecular dynamics study**

(4188039)

Division of Biochemical Technology  
Presenter(s): Adel nematipour  
Poster Board #: 222

### **Development of a lateral flow immunoassay targeting RC0497 for timely diagnosis of Rocky Mountain spotted fever**

(4198721)

Division of Biochemical Technology  
Presenter(s): Yogita Premchand pal  
Poster Board #: 223

### **Developing a cell-free protein synthesis platform for anaerobic gut fungi**

(4188297)

Division of Biochemical Technology  
Presenter(s): Janelle Delilah Arnold  
Poster Board #: 224

### **Massively multiplexed biomarker detection with Raman color-coded microbeads**

(4196068)

Division of Biochemical Technology  
Presenter(s): Zhilun Zhao  
Poster Board #: 225

**Developing a small-volume technique for the characterization of protein structure through FTIR**

(4194869)

Division of Biochemical Technology  
Presenter(s): Jacob Hnatusko Wat  
Poster Board #: 226

**Convolutional neural networks guided Raman spectroscopy as a process analytical technology (PAT) tool for monitoring and simultaneous prediction of monoclonal antibody charge variants**

(4177672)

Division of Biochemical Technology  
Presenter(s): Keerthiveena Balraj  
Poster Board #: 227

**Redox state dependent modulation of biocatalysis by rare earth elements (REE)**

(4183227)

Division of Biochemical Technology  
Presenter(s): Ipek Gokulu  
Poster Board #: 228

**Explainable Artificial Intelligence for CHO cell culture media optimization and prediction of critical quality attribute**

(4177669)

Division of Biochemical Technology  
Presenter(s): Keerthiveena Balraj  
Poster Board #: 229

**Rapid high-throughput ultrasensitive screening of drug-**

**resistant bacteria for a panel of antibiotics via metabolic labeling**

(4188402)

Division of Biochemical Technology  
Presenter(s): Di Li  
Poster Board #: 230

**Division of Carbohydrate Chemistry & Chemical Glycobiology (CARB)**

**Optimizing peroxidase-mediated labeling in mycobacteria for protein visualization**

(4196387)

Division of Carbohydrate Chemistry  
Presenter(s): Kindra Becker  
Poster Board #: 232

**Streamlined discovery of bioactive glycoconjugates using On-Chip synthesis and screening**

(4181645)

Division of Carbohydrate Chemistry  
Presenter(s): Shirley Yee Shyen Ooi  
Poster Board #: 233

**Synthesis and evaluation of biomimetic heparan sulfate-functionalized glycopolymers for protein binding**

(4190743)

Division of Carbohydrate Chemistry  
Presenter(s): Chandler Wells  
Poster Board #: 234

**Towards chemical synthesis of a serum glycoprotein**

(4175168)

Division of Carbohydrate Chemistry  
Presenter(s): William Durvan Zandamela  
Poster Board #: 235

### **Metabolic labeling of glycoproteins using fluorinated monosaccharides**

(4188906)

Division of Carbohydrate Chemistry  
Presenter(s): Benjamin L. Prather  
Poster Board #: 236

### **Broad-based synthesis of methylene-linked C-glycosides of biologically relevant O-glycans**

(4193063)

Division of Carbohydrate Chemistry  
Presenter(s): Jiwani Peters  
Poster Board #: 237

### **O-GlcNAc modification of $\alpha$ -synuclein can alter monomer dynamics to control aggregation kinetics**

(4196465)

Division of Carbohydrate Chemistry  
Presenter(s): Binyou Wang  
Poster Board #: 238

### **Novel carrier for conjugate vaccine against salmonella**

(4184890)

Division of Carbohydrate Chemistry  
Presenter(s): SOHAM MAITY  
Poster Board #: 239

### **Synthesis of peptidoglycan proteomic probes to study autophagy**

(4195876)

Division of Carbohydrate Chemistry  
Presenter(s): Kristen DeMeester

Division of Carbohydrate Chemistry & Chemical Glycobiology (CARB)

16

Poster Board #: 240

### **Outer Membrane Lipid Translocation in Mycobacterium tuberculosis**

(4198011)

Division of Carbohydrate Chemistry  
Presenter(s): Avraneel Paul  
Poster Board #: 241

### **Acceptor-mediated enzymatic glycosylation enabling chemoenzymatic synthesis of comprehensive branched human milk oligosaccharides**

(4180848)

Division of Carbohydrate Chemistry  
Presenter(s): Hsin-Kai Tseng  
Poster Board #: 242

### **Orthogonal protecting group strategy for the chemoenzymatic synthesis of asymmetric multiantennary n-glycans: Probing binding interactions with lectins, influenza hemagglutinin, and malarial PfCyRPA**

(4185964)

Division of Carbohydrate Chemistry  
Presenter(s): Veeranjanyulu Gannedi  
Poster Board #: 243

### **Glycosidase-triggered assembly of peptide biomaterials**

(4189548)

Division of Carbohydrate Chemistry  
Presenter(s): Alexandria Elizabeth Evans  
Poster Board #: 244

### **Synthesis of chemical proteomic**



## **probes**

(4198289)

Division of Carbohydrate Chemistry  
Presenter(s): Isabella Rose Rodriguez  
Poster Board #: 245

## **Using fluorogenic monosaccharides to detect and identify glycan-degrading enzymes**

(4186161)

Division of Carbohydrate Chemistry  
Presenter(s): Esteban Tarazona Guzman  
Poster Board #: 246

## **Fluorescent sugar analogs probe monosaccharide uptake in bacteria**

(4186169)

Division of Carbohydrate Chemistry  
Presenter(s): Daniel Kang  
Poster Board #: 247

## **Examining inhibition of glycoprotein biosynthesis by O-anthracene glycosides in Helicobacter pylori**

(4186178)

Division of Carbohydrate Chemistry  
Presenter(s): Pilar Saavedra-Weis  
Poster Board #: 248

## **Enhancing mycobacterial clearance with antibody-recruiting small molecules**

(4190907)

Division of Carbohydrate Chemistry  
Presenter(s): Mary Jane Hartman | Kai Winstead-Leroy | Grisha Dekhtyar  
Poster Board #: 249

## **Synthesis of trehalose glycolipids and evaluation of their binding to**

## **trehalose dimycolate hydrolase from Mycobacterium tuberculosis**

(4195076)

Division of Carbohydrate Chemistry  
Presenter(s): Casey Kian Papson  
Poster Board #: 250

## **Division of Catalysis Science & Technology (CATL)**

## **Catalytic implications of solvent structures in the confining voids of Sn-beta zeolites on Meerwein-Ponndorf-Verley reaction rates**

(4195429)

Division of Catalysis Science and Technology  
Presenter(s): Faysal Ibrahim  
Poster Board #: 251

## **Mechanically robust benign synthesized mesoporous UiO-66-NH<sub>2</sub> composites on TiO<sub>2</sub>-coated fabrics and nanofibrous aerogels for enhanced organophosphate degradation**

(4187673)

Division of Catalysis Science and Technology  
Presenter(s): Mai Abdelmigeed  
Poster Board #: 252

## **Decoding the morphological information of metal nano-catalysts from X-ray absorption spectroscopy using deep learning and evolutionary approach**

(4187815)

Division of Catalysis Science and Technology

Presenter(s): Kaifeng Zheng

Poster Board #: 253

**Extended  $\pi$ - $\pi$  interactions between Mn(nap-bpy)(CO)<sub>3</sub>Br and multi-walled carbon nanotubes to aid in efficient utilization of carbon dioxide and bicarbonate to rapidly and selectively produce CO in water**

(4186840)

Division of Catalysis Science and Technology

Presenter(s): Adam JaeWon Lee

Poster Board #: 254

**Asymmetric Staudinger/aza-Wittig reactions catalyzed by in situ bicyclic phosphines**

(4193973)

Division of Catalysis Science and Technology

Presenter(s): Jacob Kim

Poster Board #: 255

**Critical evaluation of the nature of and threats to the Osun-Osogbo Sacred Grove in Nigeria: The UNESCO-inscribed heritage site**

(4174023)

Division of Catalysis Science and Technology

Presenter(s): Rafat Aduke Arotayo

Poster Board #: 256

**Essential oil mediated green synthesis of Ag NPs and evaluation of their photocatalytic potential**

(4174087)

Division of Catalysis Science and Technology

Presenter(s): Avinash Gangal

Division of Catalysis Science & Technology (CATL)

Poster Board #: 257

**Machine learning guided enhanced sampling for catalyzed plastic degradation**

(4191215)

Division of Catalysis Science and Technology

Presenter(s): Daisy Kamp

Poster Board #: 258

**Enhancing CO<sub>2</sub> capture and mineralization through biomimetic dual amino acid-modified ZIF-8 nanozymes**

(4197777)

Division of Catalysis Science and Technology

Presenter(s): Meng Wang

Poster Board #: 260

**Adaptive acceleration routines for efficient MEP discovery**

(4178549)

Division of Catalysis Science and Technology

Presenter(s): Sandra Liz Simon

Poster Board #: 261

**Hydricity as a guide in H<sub>2</sub> evolution, formic acid decomposition, and transfer hydrogenation: A case study with Ir(Cp\*)(2-phenylpyridine)H**

(4174923)

Division of Catalysis Science and Technology

Presenter(s): Lydia Weddle

Poster Board #: 262

**Deracemization of 2-Tetralols Using an Unspecific Peroxygenase and an Alcohol Dehydrogenase**

(4175369)

Division of Catalysis Science and Technology

Presenter(s): Hebah Ibrahim Abuzenah  
Poster Board #: 263

**Synergy of charged domain walls  
in 2D in-plane polarized  
ferroelectric GES for photocatalytic  
water splitting**

(4177412)  
Division of Catalysis Science and Technology  
Presenter(s): cheng miao  
Poster Board #: 264

**Chiral plasmonic nanoparticles for  
boosting hydrogen production  
from solar energy**

(4184406)  
Division of Catalysis Science and Technology  
Presenter(s): Ha Eun Kang  
Poster Board #: 265

**Structural activation of iridium  
single-atom catalysts for proton  
exchange membrane water  
electrolyzers**

(4186080)  
Division of Catalysis Science and Technology  
Presenter(s): Hyunsoo Ahn  
Poster Board #: 266

**Fundamental insights into the  
behavior of oxygen on silver for  
ethylene epoxidation**

(4186667)  
Division of Catalysis Science and Technology  
Presenter(s): Cole Easton  
Poster Board #: 267

**Self-interaction correction for  
transition metal formate clusters  
with Perdew-Zunger Self-**

**Interaction-Correction (PZSIC)**

(4189981)  
Division of Catalysis Science and Technology  
Presenter(s): Priyanka Shukla  
Poster Board #: 268

**Microkinetic model for low-  
temperature plasma assisted  
catalysis by Fe and Ni catalysts for  
ammonia synthesis**

(4190141)  
Division of Catalysis Science and Technology  
Presenter(s): Oluwatosin Ohiro  
Poster Board #: 269

**Impact of K and ZrO<sub>2</sub> sequential  
addition on red mud-based  
catalysts for CO<sub>2</sub> hydrogenation**

(4191707)  
Division of Catalysis Science and Technology  
Presenter(s): Mahbuba Aktary  
Poster Board #: 270

**Single-step electrochemical  
conversion of CO<sub>2</sub> to C<sub>4</sub> products  
with Cu based catalyst unveiling  
mechanisms through DFT and In  
Situ Raman spectroscopy**

(4192412)  
Division of Catalysis Science and Technology  
Presenter(s): esraa Ragab ragab  
Poster Board #: 271

**Paired electrocatalysis:  
Electrochemical valorization of  
biomass coupled with concurrent  
ammonia production**

(4192973)  
Division of Catalysis Science and Technology  
Presenter(s): Loknath Thapa

Poster Board #: 272

### **Hexagonal Boron Nitride (hBN): A novel 2D support of metal single atoms for catalysis**

(4193181)

Division of Catalysis Science and Technology

Presenter(s): Ruthy Hunjo

Poster Board #: 273

### **Factors controlling adsorption energies at metal-oxide interfaces**

(4194210)

Division of Catalysis Science and Technology

Presenter(s): Marius Juul Nielsen

Poster Board #: 274

### **Addition of broadband solar light absorbers to facilitate the gas phase plasmonic photocatalysis under milder thermal conditions**

(4194794)

Division of Catalysis Science and Technology

Presenter(s): Zhijia Geng

Poster Board #: 275

### **Investigation on the exsolution process for catalytically active Au nanoparticles in SrTiO<sub>3</sub> lattice**

(4195045)

Division of Catalysis Science and Technology

Presenter(s): Hongyang Li

Poster Board #: 276

### **Mesoporosity engineering in zeolites for enhanced catalytic performance: post-synthesis modification and adsorption study**

(4195729)

Division of Catalysis Science and Technology

Presenter(s): Nida Tasneem

Division of Catalysis Science & Technology (CATL)

Poster Board #: 277

### **Catalytic synthesis of aromatic hydrocarbons from ABE mixtures**

(4195739)

Division of Catalysis Science and Technology

Presenter(s): Soumya Sree Samal

Poster Board #: 278

### **Unveiling the origins of catalysis using Asymmetric Adiabatic ALMO-EDA**

(4195782)

Division of Catalysis Science and Technology

Presenter(s): Markus G. S. Weiss

Poster Board #: 279

### **Unveiling the influence of cation mixing on photoelectrochemical water oxidation in Mg<sub>1-x</sub>Cu<sub>x</sub>V<sub>2</sub>O<sub>6</sub> solid solutions**

(4173779)

Division of Catalysis Science and Technology

Presenter(s): Abhishek Rawat

Poster Board #: 280

### **Fundamental investigation of electronic metal support interactions of single atom catalysts supported on transition metal dichalcogenides for hydrogen evolution reaction**

(4185533)

Division of Catalysis Science and Technology

Presenter(s): Nipun Chandrasiri

Poster Board #: 281

### **Metal quaterpyridine molecular complexes for photocatalytic CO<sub>2</sub> reduction on a crystalline carbon**

### **nitride semiconductor**

(4171310)

Division of Catalysis Science and Technology

Presenter(s): Scott McGuigan

Poster Board #: 282

### **Direct comparisons of molecular and extended tungsten oxides as catalysts for the oxygen reduction reaction**

(4197471)

Division of Catalysis Science and Technology

Presenter(s): Shreya Thakkar

Poster Board #: 283

### **Kinetics of overlayer formation in plasma-activated strong metal-support interactions**

(4178281)

Division of Catalysis Science and Technology

Presenter(s): Russell Clarke

Poster Board #: 284

### **CO<sub>2</sub> reduction in the gastight rotating cylinder electrode cell: the impact of temperature on efficiency and selectivity**

(4196807)

Division of Catalysis Science and Technology

Presenter(s): Momoko Ishida

Poster Board #: 285

### **Effects of copper and hydrogen surface coverage on the selective deoxygenation of carboxylic acids over molybdenum based catalysts**

(4189754)

Division of Catalysis Science and Technology

Presenter(s): Thomas Salas

Poster Board #: 286

### **Selective formation and reaction of surface oxygen species to promote alkene epoxidation over oxygen evolution on Au anodes**

(4182481)

Division of Catalysis Science and Technology

Presenter(s): Richa Ghosh

Poster Board #: 287

### **Electrically-driven proton transfer promotes Brønsted acid catalysis by orders of magnitude**

(4188013)

Division of Catalysis Science and Technology

Presenter(s): Karl Westendorff

Poster Board #: 288

### **Surface alloy strategies for efficient electrocatalytic methane activation: Breaking scaling barriers in electrocatalysis**

(4182621)

Division of Catalysis Science and Technology

Presenter(s): Onyinyechukwu Goodness Njoku

Poster Board #: 289

### **Stabilizing noble metal nanoparticles on reducible oxides: Insights into deactivation, transformation, and Al-doping**

(4188480)

Division of Catalysis Science and Technology

Presenter(s): Arik Beck

Poster Board #: 290

### **Computational investigation of Fe-Sn oxide electrocatalysts: Enhancing oxygen evolution activity and mitigating dissolution**

(4184638)

Division of Catalysis Science and Technology  
Presenter(s): Foroogh Khezeli | Theodore Walker  
Poster Board #: 291

### **Anderson-polyoxometalate-based single-site catalysts with precise and exposed active site for CO<sub>2</sub> hydrogenation**

(4197219)  
Division of Catalysis Science and Technology  
Presenter(s): S M GULAM RABBANI  
Poster Board #: 293

### **In situ X-ray absorption spectroscopy (XAS) study of Ru catalysts for CO<sub>2</sub> to methane conversion**

(4188794)  
Division of Catalysis Science and Technology  
Presenter(s): Maria Irene Barba-Nieto  
Poster Board #: 294

### **High selectivity toward benzoquinone production from catalytic depolymerization of hardwood lignin**

(4196655)  
Division of Catalysis Science and Technology  
Presenter(s): Yinglei Han  
Poster Board #: 295

### **Photocatalytic CO<sub>2</sub> reduction over Bi<sub>19</sub>S<sub>27</sub>X<sub>3</sub> (X = I, Br & Cl) nanostructures: Exploring insights through in situ spectroscopy**

(4194458)  
Division of Catalysis Science and Technology  
Presenter(s): subhash chandra Chandra shit  
Poster Board #: 296

### **Oxidative dehydrogenation of n-butane to 1,3-butadiene over fibrous silica supported Ni-Bi oxide catalysts**

(4177825)  
Division of Catalysis Science and Technology  
Presenter(s): Tatinaidu Kella  
Poster Board #: 298

### **Covalent functionalization of silicon with plasma-grown 'Fuzzy' graphene: Robust aqueous photoelectrodes for CO<sub>2</sub> reduction by molecular catalysts**

(4189177)  
Division of Catalysis Science and Technology  
Presenter(s): Oluwaseun Oyetade  
Poster Board #: 299

### **Synergistic enhancement of CO<sub>2</sub>-epoxide cycloaddition: a stable Ti<sub>3</sub>C<sub>2</sub>T<sub>x</sub>@ML-ZIF 9 (MXene @ MOF) composite catalyst**

(4192704)  
Division of Catalysis Science and Technology  
Presenter(s): Yuel Weldemichael Abraha  
Poster Board #: 300

### **Adsorption of bulky molecules in zeolites from liquid mixtures: From model development to molecular dynamics**

(4193430)  
Division of Catalysis Science and Technology  
Presenter(s): Dongyue Liang  
Poster Board #: 301

### **Double transition metal MXenes as bifunctional electrocatalysts for**

## **overall water splitting**

(4196010)

Division of Catalysis Science and Technology

Presenter(s): Syedah Afsheen Zahra

Poster Board #: 302

## **Design facet engineering**

**Fe<sub>3</sub>O<sub>4</sub>/Fe<sub>3</sub>C (FeOC)**

**heterostructured interface**

**electrocatalyst for industrial green**

**hydrogen generation via water**

**electrolyzer**

(4199070)

Division of Catalysis Science and Technology

Presenter(s): karuppasamy lakshmanan

Poster Board #: 303

## **In situ investigation of the electric**

**double layer in electrochemical**

**nitrate reduction for ammonia**

**production**

(4190263)

Division of Catalysis Science and Technology

Presenter(s): Kinithi Meththa Kumari

Wickramaratne

Poster Board #: 304

## **Generalizing the role of transition**

**metal oxide domains on Pt**

**nanoparticles in inverse MO<sub>x</sub>/Pt**

**catalysts for hydrodeoxygenation**

(4186659)

Division of Catalysis Science and Technology

Presenter(s): Justin Marlowe

Poster Board #: 305

## **Division of Cellulose and Renewable Materials (CELL)**

## **Assessment of char formation and thermal resistance in hydroxyethyl cellulose-porcelain composites**

(4185248)

Division of Cellulose and Renewable Materials

Presenter(s): Dominic Rowan Watson

Poster Board #: 307

## **Micromechanical property enhancement of pectin based renewable nanomaterials by surface modified cellulose nanocrystals**

(4185411)

Division of Cellulose and Renewable Materials

Presenter(s): Alison Stevens

Poster Board #: 308

## **Harnessing cellulose nanocrystals: Advancing polymerized ionic liquids for sustainable technologies**

(4190956)

Division of Cellulose and Renewable Materials

Presenter(s): Linda Nguyen | David Salas-de la

Cruz | Abneris Morales

Poster Board #: 309

## **Cellulose for sight: Bacterial cellulose for artificial stromas**

(4193515)

Division of Cellulose and Renewable Materials

Presenter(s): Danish Hakim

Poster Board #: 310

## **Passive method of altering**

## **morphology of UV resin using carbohydrates**

(4195578)

Division of Cellulose and Renewable Materials

Presenter(s): Marlena Michelle Clement

Poster Board #: 311

## **PEEK and polysaccharide hydrogel drug delivery system**

(4197433)

Division of Cellulose and Renewable Materials

Presenter(s): Robert Fortune

Poster Board #: 312

## **Renewable chemical feedstocks from cotton textile wastewater as greener reducing agents for metal nanoparticle growth**

(4196433)

Division of Cellulose and Renewable Materials

Presenter(s): Nicholas Ernst

Poster Board #: 313

## **Fenton degradation of cellulose ethers**

(4190303)

Division of Cellulose and Renewable Materials

Presenter(s): Marisa Danielle Thompson

Poster Board #: 314

## **Influence of polarizable force field on carbohydrate monomers**

(4183438)

Division of Cellulose and Renewable Materials

Presenter(s): Mackenzie G Patton

Poster Board #: 315

## **Molecular dynamics of Alpha carbohydrates in water with the AMOEBA polarizable force field**

(4191391)

Division of Cellulose and Renewable Materials

Presenter(s): BREYANNA RODRIGUEZ

Poster Board #: 316

## **Electrospun fibers from cellulose extracted from hemp biomass**

(4196497)

Division of Cellulose and Renewable Materials

Presenter(s): Megan Dickinson

Poster Board #: 317

## **Synthesis and characterization of cellulose derivatives for**

## **amorphous solid dispersion**

(4197580)

Division of Cellulose and Renewable Materials

Presenter(s): Olivia Arizona Cogswell

Poster Board #: 318

## **Division of Chemical Education (CHED)**

## **3D-printed modular liquid chromatography system**

(4197108)

Division of Chemical Education

Presenter(s): Oleksandr Kokhan

Poster Board #: 320

## **Chemistry festival: Inspiring communities through engaging chemistry outreach**

(4190900)

Division of Chemical Education

Presenter(s): Ingrid Montes

Poster Board #: 321

## **Bridging communities and chemistry: The impact of the Festival de química in Puerto Rico**



(4190932)  
Division of Chemical Education  
Presenter(s): Ingrid Montes  
Poster Board #: 322

### **From labs to startups: Inspiring innovation through ACS Chemistry Festivals**

(4192925)  
Division of Chemical Education  
Presenter(s): Sajid Jahangir  
Poster Board #: 323

### **Science outreach events and community engagement in chemistry education**

(4187296)  
Division of Chemical Education  
Presenter(s): Emmanuel Etim  
Poster Board #: 324

### **Object-based learning for understanding the molecular structures of medicines**

(4183645)  
Division of Chemical Education  
Presenter(s): Tito Akindele  
Poster Board #: 325

### **Enhancing inclusivity in undergraduate biochemistry education through active learning practices**

(4190580)  
Division of Chemical Education  
Presenter(s): Ritcha Mehra-Chaudhary  
Poster Board #: 326

### **Exploring protein structure–function relationships through Design2Data in biochemistry**

Division of Chemical Education (CHED)

(4191676)  
Division of Chemical Education  
Presenter(s): Kari L Stone | Sunshine C. Silver  
Poster Board #: 327

### **Crime scene investigation chemistry for kids camps**

(4183853)  
Division of Chemical Education  
Presenter(s): Robyn M Hyde  
Poster Board #: 328

### **Molecular literacy for ages 8 to 108: Why intergenerational learning is essential in today's world**

(4184758)  
Division of Chemical Education  
Presenter(s): Colleen Kelley  
Poster Board #: 329

### **Pharmaceutical chemistry as the capstone for chemistry majors**

(4181905)  
Division of Chemical Education  
Presenter(s): Songwen Xie  
Poster Board #: 330

### **Two-week summer research experience as a model for promoting research at a community college**

(4179912)  
Division of Chemical Education  
Presenter(s): Robert Carp  
Poster Board #: 349

### **Shared stakeholder framework for mentoring undergraduate researchers**

(4197322)

Division of Chemical Education  
Presenter(s): Arica Lubin | M. Ofelia Aguirre  
Paden  
Poster Board #: 350

**CURE for bacterial infections: a cross-disciplinary antimicrobial course-based research experience**

(4185762)  
Division of Chemical Education  
Presenter(s): Herman Nikolayevskiy  
Poster Board #: 351

**Integrating photodegradation experiments into the Physical Chemistry Laboratory: A one-year review**

(4189517)  
Division of Chemical Education  
Presenter(s): Carlos M Torres Diaz  
Poster Board #: 352

**Designing a course to train effective graduate teaching assistants**

(4197859)  
Division of Chemical Education  
Presenter(s): Dafhne Aguirre  
Poster Board #: 353

**Modeling and Simulation through the curriculum: An interdisciplinary approach**

(4197936)  
Division of Chemical Education  
Presenter(s): Angela M. Gonzalez  
Poster Board #: 354

**Embedding team science in course-based undergraduate research experiences: Key**

Division of Chemical Education (CHED)

**elements**

(4224183)  
Division of Chemical Education  
Presenter(s): Clark Andersen  
Poster Board #: 355

**Using open-ended design project to promote entrepreneurial mindset in green chemistry and processes course**

(4189419)  
Division of Chemical Education  
Presenter(s): Tsvetanka Filipova  
Poster Board #: 356

**Not the real deal: investigating counterfeit pharmaceuticals**

(4196731)  
Division of Chemical Education  
Presenter(s): Kristin Johndreau  
Poster Board #: 379

**Enhancing college-level STEM opportunities for high school students from under-represented communities**

(4191054)  
Division of Chemical Education  
Presenter(s): Sonali Rajee  
Poster Board #: 380

**Student chapter as a tool for developing research skills: The case of Universidad Pedagógica Nacional**

(4177732)  
Division of Chemical Education  
Presenter(s): Rodrigo Rodr&iacute;guez  
Poster Board #: 381

**Experimentium: a new web-based**

### **app for OER labs**

(4188911)

Division of Chemical Education

Presenter(s): Eszter Trufan

Poster Board #: 382

### **Building sustainable chemistry concepts across the chemistry curriculum**

(4180407)

Division of Chemical Education

Presenter(s): Keith Miller

Poster Board #: 383

### **Small steps for a big impact: Incorporating green chemistry readings and activities into an organic chemistry course**

(4185426)

Division of Chemical Education

Presenter(s): Kendra Denlinger

Poster Board #: 384

### **Integrating course-based undergraduate research experiences in chemistry: curriculum development and methodologies for clean energy applications**

(4190055)

Division of Chemical Education

Presenter(s): Yiliang Luan

Poster Board #: 385

### **Exploring the systems thinking approach for teaching and learning green chemistry**

(4184126)

Division of Chemical Education

Presenter(s): Ruby Hanson

Poster Board #: 386

### **Engaging students in polymer science through open virtual experimentation simulators**

(4190250)

Division of Chemical Education

Presenter(s): Yu Wang

Poster Board #: 405

### **NSF-CHE: Supporting research at predominantly undergraduate institutions (PUIs) to nucleate tomorrow's STEM-innovators**

(4182680)

Division of Chemical Education

Presenter(s): Tomislav Pintauer

Poster Board #: 406

### **From classroom to community: Hands-on education in water treatment and sustainability**

(4184493)

Division of Chemical Education

Presenter(s): Gideon Asare Asare Anor | Betty Boatemaa Sakyi-Hagan | Afua Amoabea Anor | Christabel Kukuwa Nyankson | Charity Esenam Esenam Anor

Poster Board #: 407

### **Impact assessment of the ACS Chemistry FeSTiVAL on interest building and attitudes toward teaching and learning of chemistry in Southern Nigeria**

(4192399)

Division of Chemical Education

Presenter(s): Akwaowo Imoh Inyangudoh |

Erifon Ifiok Ukpe

Poster Board #: 408

**"A Ciência que Fazemos":  
Contributions of the use of comics  
featuring UFJF scientists as  
protagonists for scientific  
dissemination in basic education  
schools**

(4175039)

Division of Chemical Education

Presenter(s): Paulo Henrique Carvalho

Poster Board #: 409

**Empowering communities:  
Evaluating the impact of  
biochemical education on  
cardiovascular health on  
underserved populations**

(4190451)

Division of Chemical Education

Presenter(s): Avani Smith | Yan Yu

Poster Board #: 410

**Students' ability to transfer organic  
reactions concepts to metabolic  
reactions**

(4169349)

Division of Chemical Education

Presenter(s): Tim Tiljevang Jones

Poster Board #: 411

**Molecular wizards cast a cure for  
plastic pollution**

(4183884)

Division of Chemical Education

Presenter(s): Caitlin Hudecek

Poster Board #: 412

**KNIME workflows for a  
chemoinformatic characterization  
of chemical databases**

(4184708)

Division of Chemical Education (CHED)

Division of Chemical Education

Presenter(s): Carlos Daniel Ramirez Marquez

Poster Board #: 435

**Engineering a sustainable future:  
Integrating carbon neutrality and  
research-based learning into first-  
year engineering program**

(4187508)

Division of Chemical Education

Presenter(s): Bala Sri Vyshnavi Pulagam

Poster Board #: 436

**Exploring scientific practices: How  
graduate chemistry students  
engage in authentic research**

(4197290)

Division of Chemical Education

Presenter(s): Brianna Martinez

Poster Board #: 437

**Comparing the epistemological  
messages embedded in staff  
meeting notes with laboratory  
teaching assistant's perspectives  
across two sequences of a general  
laboratory chemistry course**

(4179503)

Division of Chemical Education

Presenter(s): Dalyanne Hernandez Sanchez

Poster Board #: 438

**Student disengagement is a barrier  
to implementing systems thinking  
in chemistry education**

(4168213)

Division of Chemical Education

Presenter(s): Navid Ahmed Sadman

Poster Board #: 439

**External validation: Insight into the**

**affirmation and reconsideration of  
commitment of organic chemistry  
students within the PISQ-5d  
identity statuses**

(4192966)

Division of Chemical Education  
Presenter(s): Cameron Bechard  
Poster Board #: 440

**Challenges and potential reforms  
in graduate chemistry education**

(4201975)

Division of Chemical Education  
Presenter(s): Zahra Pirkoohi  
Poster Board #: 441

**I asked ChatGPT to do my  
research: A commentary on the  
ethical integration of artificial  
intelligence into chemistry  
education research practices**

(4179699)

Division of Chemical Education  
Presenter(s): Slade C. McAfee  
Poster Board #: 442

**Using three-dimensional virtual  
reality software to develop  
molecular visualization and  
geometric thinking in chemistry for  
secondary stage students**

(4176804)

Division of Chemical Education  
Presenter(s): Nourhan Ahmed Mohamed  
Poster Board #: 461

**Active learning in 3D: visualizing  
SN2 reactions with a functional 3D  
printed Walden inversion model**

(4188342)

Division of Chemical Education (CHED)

Division of Chemical Education  
Presenter(s): Jeremy K Klosterman  
Poster Board #: 462

**3D printed models to improve  
student spatial reasoning skills in  
crystallography**

(4196251)

Division of Chemical Education  
Presenter(s): Christopher J Stromberg  
Poster Board #: 463

**3D printed analytical tools for  
active-learning in the chemistry  
laboratory: Advances in producing  
inexpensive, user-friendly student  
building kits and preassembled  
instrumentation**

(4191130)

Division of Chemical Education  
Presenter(s): Lon A Porter  
Poster Board #: 464

**Inspiring the next generation of  
scientists: Insights from chemistry  
festivals in the Central Region of  
Ghana**

(4186181)

Division of Chemical Education  
Presenter(s): Ernest Koranteng  
Poster Board #: 465

**Chemistry: Our way of life**

(4184486)

Division of Chemical Education  
Presenter(s): Charity Esenam Esenam Anor |  
Christabel Kukuwa Nyankson | Afua Amoabea  
Anor | Betty Boatemaa Sakyi-Hagan | Gideon  
Asare Asare Anor  
Poster Board #: 466

**Rescue the Chemist: Specifications grading in an organic chemistry course**

(4196704)

Division of Chemical Education

Presenter(s): Richard J Mullins

Poster Board #: 467

**Active learning in chemistry through art-science Intersections**

(4197865)

Division of Chemical Education

Presenter(s): Jillian Blatti

Poster Board #: 468

**Heavy metal concentrations in soils: A CURE experience for first- and second-year students**

(4196115)

Division of Chemical Education

Presenter(s): Christopher J Stromberg

Poster Board #: 491

**Development of a course-based undergraduate research experience (CURE) within foundational inorganic chemistry: nanostructured zinc oxide gas sensors**

(4198495)

Division of Chemical Education

Presenter(s): Steven N Girard

Poster Board #: 492

**CUREs in experimental physical chemistry courses at Penn State: Concepts, goals, challenges, achievements, and improvements to be made**

(4199170)

Division of Chemical Education (CHED)

Division of Chemical Education

Presenter(s): Bratoljub H Milosavljevic

Poster Board #: 493

**Bridging the gap: College chemistry students transforming K-12 education through service-learning**

(4198938)

Division of Chemical Education

Presenter(s): ChaMarra Karmelia Saner

Poster Board #: 494

**Community-based learning: analysis of microplastics in the Los Angeles Watershed**

(4197938)

Division of Chemical Education

Presenter(s): Jillian Blatti

Poster Board #: 495

**Impact of service-learning on perceptions of STEM outreach for chemistry majors**

(4194391)

Division of Chemical Education

Presenter(s): Keith M Krise

Poster Board #: 496

**How to lead a three-week chemistry-based study abroad trip to any country - case study: Japan**

(4196019)

Division of Chemical Education

Presenter(s): Barrett Eichler

Poster Board #: 497

**Best practices for interactive workshops from the Institute for Computational Molecular Science Education**

(4197891)  
Division of Chemical Education  
Presenter(s): Neeraj Rai  
Poster Board #: 498

### **Accessible chemistry: Developing linguistically inclusive assessments**

(4168718)  
Division of Chemical Education  
Presenter(s): Eshani Lee  
Poster Board #: 517

### **Comparison of supported liquid extraction and solid phase extraction for methamphetamine in urine**

(4198563)  
Division of Chemical Education  
Presenter(s): Xuyang He  
Poster Board #: 518

### **Development and implementation of a Chemistry self-efficacy intervention in general chemistry**

(4187172)  
Division of Chemical Education  
Presenter(s): Anthony Howcroft  
Poster Board #: 519

### **Anyone can do this: How to succeed in the sciences**

(4180644)  
Division of Chemical Education  
Presenter(s): John P Birtles  
Poster Board #: 520

### **Look back: 7 years of summer bridge activities and the effect on retention in general chemistry**

(4186424)  
Division of Chemical Education  
Presenter(s): Joseph Earl Bradshaw

Poster Board #: 521

### **Partnering with a local brewery to create a “real world” Analytical Chemistry Laboratory**

(4186537)  
Division of Chemical Education  
Presenter(s): Keir H Fogarty  
Poster Board #: 522

### **Connecting the pieces of the puzzle: How community college plays a critical role in STEM outreach to underrepresented populations**

(4191166)  
Division of Chemical Education  
Presenter(s): Marissa Barrientos  
Poster Board #: 523

### **Greening the lab: Using sodium perborate and oxone as oxidants for brominations and epoxidations**

(4193227)  
Division of Chemical Education  
Presenter(s): Elizabeth M Valentin  
Poster Board #: 524

### **Bridging chemistry and architecture: mentoring students in sustainable materials research through an interdisciplinary CURE approach**

(4196131)  
Division of Chemical Education  
Presenter(s): Kiana Memarandadgar | Davoud Mozhdehi  
Poster Board #: 525

### **Orgo: An organic chemistry**

### **collaborative review game**

(4196851)

Division of Chemical Education

Presenter(s): Laura L Serbulea | Owen Selden |  
Mary Sutton Wein

Poster Board #: 526

### **ACS leads the way: Advancing member development through chemistry education and outreach**

#### **– a student perspective**

(4193352)

Division of Chemical Education

Presenter(s): Nadesha Pinnock

Poster Board #: 527

### **Rubrics for assessing student ability to conduct quantitative problem-solving processes in general chemistry**

(4198185)

Division of Chemical Education

Presenter(s): Shirley Lin

Poster Board #: 571

### **Interdisciplinary STEM education and mentoring strategies for transitioning students to STEM**

#### **success**

(4196089)

Division of Chemical Education

Presenter(s): Kevin Hansel Bennett

Poster Board #: 572

### **Flipped classroom approach in medicinal chemistry education: A pharmacy school study**

(4183946)

Division of Chemical Education

Presenter(s): Mudit K. Singhal

Poster Board #: 573

### **True access: Designing a structure to increase direct participation of underrepresented groups (URG) and transfer students in STEM research and professionalization**

(4194653)

Division of Chemical Education

Presenter(s): Charlisa Daniels

Poster Board #: 574

### **Developing and teaching a week long high school summer camp on the Materials Science of Soccer in Brazil**

(4198886)

Division of Chemical Education

Presenter(s): Katharina Fransen

Poster Board #: 575

### **Building writing identity and professional science writing skills in a lab report-free organic Chemistry II Laboratory**

(4191136)

Division of Chemical Education

Presenter(s): Rebecca E Black

Poster Board #: 576

### **Transforming science safety in K-12 schools with the safer science framework**

(4194754)

Division of Chemical Education

Presenter(s): Stephen Taylor

Poster Board #: 577

### **ACS LATAM Student chapter advisors meeting: Strengthening support for faculty advisors and**



## **student members**

(4180423)

Division of Chemical Education

Presenter(s): Isaac F Cespedes-Camacho

Poster Board #: 578

## **From theory to practice: Enhancing undergraduate problem-solving skills in food and agricultural sciences through computational chemistry modeling, molecular dynamics simulation, and culturally relevant pedagogy**

(4189005)

Division of Chemical Education

Presenter(s): Lexi Hwang | Leo Hong | Jing Zhao  
| Changqi Liu | Wyatt Mathers | Chih-Ling Lee |

Arpit Subhash Vaishya

Poster Board #: 590

## **Quantitative and qualitative assessment of Interactive Reaction Animations (iORA)**

(4200940)

Division of Chemical Education

Presenter(s): Anthony Joson

Poster Board #: 591

## **Quantum mechanical calculations of DNA nucleotides in space conditions**

(4196980)

Division of Chemical Education

Presenter(s): Madeline V Marous

Poster Board #: 592

## **Relationships between anthropogenic CO<sub>2</sub> emissions, global temperatures, and storms**

(4177347)

Division of Chemical Education (CHED)

Division of Chemical Education

Presenter(s): Melinda Wu

Poster Board #: 593

## **Training for Improving Plastics Circularity (TIPC): A grant program to prepare the plastics workforce for a circular economy**

(4183383)

Division of Chemical Education

Presenter(s): Noah Last

Poster Board #: 594

## **Green chemistry assessments in a general chemistry classroom: The quest to find a perfect project**

(4185356)

Division of Chemical Education

Presenter(s): Marta Guron

Poster Board #: 595

## **Green Chemistry in electrochemistry education: An inquiry-based approach to the electrochemical series**

(4199053)

Division of Chemical Education

Presenter(s): Melissa P Hill

Poster Board #: 596

## **Sustainability training and research at a primarily undergraduate institution**

(4185178)

Division of Chemical Education

Presenter(s): Muhammed Yousufuddin

Poster Board #: 597

## **Using systems thinking to integrate green chemistry and sustainability into a first-year chemistry**

## **curriculum**

(4193292)

Division of Chemical Education

Presenter(s): Sara H. Kyne

Poster Board #: 598

## **STEM identity quest: Unleashing motivation with computational modeling and simulation**

(4194738)

Division of Chemical Education

Presenter(s): Lexi Hwang | Theresa Meyerott | Leo Hong

Poster Board #: 599

## **Impact of American Chemical Society (ACS) chemistry festivals on chemistry teachers' perception and pedagogical approaches to teaching**

(4195219)

Division of Chemical Education

Presenter(s): Felicia Imeh Umanah | Edima Sylvanus Sunday

Poster Board #: 600

## **Colloidal crystal engineering with DNA: a laboratory experience for undergraduate students**

(4198746)

Division of Chemical Education

Presenter(s): Kaitlin Landy

Poster Board #: 601

## **Evaluation of the change in first-semester organic chemistry students' affect and its impact on course achievement**

(4187728)

Division of Chemical Education

Presenter(s): Krystal Dawn Grieger

Division of Chemical Education (CHED)

Poster Board #: 602

## **Alternative grading in STEM: A systematic literature review**

(4195929)

Division of Chemical Education

Presenter(s): Harnoor Nagra

Poster Board #: 603

## **Higher order learning strategies in large enrollment organic chemistry courses**

(4178388)

Division of Chemical Education

Presenter(s): Angie L Lopez

Poster Board #: 642

## **Does incentivized extra practice increase student success rates in introductory chemistry courses?**

(4181790)

Division of Chemical Education

Presenter(s): Helen Williams

Poster Board #: 643

## **Applying chemistry education research to pre-service science teacher conceptions of teaching chemistry and chemical equilibrium**

(4196245)

Division of Chemical Education

Presenter(s): Miciah L. Mikes-Thacker

Poster Board #: 644

## **Envisioning a future of artificial intelligence and chemistry**

(4194251)

Division of Chemical Education

Presenter(s): Jamie Khoo | Yvonne Shuen Lann Choo | Fun Man Fung

Poster Board #: 645

## Division of Chemical Information (CINF)

### **Inhibiting menaquinone pathway: A fragment-based strategy for multi-target antibacterials Srimari Srikanth and Venkatasubramanian Ulaganathan**

(4178434)

Division of Chemical Information  
Presenter(s): Srimari Srikanth  
Poster Board #: 357

### **Deep learning-assisted molecular identification through vibrational spectra**

(4180894)

Division of Chemical Information  
Presenter(s): Futo Mitsuishi  
Poster Board #: 358

### **Multi-task learning approach for data imputation of compound affinity values for SLC transporter superfamily**

(4194286)

Division of Chemical Information  
Presenter(s): Tarik Ćerimagić  
Poster Board #: 359

### **Cheminformatic approach to predictively modelling cosmeceutical formulations based on skin microbiome chemical interactions**

Division of Chemical Information (CINF)

(4195943)

Division of Chemical Information  
Presenter(s): Yae-won Michelle Jung  
Poster Board #: 360

### **AIRCHECK: Artificial Intelligence Ready Chemical Knowledgebase**

(4197837)

Division of Chemical Information  
Presenter(s): James Wellnitz  
Poster Board #: 361

### **Survey of psilocybin product use: A disseminated substance use assessment**

(4183944)

Division of Chemical Information  
Presenter(s): Sierra Solnick  
Poster Board #: 362

### **COCONUT 2.0: A comprehensive improved open database for Natural Products Research**

(4189917)

Division of Chemical Information  
Presenter(s): Venkata Chandra Sekhar Nainala  
Poster Board #: 363

### **Comprehensive evaluation of biochemical databases in drug discovery: Insights from a crowd- reviewed analysis**

(4193343)

Division of Chemical Information  
Presenter(s): Alexander Pashenko | Serhiy  
Ryabukhin  
Poster Board #: 364

### **Chemical language model linker: blending text and molecules with modular adapters**

(4198026)

Division of Chemical Information

Presenter(s): Spencer S Ericksen

Poster Board #: 365

### **Supporting effective decision-making in drug discovery through collaboration and communication**

(4199031)

Division of Chemical Information

Presenter(s): Tamsin E. Mansley

Poster Board #: 366

### **Cheminformatics microservice: An open-source solution facilitating access to diverse cheminformatics toolkits**

(4189384)

Division of Chemical Information

Presenter(s): Kohulan Rajan

Poster Board #: 367

### **Advanced searches of the Protein Data Bank in Jupyter notebooks**

(4190260)

Division of Chemical Information

Presenter(s): Paul Alfred Craig

Poster Board #: 368

### **Addressing the lack of data in preclinical drug discovery with DNA encoded libraries, machine learning, and open science**

(4187632)

Division of Chemical Information

Presenter(s): James Wellnitz

Poster Board #: 369

### **Ligand selection in palladium-catalyzed carboformylation using machine learning and molecular**

### **fingerprints**

(4185030)

Division of Chemical Information

Presenter(s): Olivera Stepanovic

Poster Board #: 370

### **In silico exploration of quinazoline derivatives as EGFR inhibitors for lung cancer: A multi-modal approach integrating QSAR-3D, ADMET, molecular docking, and molecular dynamics analyses**

(4192008)

Division of Chemical Information

Presenter(s): MOHAMED MOUSSAOUI

Poster Board #: 371

### **Electronic handbook for teaching cheminformatics**

(4185450)

Division of Chemical Information

Presenter(s): Jose L Medina-Franco

Poster Board #: 372

### **As easy as browsing a webpage: molecular web tools for molecular graphics and modeling in web-based augmented and virtual reality**

(4192310)

Division of Chemical Information

Presenter(s): Luciano Abriata

Poster Board #: 373

### **Novel Arbidol derivatives against SARS-CoV-2: a comprehensive approach using computer- and AI-assisted drug design**

(4181135)

Division of Chemical Information

Presenter(s): Sabrina Silva Mendonca  
Poster Board #: 374

**Beyond compounds and reactions:  
chemical space visualization for  
the analysis of QSAR/QSPR models**  
(4198410)

Division of Chemical Information  
Presenter(s): Sergey Sosnin  
Poster Board #: 375

**Division of Colloid &  
Surface Chemistry (COLL)**

**Dynamic wetting of a homologous  
series of imidazolium-based ionic  
liquids**

(4196058)  
Division of Colloid and Surface Chemistry  
Presenter(s): Filippo Mangolini  
Poster Board #: 413

**Characterizing emulsion interfaces  
using vibrational sum frequency  
scattering spectroscopy**

(4199123)  
Division of Colloid and Surface Chemistry  
Presenter(s): Saranya Pullanchery  
Poster Board #: 414

**Curcumin-loaded BSA  
nanoemulsions: Evaluation of  
Sacha inchi oil for enhanced  
nanoemulsion performance**

(4188904)  
Division of Colloid and Surface Chemistry  
Presenter(s): Claudia Adriana Zavaleta  
Poster Board #: 415

**Architecture design of bottlebrush  
polymer amphiphiles at the  
water/air interfaces**

(4189519)  
Division of Colloid and Surface Chemistry  
Presenter(s): Yaxin An  
Poster Board #: 416

**Nickel phosphide electrocatalyst: A  
combined quantum mechanical  
and thermodynamic exploration**

(4197899)  
Division of Colloid and Surface Chemistry  
Presenter(s): Sara E Mason  
Poster Board #: 417

**Comparative analysis of the  
impact of urea versus acetamide in  
AOT reverse micelles**  
Comparative  
analysis of the impact of urea  
versus acetamide in AOT reverse  
micelles

(4198857)  
Division of Colloid and Surface Chemistry  
Presenter(s): Kate Walsh  
Poster Board #: 418

**Leveraging Janus nanoparticles to  
disrupt bacterial poles for targeted  
antimicrobial action**

(4189489)  
Division of Colloid and Surface Chemistry  
Presenter(s): Swagata Bhattacharyya  
Poster Board #: 419

**Quantitative, super-resolution  
microscopy imaging of the uptake  
and intracellular fate of lipid  
nanoparticles**

(4194929)

Division of Colloid and Surface Chemistry  
Presenter(s): Navin Dayantha Gamage  
Poster Board #: 420

**Chemical functionalization and characterization of hexagonal Boron Nitride nanosheets**

(4178929)  
Division of Colloid and Surface Chemistry  
Presenter(s): Gothamie Ratnayake  
Poster Board #: 421

**Generation of diamond-gold nanoparticle assemblies with Sulfo-NHS/EDC coupling for enhancement of nitrogen-vacancy center fluorescence**

(4168986)  
Division of Colloid and Surface Chemistry  
Presenter(s): Nawal Sugul  
Poster Board #: 422

**Preparation of a glycerol-based carbon / cobalt ferrite nanocomposite for the removal of emerging contaminants in aqueous systems**

(4183960)  
Division of Colloid and Surface Chemistry  
Presenter(s): James Kreck  
Poster Board #: 423

**General strategy for synthesizing Pt-Ni-M ternary alloy nanoframes embedded with rational design for electrochemical catalyses**

(4190107)  
Division of Colloid and Surface Chemistry  
Presenter(s): Yiliang Luan  
Poster Board #: 424

**Interfacial charge transfer dynamics in chromophore-functionalized quantum-sized gold clusters**

(4197956)  
Division of Colloid and Surface Chemistry  
Presenter(s): Shivi Saxena  
Poster Board #: 425

**PET-derived carbon quantum dots as Nano-tracers for subsurface applications**

(4179902)  
Division of Colloid and Surface Chemistry  
Presenter(s): Madiha Farooq  
Poster Board #: 426

**Nanowire assemblies to dynamically tune disordered optical phenomenon: Random lasing**

(4171839)  
Division of Colloid and Surface Chemistry  
Presenter(s): Kumudu Ranasinghe  
Poster Board #: 427

**Surface enhanced Raman scattering (SERS) and surface enhanced infrared absorption (SEIRA) spectroscopies for the study of chemical and biological threats adsorbed on gold nanorods on substrates**

(4197880)  
Division of Colloid and Surface Chemistry  
Presenter(s): Tamara Felix-Massa  
Poster Board #: 428

**Reducing resistivity and inhibiting**

**metal interdiffusion in advanced interconnects through self-assembled monolayer functionalization**

(4175185)

Division of Colloid and Surface Chemistry

Presenter(s): Pei Yui Keng

Poster Board #: 429

**Influence on sliding behavior of gold nanoparticle capping ligand structure within hydrogel nanocomposites**

(4176557)

Division of Colloid and Surface Chemistry

Presenter(s): Anna Zini

Poster Board #: 430

**Langmuir monolayers and optical density growth plots as methods for investigating the healing effects of CAPE, the main bioactive component of bee propolis**

(4196659)

Division of Colloid and Surface Chemistry

Presenter(s): Ivy Hawkins

Poster Board #: 431

**Charge hydration asymmetry at model lipid membrane surfaces**

(4197499)

Division of Colloid and Surface Chemistry

Presenter(s): Saranya Pullanchery

Poster Board #: 432

**Issues with fluorescent lipid probes: A comparative study using sum-frequency vibrational spectroscopy and second**

**harmonic generation**

(4187574)

Division of Colloid and Surface Chemistry

Presenter(s): Joshua Taylor

Poster Board #: 434

**Phosphatidylserine affinity for and flip-flop dependence on calcium and magnesium ions**

(4193492)

Division of Colloid and Surface Chemistry

Presenter(s): Preston Hymas

Poster Board #: 469

**Investigation of In<sub>2</sub>O<sub>3</sub> nanocrystals as an acceptor for excited state electron transfer reactions**

(4185233)

Division of Colloid and Surface Chemistry

Presenter(s): Mik Patel

Poster Board #: 470

**Ligand assisted colloidal synthesis of alkali metal-based ternary chalcogenide: nanostructuring and phase control in Na-Cu-S system**

(4178040)

Division of Colloid and Surface Chemistry

Presenter(s): Hannah McKeever

Poster Board #: 471

**Essential role of surface Lewis acid sites in quantum dot photocatalysts**

(4193569)

Division of Colloid and Surface Chemistry

Presenter(s): Chen Wang

Poster Board #: 472

**Non-hydrostatic compression of gold and silver core-shell**

## **nanoparticles**

(4193215)

Division of Colloid and Surface Chemistry

Presenter(s): Samuel Salas Sanabria

Poster Board #: 473

## **Quantifying the adsorption of polyelectrolytes to gold nanoparticles with stable surface charges**

(4194624)

Division of Colloid and Surface Chemistry

Presenter(s): Cole D Springer

Poster Board #: 474

## **Analysis of citrate-capped gold nanoparticle uptake during tadpole metamorphosis at varying temperatures**

(4194722)

Division of Colloid and Surface Chemistry

Presenter(s): Khristian C Banks

Poster Board #: 475

## **Measurement and modeling of plasmonic nanoparticles pressurized in a solid medium**

(4195024)

Division of Colloid and Surface Chemistry

Presenter(s): Ryan Barthel

Poster Board #: 476

## **Detection of micro- and nano-plastic contaminants using surface-enhanced Raman scattering spectroscopy**

(4195889)

Division of Colloid and Surface Chemistry

Presenter(s): Olivia Caldwell

Poster Board #: 477

## **Formulation of a cactus mucilage nanoparticle cream for the treatment of eczema**

(4198549)

Division of Colloid and Surface Chemistry

Presenter(s): Abigail Maher

Poster Board #: 478

## **High-efficiency core-shell structured soft magnetic composites enabled by Rotary reactor-based advanced sputtering**

(4184662)

Division of Colloid and Surface Chemistry

Presenter(s): Yongheum Choi | Young Min Park

Poster Board #: 479

## **Transforming conventional fabrics into effective UV-sensing wearables: Photochromic coatings for repeatable UV detection**

(4179848)

Division of Colloid and Surface Chemistry

Presenter(s): Alicja Lawrynowicz

Poster Board #: 480

## **Biopolymer composites of seaweed and plant extracts: Formulation and shelf-life extension of perishable fruits**

(4185938)

Division of Colloid and Surface Chemistry

Presenter(s): Anuj Purohit

Poster Board #: 481

## **Graphite-enhanced electrically-polarized antimicrobial surface: An approach to effective bacterial suppression on diverse materials**

(4177575)



Division of Colloid and Surface Chemistry  
Presenter(s): Nehal Ahmed Mazumder  
Poster Board #: 482

**Rapid detection of cancer using complexes of exosomes with nanoparticles with multiscale chirality**

(4197574)

Division of Colloid and Surface Chemistry  
Presenter(s): Nicholas Kotov  
Poster Board #: 483

**Enhanced catalysis using chemically ordered and disordered alloy nanoparticles**

(4175351)

Division of Colloid and Surface Chemistry  
Presenter(s): Shouheng Sun  
Poster Board #: 484

**Surface chemistry of halide perovskites: quantum dots, quantum light, and QLEDs**

(4198923)

Division of Colloid and Surface Chemistry  
Presenter(s): David S Ginger  
Poster Board #: 485

**Interactions of proteins with anionic ligand-coated gold nanoparticles**

(4175827)

Division of Colloid and Surface Chemistry  
Presenter(s): Wandu Xu  
Poster Board #: 486

**Tracking dynamic nanoparticle transformations with microelectrochemistry**

(4176922)

Division of Colloid & Surface Chemistry (COLL)

Division of Colloid and Surface Chemistry  
Presenter(s): Eleni M Spanolios  
Poster Board #: 487

**QM/MM analysis of carbon dot fluorescence and redox processes**

(4187742)

Division of Colloid and Surface Chemistry  
Presenter(s): Anand Sahu  
Poster Board #: 488

**CUS core-mesoporous silica shell nanoparticles for enhanced soybean plant cultivation**

(4188033)

Division of Colloid and Surface Chemistry  
Presenter(s): Rima Jamous  
Poster Board #: 489

**Sublethal concentrations of polystyrene nanoplastics of varying surface charge induce morphological perturbations in rainbow trout gill epithelia**

(4189477)

Division of Colloid and Surface Chemistry  
Presenter(s): Lissett Guadalupe Diaz  
Poster Board #: 490

**Carbon dot-based sensors for the rapid detection of foodborne pathogenic bacteria**

(4191280)

Division of Colloid and Surface Chemistry  
Presenter(s): Abigail Stitgen  
Poster Board #: 528

**Simulating large-scale biomolecule-nanoparticle systems using dissipative particle dynamics (DPD) models**

(4192613)

Division of Colloid and Surface Chemistry

Presenter(s): Yinhan Wang

Poster Board #: 529

**Advances in MOF-based magnetic composites and MOF-derived nanomaterials: synthesis and catalysis**

(4194284)

Division of Colloid and Surface Chemistry

Presenter(s): Priyanka Priyanka

Poster Board #: 530

**Copper (II) release from alginate-based hydrogel nanoparticles for foliar fertilization**

(4195513)

Division of Colloid and Surface Chemistry

Presenter(s): Catherine Jalomo

Poster Board #: 531

**Lithiated nickel manganese cobalt oxide (NMC) elicits specific cellular perturbations in *Shewanella oneidensis***

(4196889)

Division of Colloid and Surface Chemistry

Presenter(s): Alessandra Gavin

Poster Board #: 532

**Matrix-insensitive sensor arrays via peptide-coated nanoparticles: Rapid saliva screening for pathogens in oral and respiratory diseases**

(4189854)

Division of Colloid and Surface Chemistry

Presenter(s): Benjamin Lam

Poster Board #: 533

**Block copolymer-directed assembly of nanoparticle architectures inside polymer colloids**

(4181369)

Division of Colloid and Surface Chemistry

Presenter(s): Jayme Chow

Poster Board #: 534

**Developing nanomaterials by molten-salt synthesis method**

(4181268)

Division of Colloid and Surface Chemistry

Presenter(s): Yuanbing Mao

Poster Board #: 535

**Mechanism of hierarchical plasmonic biomaterials engineered through peptide-directed self-assembly**

(4176599)

Division of Colloid and Surface Chemistry

Presenter(s): Lubna Amer

Poster Board #: 536

**TGA-FTIR-GC/MS studies of octanethiol-functionalized gold nanoparticles for assembly into peptoid nano-sandwiches**

(4192049)

Division of Colloid and Surface Chemistry

Presenter(s): C'Lannye James

Poster Board #: 537

**Granular material system with enhanced printing fidelity and tailored mechanical properties for volumetric additive manufacturing**

(4193831)

Division of Colloid and Surface Chemistry

Presenter(s): Yaxuan Sun  
Poster Board #: 538

### **Cautionary perspective on hydrogel-induced concentration gradient generation for studying chemotaxis**

(4177912)  
Division of Colloid and Surface Chemistry  
Presenter(s): Aditya Sapre  
Poster Board #: 539

### **Brush-mediated precision placement of DNA nanostructures on surfaces**

(4189681)  
Division of Colloid and Surface Chemistry  
Presenter(s): Gaurav Arya  
Poster Board #: 540

### **Bioinspired design and assembly of nanomaterials using liposwitches**

(4195043)  
Division of Colloid and Surface Chemistry  
Presenter(s): Davoud Mozhdehi  
Poster Board #: 541

### **Synthetic biomolecular condensates: Phase-separation control, Cytomimetic modelling and emerging biomedical potential**

(4197342)  
Division of Colloid and Surface Chemistry  
Presenter(s): Katharina Landfester  
Poster Board #: 543

### **3D Printed biomimetic ultralow-fouling membranes for ultracompact**

### **wearable/implantable renal assist devices**

(4185953)  
Division of Colloid and Surface Chemistry  
Presenter(s): Juergen Biener  
Poster Board #: 544

### **Novel proteinaceous bioreactor for organizing Cytomimetic functionality**

(4199002)  
Division of Colloid and Surface Chemistry  
Presenter(s): Dharani Abeysinghe  
Poster Board #: 545

### **Cost-effective calligraphically-fabricated electrically polarized surfaces for the deactivation of microbes**

(4175656)  
Division of Colloid and Surface Chemistry  
Presenter(s): Gitanjali Marie Kohli  
Poster Board #: 546

### **Adsorption and repulsion effect in hyaluronic acid gels as a function of salt concentration and surface ionization**

(4195538)  
Division of Colloid and Surface Chemistry  
Presenter(s): Sujata Dhakal  
Poster Board #: 548

### **Interfacial flows of polymeric solutions with elasto-viscoplastic properties**

(4189793)  
Division of Colloid and Surface Chemistry  
Presenter(s): Maziyar Jalaal  
Poster Board #: 549

## Division of Computers in Chemistry (COMP)

### **Computational vibrational analysis of butadienyl and acroleinyl radicals by the finite element method**

(4186351)

Division of Computers in Chemistry

Presenter(s): Andrew L Cooksy

Poster Board #: 647

### **Fast, accurate prediction of protein-ligand binding free energies by mining minima: The VM2 software package**

(4186853)

Division of Computers in Chemistry

Presenter(s): Simon P Webb

Poster Board #: 648

### **Binding affinity prediction of peptide binders using PepFEP and PepACES**

(4195025)

Division of Computers in Chemistry

Presenter(s): Hsu-Chun Tsai

Poster Board #: 649

### **Making use of reaction data with machine learning for large scale reactive molecular dynamics**

(4174971)

Division of Computers in Chemistry

Presenter(s): Xiaoxia Li

Poster Board #: 650

### **Molecular dynamics simulations of**

### **cofacial metalloporphyrins**

(4187721)

Division of Computers in Chemistry

Presenter(s): William M Ames

Poster Board #: 651

### **Multiscale simulation of photoinduced charge transfer dynamics in complex condensed phases**

(4177784)

Division of Computers in Chemistry

Presenter(s): Xiang Sun

Poster Board #: 652

### **Automating transition state search in metal catalysed reactions**

(4194607)

Division of Computers in Chemistry

Presenter(s): Shoubhik Raj Maiti

Poster Board #: 653

### **Analysis of the conformational ensemble and free energy landscape of flexible protein complexes**

(4179742)

Division of Computers in Chemistry

Presenter(s): Anika J Friedman

Poster Board #: 654

### **Exploring the effects of mutagenesis on FusionRed by using excited-state QM/MM dynamics and classical force field simulations**

(4183205)

Division of Computers in Chemistry

Presenter(s): Ashlyn Murphy

Poster Board #: 655

**Enhancing viral insight: A user-friendly website for the customized modification of viruses and virus-like particles for visualization**

(4185607)

Division of Computers in Chemistry

Presenter(s): Cary Darwin

Poster Board #: 656

**Clustering protein structures using energy instead of atomic displacement**

(4187713)

Division of Computers in Chemistry

Presenter(s): Tristan Ruggiero

Poster Board #: 657

**Estimation of protein-protein interaction kinetics with multiscale simulation methods**

(4188334)

Division of Computers in Chemistry

Presenter(s): Anson Noland

Poster Board #: 658

**Graph neural network models for structure-based activity prediction in drug discovery**

(4188345)

Division of Computers in Chemistry

Presenter(s): Alma C Celeste Castañeda

Leautaud | Rommie E Amaro

Poster Board #: 659

**Enhanced sampling of phosphorylated intrinsically disordered proteins: a computational study on  $\beta$ -catenin**

(4188899)

Division of Computers in Chemistry (COMP)

Division of Computers in Chemistry

Presenter(s): Laura Isabel Gil Pineda

Poster Board #: 660

**Development of 12-6-4-GPR force field: Improving the physical model with machine learning**

(4189085)

Division of Computers in Chemistry

Presenter(s): Madelyn Smith

Poster Board #: 661

**MELD accelerated molecular dynamics simulations for protein stability**

(4189440)

Division of Computers in Chemistry

Presenter(s): Alfonso Sierra

Poster Board #: 662

**Performance of density functional theory and machine learning methods for methane adsorption in metal-substituted MOFs**

(4189796)

Division of Computers in Chemistry

Presenter(s): Karim Aljamal

Poster Board #: 663

**Perdew-Zunger self-interaction correction for ionization energies of transition metal atoms**

(4189977)

Division of Computers in Chemistry

Presenter(s): Priyanka Shukla

Poster Board #: 664

**Simulating self-assembly of aromatic peptides with transferable bottom-up coarse-graining**

(4190464)

Division of Computers in Chemistry

Presenter(s): Mason Hooten

Poster Board #: 665

### **Pathway specific unbinding free energy profiles of ritonavir dissociation from HIV-1 protease**

(4190715)

Division of Computers in Chemistry

Presenter(s): Emily Vig

Poster Board #: 666

### **Chemical-reaction-aware molecular optimization using conditional transformer and reinforcement learning**

(4191618)

Division of Computers in Chemistry

Presenter(s): Shogo Nakamura

Poster Board #: 667

### **Optimizing antibiotic derivatives to target the bacterial ribosome**

(4191808)

Division of Computers in Chemistry

Presenter(s): Micah Hoernig

Poster Board #: 668

### **Ring polymer molecular dynamics (RPMD) to probe the magnitude of nuclear quantum effects on hydrogen bonding of a chromophore**

(4193670)

Division of Computers in Chemistry

Presenter(s): Katherine Donahoe

Poster Board #: 699

### **Using $\lambda$ -dynamics with competitive screening to improve relative**

### **unfolding free energy estimates of protein mutations**

(4195689)

Division of Computers in Chemistry

Presenter(s): Christopher Yeh

Poster Board #: 700

### **PharmRL: Pharmacophore elucidation with Deep Geometric Reinforcement Learning**

(4196232)

Division of Computers in Chemistry

Presenter(s): Rishal Aggarwal

Poster Board #: 701

### **High-throughput computation of anharmonic low-frequency protein vibrations**

(4197951)

Division of Computers in Chemistry

Presenter(s): Michael Sauer

Poster Board #: 703

### **Modeling solvent effects on UV-Vis absorption and fluorescence spectra in tricyclic cytidine analogues**

(4198029)

Division of Computers in Chemistry

Presenter(s): Harrison Rojak Pearce

Poster Board #: 704

### **FFForge: A universal workflow to generate machine-learned interatomic potentials for diverse chemical applications**

(4198811)

Division of Computers in Chemistry

Presenter(s): Ricardo Silva Buarque

Poster Board #: 705

**HEALER: Hit expansion to advanced leads using enumerated reactions**

(4198838)

Division of Computers in Chemistry

Presenter(s): Enes Kelestemur

Poster Board #: 706

**Comparison of electron propagator theory, ionization potential equation-of-motion coupled cluster, and  $\Delta$ -self-consistent field approaches in assigning photodetachment spectra**

(4199088)

Division of Computers in Chemistry

Presenter(s): Abigail O Gyamfi

Poster Board #: 707

**Efficient and precise force field optimization for biomolecules using DPA-2**

(4197725)

Division of Computers in Chemistry

Presenter(s): Junhan Chang

Poster Board #: 708

**ProMol\_Func: Proteins talk to small molecules in functions**

(4188208)

Division of Computers in Chemistry

Presenter(s): Zixuan Feng

Poster Board #: 709

**EGAT: A graph-based tool for your property prediction needs**

(4196612)

Division of Computers in Chemistry

Presenter(s): Sai Mahit Vaddadi

Poster Board #: 710

**Computational insight into small molecule binding to Gastrin-Releasing Peptide Receptor**

(4183595)

Division of Computers in Chemistry

Presenter(s): Camilla Guccione

Poster Board #: 711

**GDE: A three-points water model with Gaussian electrostatic and double exponential van der Waals interactions**

(4231526)

Division of Computers in Chemistry

Presenter(s): Xiongwu Wu

Poster Board #: 712

**Accurate prediction of peptide permeation kinetics through membranes by means of path sampling**

(4197554)

Division of Computers in Chemistry

Presenter(s): An Ghysels

Poster Board #: 713

**Active learning for in silico design of selective PARP1 inhibitors**

(4193797)

Division of Computers in Chemistry

Presenter(s): Amanda Paulson

Poster Board #: 714

**Molecular generative model using protein–ligand interaction energy vectors based on variational autoencoder**

(4193997)

Division of Computers in Chemistry

Presenter(s): Nobuaki Yasuo  
Poster Board #: 715

### **Implications of protein dynamics for design of PROTACs and molecular glues**

(4195702)  
Division of Computers in Chemistry  
Presenter(s): Aram Davtyan  
Poster Board #: 717

### **Application of extended Hückel theory to pharmacophore modeling**

(4196054)  
Division of Computers in Chemistry  
Presenter(s): Alain Ajamian  
Poster Board #: 718

### **Pharmacophore-guided exploration of the psychedelic structure-activity space**

(4196227)  
Division of Computers in Chemistry  
Presenter(s): Christopher Williams  
Poster Board #: 719

### **Defining boundaries: Evaluating the quality of nucleic acid conformations and secondary structure**

(4196282)  
Division of Computers in Chemistry  
Presenter(s): Philippe Archambault  
Poster Board #: 720

### **AmberEHT Forcefield**

(4196322)  
Division of Computers in Chemistry  
Presenter(s): David C Thompson  
Poster Board #: 721

### **Rapid generation of ligand conformations from overlapping fragments**

(4196351)  
Division of Computers in Chemistry  
Presenter(s): Alain Ajamian  
Poster Board #: 722

### **High-accuracy biological simulation enabled by efficient quantum mechanical calculations**

(4198094)  
Division of Computers in Chemistry  
Presenter(s): Daniel Moberg | Justin Provazza | Alec White  
Poster Board #: 723

### **In silico strategies for efficiently exploring ultra-large virtual libraries**

(4199562)  
Division of Computers in Chemistry  
Presenter(s): James Fells  
Poster Board #: 724

### **Overcoming the trade-off between speed and accuracy in computer aided drug design**

(4197111)  
Division of Computers in Chemistry  
Presenter(s): Abhishek Kognole  
Poster Board #: 755

### **CHIMERA\_AA: A versatile custom mutagenesis tool for structural mutations in proteins and their complexes**

(4192732)  
Division of Computers in Chemistry  
Presenter(s): PRADEEP PANT  
Poster Board #: 756



**New developments and applications of graph neural network approach for accelerated cluster structure prediction**

(4196376)

Division of Computers in Chemistry

Presenter(s): K. V. Jovan Jose

Poster Board #: 757

**Exploring neural scaling laws in molecular pretraining with synthetic tasks**

(4193863)

Division of Computers in Chemistry

Presenter(s): Rodrigo Hormazabal | Seung Woo Ko

Poster Board #: 758

**Study planning assistant: Supporting material discovery with agentic workflows**

(4197987)

Division of Computers in Chemistry

Presenter(s): Viviane Torres da Silva

Poster Board #: 759

**Uncovering the underlying principles of ion selectivity and transport mechanisms in inorganic ion transporters**

(4179620)

Division of Computers in Chemistry

Presenter(s): Hedieh Torabifard

Poster Board #: 760

**Comparing fused and open ring heterocycle structures for electronic materials applications**

(4188723)

Division of Computers in Chemistry

Presenter(s): Steven Wild

Poster Board #: 761

**Water models and enzyme tunnels: Impact on structure and dynamics**

(4182338)

Division of Computers in Chemistry

Presenter(s): Aaftaab Sethi

Poster Board #: 762

**Fast and accurate prediction of tautomer ratios in aqueous solution via a siamese neural network**

(4189438)

Division of Computers in Chemistry

Presenter(s): Xiaolin Pan

Poster Board #: 763

**Inhibitory potential of (E)-N'-(2-bromophenyl)-N-(2,6-diisopropylphenyl)formamidine against CDK1 and CDK2: Synthesis, structural studies and computational analysis**

(4173541)

Division of Computers in Chemistry

Presenter(s): Segun Daniel Oladipo

Poster Board #: 764

**First principles investigation of water glasses**

(4176372)

Division of Computers in Chemistry

Presenter(s): Ryan Szukalo

Poster Board #: 765

**Testing and expanding the capabilities of the RINRUS**

**software package for building reliable and predictable QM-cluster models**

(4176858)

Division of Computers in Chemistry

Presenter(s): Dominique Wappett

Poster Board #: 766

**Ab-initio theoretical kinetics studies on reactions of organosilicon free radicals**

(4177296)

Division of Computers in Chemistry

Presenter(s): Galiya Galimova

Poster Board #: 767

Division of Energy and Fuels (ENFL)

**How to get involved in ASTM**

(4195895)

Division of Energy and Fuels

Presenter(s): LISA ANN WILLIAMS

Poster Board #: 550

**Simulations of ionic liquids for improved biofuel production and oil desulfurization**

(4195187)

Division of Energy and Fuels

Presenter(s): Fuwad Mohammed Kassim

Poster Board #: 551

**Theoretical analysis of the formate dehydrogenation reaction on metal catalysts**

(4197515)

Division of Energy and Fuels

Presenter(s): Ahmad Arshadi

Division of Energy and Fuels (ENFL)

Poster Board #: 552

**High-throughput screening of interfaces that dynamically catalyze the hydrogen evolution reaction**

(4199147)

Division of Energy and Fuels

Presenter(s): Ricardo Silva Buarque

Poster Board #: 553

**Chitosan coated cellulosic tissue paper decorated with zerovalent nanoparticles for hydrogen generation**

(4187593)

Division of Energy and Fuels

Presenter(s): Fayaz Ali

Poster Board #: 554

**Variable temperature diffusion in mixed anion electrolytes for lithium and lithium-ion batteries**

(4182639)

Division of Energy and Fuels

Presenter(s): Ryan Boev

Poster Board #: 555

**One-step electrodeposition to prepare Si/Graphene composite negative electrode for Li-ion battery**

(4184322)

Division of Energy and Fuels

Presenter(s): Yashkumar Patel | Indrajit

Mukhopadhyay

Poster Board #: 556

**Significance of slurry properties on electrochemical performance of**

### **disordered rocksalt cathodes**

(4189609)

Division of Energy and Fuels

Presenter(s): Izoduwa Maria Aimuwu

Poster Board #: 557

### **Development of sustainable sulfonated cellulose-based membranes from date palm waste for redox flow batteries: A cost-effective approach to grid-scale energy storage**

(4193102)

Division of Energy and Fuels

Presenter(s): Shakira Allah Baksh

Poster Board #: 558

### **Open-framework iron-selenite as cathode for Li- ion batteries**

(4193307)

Division of Energy and Fuels

Presenter(s): Sutapa Bhattacharya

Poster Board #: 559

### **Electrochemical performance study of 2D MoS<sub>2</sub>, WS<sub>2</sub>, and MoWS<sub>2</sub> for Sodium and Potassium ion batteries**

(4197008)

Division of Energy and Fuels

Presenter(s): Arijit Roy

Poster Board #: 560

### **Thermally robust 3D networked FPI/PVDF-HFP hybrid nanofiber for lithium-based battery application**

(4180738)

Division of Energy and Fuels

Presenter(s): Zabish Bilew Bilew Muche

Poster Board #: 561

### **Temperature effect on electrochemical performance of NbSe<sub>2</sub> electrode in Sodium-Ion batteries**

(4188863)

Division of Energy and Fuels

Presenter(s): Md Zawad Hossain

Poster Board #: 562

### **Tuning electrode-electrolyte characteristics for safer sodium-ion batteries**

(4191075)

Division of Energy and Fuels

Presenter(s): Priyanka Gupta

Poster Board #: 563

### **Unveiling electrochemical insights of lithium manganese oxide cathodes from manganese ore for enhanced lithium-ion battery performance**

(4194425)

Division of Energy and Fuels

Presenter(s): Mohamed KERROUMI

Poster Board #: 564

### **Feedback control of an experimental steam methane reformer with a Ni/ZrO<sub>2</sub> washcoat catalyst**

(4193100)

Division of Energy and Fuels

Presenter(s): Dominic Peters

Poster Board #: 607

### **Tuning porous architectures in nanostructured SnSb Alloys to improve cycling performance in**

### **Lithium-Ion Batteries**

(4177069)

Division of Energy and Fuels

Presenter(s): Kodi Thurber

Poster Board #: 608

### **Investigating lithium ordering and electronic evolutions in Wadsley-Roth phases**

(4179168)

Division of Energy and Fuels

Presenter(s): Everett J Zuras

Poster Board #: 609

### **Exploring the potential of reduced graphene oxide-copper sulfide (CUs/RGO) nanocomposite for energy storage applications**

(4175481)

Division of Energy and Fuels

Presenter(s): Kajal Kajal

Poster Board #: 610

### **Monitoring the ozone-assisted oxidation reaction of C6 alkenes in a jet-stirred reactor**

(4177235)

Division of Energy and Fuels

Presenter(s): Zachary Clarke

Poster Board #: 611

### **Analysis of the advantages and potential on carbon emission reduction of the externally heated coal gasification process under anaerobic conditions**

(4199568)

Division of Energy and Fuels

Presenter(s): YaoWei Hu

Poster Board #: 612

### **Hierarchical core@shell and hollow sphere structures; synthesis, characterisation and catalytic applications**

(4189439)

Division of Energy and Fuels

Presenter(s): Emma Louise Southall

Poster Board #: 613

### **Selective CO<sub>2</sub> reduction under visible-light irradiation catalyzed by single-atom nickel integrated on g-C<sub>3</sub>N<sub>4</sub>/TiO<sub>2</sub> heterojunction via the molten salt-assisted method**

(4194125)

Division of Energy and Fuels

Presenter(s): Gonto Johns

Poster Board #: 614

### **Exploring the effect of surface functional groups to improve the catalytic activity of thiospinel nanoparticles for CO<sub>2</sub> reduction reactions**

(4194960)

Division of Energy and Fuels

Presenter(s): Annabelle Hannah

Poster Board #: 615

### **Development of transformative catalytic CO<sub>2</sub> capture technologies for beneficial utilization of CO<sub>2</sub> utilization**

(4199586)

Division of Energy and Fuels

Presenter(s): Maohong Fan

Poster Board #: 616

### **Materials for thermochemical**

**upgrading of carbon dioxide and water: calcium-cerium-titanium-manganese oxides**

(4199731)

Division of Energy and Fuels

Presenter(s): James Edward Miller

Poster Board #: 617

**Proton donor in electrochemical CO<sub>2</sub> reduction in acid**

(4188629)

Division of Energy and Fuels

Presenter(s): Weixing Wu

Poster Board #: 618

**Utilizing chemical terminal alteration of silicon for development of hybrid molecular catalyst/semiconductor CO<sub>2</sub> reduction photocathodes**

(4189594)

Division of Energy and Fuels

Presenter(s): Byunghoon Lee

Poster Board #: 619

**Operando multimodal TEM and X-ray probing of nanocracking in CuO-derived Cu during CO<sub>2</sub> electroreduction**

(4202358)

Division of Energy and Fuels

Presenter(s): Haimei Zheng

Poster Board #: 620

**Can embedded multiconfigurational wavefunction methods reveal fresh insights into the electrochemical CO<sub>2</sub> reduction pathways on copper?**

(4202361)

Division of Energy and Fuels (ENFL)

Division of Energy and Fuels

Presenter(s): John Mark Martinez

Poster Board #: 621

**Computational descriptor for electrochemical currents of carbon dioxide reduction on Cu facets**

(4202365)

Division of Energy and Fuels

Presenter(s): Wissam Saidi

Poster Board #: 622

**Enzyme-displayed microbial cell surface as bioelectrocatalyst for water oxidation reaction**

(4184350)

Division of Energy and Fuels

Presenter(s): Graziela C. Sedenho

Poster Board #: 623

**Development of multifunctional specific catalytic materials for electro-reduction of oxygen: the influence of an external magnetic field**

(4190821)

Division of Energy and Fuels

Presenter(s): Patrick Starmach

Poster Board #: 624

**Ab initio investigation of water electrolysis at the electrocatalyst-water interface**

(4191211)

Division of Energy and Fuels

Presenter(s): Joni Spencer

Poster Board #: 625

**Developing a bimetallic CuO/Co<sub>3</sub>O<sub>4</sub> catalyst for electro-oxidation of 5-**

## **hydroxymethylfurfural into 2,5-furandicarboxylic acid**

(4191537)

Division of Energy and Fuels  
Presenter(s): Ayu Sri Wahyuni  
Poster Board #: 626

## **Synthesis of perovskite oxides using the sol-gel method**

(4193046)

Division of Energy and Fuels  
Presenter(s): Patricia Fontanez Carrion  
Poster Board #: 627

## **Strong electron and spin correlations suppress photoexcited polaron effects in transition metal oxide photocatalysts**

(4196878)

Division of Energy and Fuels  
Presenter(s): Jocelyn Mendes  
Poster Board #: 628

## **Predicting LSCF air electrode decomposition in solid oxide electrolysis cells**

(4198171)

Division of Energy and Fuels  
Presenter(s): Jonas Kaufman  
Poster Board #: 629

## **Measurement-informed, geospatial, life cycle greenhouse gas emissions of global liquefied natural gas supply chains**

(4190169)

Division of Energy and Fuels  
Presenter(s): Haoming Ma  
Poster Board #: 630

## **Decoupling proton and ion**

## **conduction in solid-state multivalent ion conductors**

(4189644)

Division of Energy and Fuels  
Presenter(s): Michael Louis Harrigan  
Poster Board #: 631

## **Electron transfer kinetics of Z-scheme water splitting photocatalysts**

(4195686)

Division of Energy and Fuels  
Presenter(s): Kelly Kopera  
Poster Board #: 632

## **Electrohydrodynamic assisted syringe printing and rapid laser annealing of Ag and ITO nanoparticle inks for manufacturing electrodynamic shield**

(4196743)

Division of Energy and Fuels  
Presenter(s): James St John  
Poster Board #: 633

## **Effect of nanoparticle-support interactions on high entropy alloy nanoparticle formation**

(4194729)

Division of Energy and Fuels  
Presenter(s): Rukshanthan Selvaraj  
Poster Board #: 634

## **Revitalizing interphases for high-performance all-solid-state lithium metal batteries**

(4182885)

Division of Energy and Fuels  
Presenter(s): Weiran Zhang

Poster Board #: 635

### **General solution route to nanoporous metal oxide films**

(4197772)

Division of Energy and Fuels

Presenter(s): Logan Brennan

Poster Board #: 672

### **Effect of the spatial dopant distribution on the photocatalytic properties of Rhodium-doped strontium titanate nanoparticles**

(4189986)

Division of Energy and Fuels

Presenter(s): Melanie Victoria Johanning

Poster Board #: 673

### **Overall solar-driven water splitting with organic semiconductor bulk heterojunction based devices**

(4190560)

Division of Energy and Fuels

Presenter(s): Nicolas Johannes Diercks

Poster Board #: 674

### **Supported Pd-Pt bimetallic catalysts for CO<sub>2</sub> conversion to value-added chemicals**

(4191340)

Division of Energy and Fuels

Presenter(s): Cheng Zhang

Poster Board #: 675

### **Predictive modeling of biodiesel production from *Chrysobalanus icaco*: A fuzzy logic approach**

(4176226)

Division of Energy and Fuels

Presenter(s): Chinwe Priscilla Okonkwo

Poster Board #: 676

### **Ultra-high surface area layered double hydroxide-based materials for oxygen evolution reaction**

(4188867)

Division of Energy and Fuels

Presenter(s): Matthew Williams

Poster Board #: 677

### **Influence of the chemical structure of hydrogen bonding donor on the characteristics of dihydroxybenzene isomers-derived deep eutectic solvent (DES) media**

(4195345)

Division of Energy and Fuels

Presenter(s): Jiae Ryu

Poster Board #: 678

### **Hydrothermal carbonization approach to assess the impact of residence time on the coalification of microalgal biomass**

(4196428)

Division of Energy and Fuels

Presenter(s): JOYDEEPA TARAN

Poster Board #: 679

### **Syngas derived mixed olefin oligomerization: A pathway towards sustainable aviation fuel**

(4198154)

Division of Energy and Fuels

Presenter(s): Udishnu Sanyal

Poster Board #: 680

## Division of Environmental Chemistry (ENVR)

### **Per- and polyfluoroalkyl substances (PFAS) remediation from water using engineered cationic hydrochar**

(4177337)

Division of Environmental Chemistry

Presenter(s): Alireza Abbasi

Poster Board #: 768

### **Assembling thin films of cationic dyes on quartz crystal microbalance sensors for on-site**

#### **PFAS detection in water**

(4185857)

Division of Environmental Chemistry

Presenter(s): Jordan Chong

Poster Board #: 769

### **Detection and quantification of perfluorochemicals (PFCs) using mid-infrared (MIR) quantum cascade laser (QCL) spectroscopy**

(4188219)

Division of Environmental Chemistry

Presenter(s): Isabel Aguirre

Poster Board #: 770

### **Electrochemical sensing of perfluorooctanoic acid using two-dimensional aluminium quasicrystal**

(4190053)

Division of Environmental Chemistry

Presenter(s): Anyesha Chakraborty

Poster Board #: 771

### **Elucidating nano-enabled phytoremediation potentials at the nexus of root exudates, cerium oxide (CeO<sub>2</sub>) and zinc oxide (ZnO) nanoparticles, and PFOA**

(4193922)

Division of Environmental Chemistry

Presenter(s): Nusrat Easmin

Poster Board #: 772

### **Sustainable detection: A portable sensor for PFAS utilizing algae-derived quantum dots**

(4197982)

Division of Environmental Chemistry

Presenter(s): Aolanys M. M. Castellano Matos

Poster Board #: 773

### **Deployment of passive in-situ assembly to investigate PFAS precursors occurrence and transformation at AFFF-impact sites**

(4188479)

Division of Environmental Chemistry

Presenter(s): Yiwon Zhu

Poster Board #: 774

### **Efficient elimination of biodegradation resistive Per- and polyfluoroalkyl substances (PFAS) from wastewater Using ZnO incorporated BiOI-modified catalyst**

(4188864)

Division of Environmental Chemistry

Presenter(s): Kareem Mazen Said Ismail

Poster Board #: 775



**Mechanistic understanding of perfluorooctanoic acid degradation in alkaline media by ultraviolet silica granular media technology**

(4189592)

Division of Environmental Chemistry

Presenter(s): Swagotom Sarkar

Poster Board #: 776

**Enhanced PFAS defluorination in hybrid framework utilizing electrochemical catalysts and a highly efficient defluorinating bacterium**

(4194022)

Division of Environmental Chemistry

Presenter(s): David Alfaro III

Poster Board #: 777

**Effect of pH on PFOA adsorption and photodegradation via diacetylene-functionalized 2D covalent organic frameworks**

(4195252)

Division of Environmental Chemistry

Presenter(s): Sophia Elena Nance

Poster Board #: 778

**PFAS accumulation in plants via molecular dynamics simulations**

(4198570)

Division of Environmental Chemistry

Presenter(s): Nazli Goksel Carpa

Poster Board #: 779

**Breaking biofilms: Magnetic nanoparticles for cleaning surfaces in marine environments**

(4185440)

Division of Environmental Chemistry (ENVR)

Division of Environmental Chemistry

Presenter(s): Payel Biswas

Poster Board #: 780

**Synthesis of CaS nanoparticle gels for Pb<sup>2+</sup> remediation**

(4188814)

Division of Environmental Chemistry

Presenter(s): Md Masudur Rhaman

Poster Board #: 811

**Peroxymonosulfate activation on the heterogenous catalyst of MXene and ZnFe-LDH for quinolone antibiotics removal in water**

(4189912)

Division of Environmental Chemistry

Presenter(s): soyeon kim

Poster Board #: 812

**Ultra-low detection of Mancozeb using two-dimensional Cobalt Telluride (CoTe<sub>2</sub>)**

(4190031)

Division of Environmental Chemistry

Presenter(s): surbhi slathia

Poster Board #: 813

**Enhanced solar cells utilizing metal-doped tin nanoparticles**

(4190098)

Division of Environmental Chemistry

Presenter(s): Gabriela Torres-Batista

Poster Board #: 814

**Photocatalytic degradation of persistent organic pollutants using a novel CD@BiVO<sub>4</sub>/BiOX Z-scheme heterojunction nanocomposite**

(4200719)

Division of Environmental Chemistry

Presenter(s): Samuel Thompson

Poster Board #: 816

### **Aldehyde reaction rate constants with radicals generated by chlorine-based UV/AOP**

(4194072)

Division of Environmental Chemistry

Presenter(s): Xiao Yang

Poster Board #: 817

### **Perchlorate in portraits: Quantifying the disappearance of perchlorate in washed Martian regolith using spectroscopic instrumentation**

(4190545)

Division of Environmental Chemistry

Presenter(s): Gabby M. Fabrizi

Poster Board #: 818

### **From regolith to roots: Balancing perchlorate removal and nutrient retention in Mars regolith for plant growth**

(4191079)

Division of Environmental Chemistry

Presenter(s): Grace DiBlasio

Poster Board #: 819

### **Correlations between mining history and dissolved metals in Michigan's Upper Peninsula**

(4197952)

Division of Environmental Chemistry

Presenter(s): Alondra Munoz-Rojas

Poster Board #: 820

### **Understanding the CO<sub>2</sub> adsorption**

Division of Environmental Chemistry (ENVR)

### **energetics of Functional Carbon Materials**

(4179310)

Division of Environmental Chemistry

Presenter(s): Shuo-Ren Shaw

Poster Board #: 821

### **Enhancing CO<sub>2</sub> Photoreduction by construction of g-C<sub>3</sub>N<sub>4</sub>/Ni-MOFs S-scheme Heterojunction**

(4183653)

Division of Environmental Chemistry

Presenter(s): Muhammad Sabir

Poster Board #: 822

### **Electrochemical recovery of potassium and phosphorus from animal wastewater: Insights into K-struvite and Hazenite formation**

(4198773)

Division of Environmental Chemistry

Presenter(s): Amir Akbari

Poster Board #: 824

### **Impact of titanium dioxide on freshwater habitats: Acute toxicity insights using *Atya lanipes***

(4175366)

Division of Environmental Chemistry

Presenter(s): Anthony Martir-Perez

Poster Board #: 825

### **Transcription levels of neuro-endocrine/behavioral related target genes in glass eels (*Anguilla anguilla*) exposed to Diazepam and mechanical stress conditions**

(4182042)

Division of Environmental Chemistry

Presenter(s): khirujjaman sumon | Joyanta Bir |  
Maren Ortiz-Zarragoitia  
Poster Board #: 826

### **Industrial hitchhikers: Uptake of organic contaminants onto microplastics**

(4186956)  
Division of Environmental Chemistry  
Presenter(s): C'Lannye James  
Poster Board #: 827

### **Post-wildfire resuspension of soil toxic metals in air**

(4188246)  
Division of Environmental Chemistry  
Presenter(s): Charise Young  
Poster Board #: 828

### **Antiviral and antiretroviral chlorination: degradation, kinetics and formation of disinfection byproducts**

(4190132)  
Division of Environmental Chemistry  
Presenter(s): Alyssa Rorie  
Poster Board #: 829

### **Emerging tobacco pollution: Residual nicotine and other environmental toxicants in discarded "disposable" e-cigarettes and heated tobacco products**

(4190692)  
Division of Environmental Chemistry  
Presenter(s): Ashley Chang  
Poster Board #: 830

### **Legacy metal transport vectors: An exploration of plastic-metal interactions in an urban estuary**

Division of Environmental Chemistry (ENVR)

### **Boston, Massachusetts**

(4190816)  
Division of Environmental Chemistry  
Presenter(s): Eve Butterworth  
Poster Board #: 831

### **Enhancing SO<sub>2</sub> and HCl capture: The role of lithium ions in molten carbonate systems**

(4191304)  
Division of Environmental Chemistry  
Presenter(s): Anh Lan Nguyen  
Poster Board #: 832

### **Investigating the synergistic potential of chlorella vulgaris and photocatalytic nanoparticles for 2-nitroaniline degradation in aqueous systems and enhancement of carbon sequestration**

(4192323)  
Division of Environmental Chemistry  
Presenter(s): Kavitha Beluri  
Poster Board #: 833

### **Phytonanoremediation using Avicennia germinans (black mangrove) and iron-based nanomaterials for contaminated environments**

(4194361)  
Division of Environmental Chemistry  
Presenter(s): Dinorah Martinez  
Poster Board #: 834

### **Mechanistic insights into controlled sulfate reduction on trichloroethylene dechlorination**

(4194908)

Division of Environmental Chemistry  
Presenter(s): Shih-Huai Cheng  
Poster Board #: 835

**Land use and development effects on PCB contamination of soils and stormwater sediments in the Chesapeake Bay watershed**

(4194955)  
Division of Environmental Chemistry  
Presenter(s): Yongcheng (Suyue) Cao  
Poster Board #: 836

**Rapid screening for heavy metal contamination in northern Lake County road dust**

(4195122)  
Division of Environmental Chemistry  
Presenter(s): Esmee Sietske Belzer  
Poster Board #: 837

**Quantifying bisphenol A (BPA) in regenerating planaria**

(4195342)  
Division of Environmental Chemistry  
Presenter(s): Morgan Keuhn  
Poster Board #: 876

**Investigate the synergistic effects of PFOA and PFOS on A549 human lung cancer cells**

(4195368)  
Division of Environmental Chemistry  
Presenter(s): Pietro Martano  
Poster Board #: 877

**Investigating the metabolic alternations and toxicity effect of silver nanoparticles in A549 Human Lung Cancer Cells**

(4195505)

Division of Environmental Chemistry  
Presenter(s): Rebecca Iha  
Poster Board #: 878

**Seasonal variability of chloride and total water hardness levels in the Rouge River**

(4196938)  
Division of Environmental Chemistry  
Presenter(s): Ali Bazzi | Lauryn Hoover | Judith Bazzi  
Poster Board #: 879

**Changes of properties of dielectric fluids after simulated sunlight exposure**

(4198302)  
Division of Environmental Chemistry  
Presenter(s): Kira Howard | Mararita Hillon | Sophia White  
Poster Board #: 880

**Elucidating 6PPD-quinone (6PPDQ) toxicity mechanisms by metabolomic analysis on Alaskan juvenile coho salmon (Oncorhynchus kisutch)**

(4198407)  
Division of Environmental Chemistry  
Presenter(s): Amber Richardson  
Poster Board #: 881

**Life in plastic? Not fantastic: An evaluation of Chicago River and Lake Michigan plastic contamination including polystyrene, and common plasticizers**

(4199030)  
Division of Environmental Chemistry

Presenter(s): Bridget Lawate  
Poster Board #: 882

### **Effect of ligand-defects (open sites) of UiO-67 metal-organic framework for wastewater remediation**

(4199159)  
Division of Environmental Chemistry  
Presenter(s): oluwasegun Raji  
Poster Board #: 883

### **Mechanistic Insights into (toxic) carbonyl compound formation during ozonation of substituted phenols**

(4201602)  
Division of Environmental Chemistry  
Presenter(s): Nam Vu  
Poster Board #: 884

### **Environmental injustice for Houston neighborhoods**

(4175205)  
Division of Environmental Chemistry  
Presenter(s): Michael Wotonwo Vouffo  
Poster Board #: 885

### **Initial biodegradability assessment of single-use plastics at the USAC Central Campus**

(4197529)  
Division of Environmental Chemistry  
Presenter(s): Jorge Alejandro Solis | Rodrigo Woford  
Poster Board #: 886

### **Comparison of dehydration methods to preserve flavor and freshness of ginger**

(4181835)

Division of Environmental Chemistry  
Presenter(s): Camille J Gaudet  
Poster Board #: 887

### **Assessing the uptake and bioaccumulation of PFAS in basil from contaminated irrigation water**

(4195887)  
Division of Environmental Chemistry  
Presenter(s): Kimia Tabib  
Poster Board #: 888

### **Utilizing selenium nanoparticles to boost germination and growth in staple crops: A pathway to achieving zero hunger with tomato and maize**

(4216807)  
Division of Environmental Chemistry  
Presenter(s): Ezequiel García-Locascio  
Poster Board #: 889

### **Microwave catalysis for converting mixed plastic waste into high-purity hydrogen and value-added cup-stacked carbon nanotubes for electrochemical applications**

(4169190)  
Division of Environmental Chemistry  
Presenter(s): jinglin Li  
Poster Board #: 890

### **Physicochemical evaluation of effluent quality for treatment efficiency verification and optimization recommendations**

(4175916)  
Division of Environmental Chemistry  
Presenter(s): Adjoa Amponfi

Poster Board #: 891

### **Sustainable manufacturing of building materials using clay bricks waste**

(4176509)

Division of Environmental Chemistry

Presenter(s): Zineb MOUJOURD

Poster Board #: 892

### **Sargassum's aerobic and anaerobic biodegradation in marine environments: Effects on chemical composition**

(4183864)

Division of Environmental Chemistry

Presenter(s): Maria Camila Camila Garcia-Vallejo

Poster Board #: 893

### **Photochemical destruction of three commonly used anesthetic gases with high global warming potentials: Vacuum ultraviolet absorption spectra and 172 nm quantum yield determinations for Isoflurane, Desflurane, and Sevoflurane**

(4185823)

Division of Environmental Chemistry

Presenter(s): Connor Blair

Poster Board #: 894

### **Direct amine chlorination to nitroalkanes**

(4194177)

Division of Environmental Chemistry

Presenter(s): Haotian Cai

Poster Board #: 895

### **Electrochemical techniques for**

Division of Environmental Chemistry (ENVR)

### **lead detection in environmental and health applications**

(4198590)

Division of Environmental Chemistry

Presenter(s): Mildred Emegha

Poster Board #: 896

### **Nanoscale effect: Refractory metals driving clean energy and environmental sustainability**

(4198786)

Division of Environmental Chemistry

Presenter(s): Sharika Cochran

Poster Board #: 897

### **Integrating carbon emissions and resilience in urban drainage systems: A synergistic approach to climate mitigation and adaptation**

(4189060)

Division of Environmental Chemistry

Presenter(s): Yuji Ji

Poster Board #: 898

### **Investigating metal-cation-containing materials for efficient phosphorus capture and recovery**

(4190293)

Division of Environmental Chemistry

Presenter(s): Darrell Ifio Harry

Poster Board #: 899

### **Minerva Gen 4 technology for climate-smart lithium recovery from spodumene**

(4188853)

Division of Environmental Chemistry

Presenter(s): Shawn Adams

Poster Board #: 900

### **Microplastic concentrations in a**

### **remote, subterranean stream**

(4189518)

Division of Environmental Chemistry

Presenter(s): Stone Smith

Poster Board #: 901

### **Assessing chemical characteristics of trace organic compounds leached from smoked and unsmoked cellulose acetate cigarette filters in water**

(4189696)

Division of Environmental Chemistry

Presenter(s): Sarah Poletti

Poster Board #: 902

### **Synthesis of $\alpha$ -Keto acids for characterization of interfacial photochemistry**

(4183057)

Division of Environmental Chemistry

Presenter(s): Kelsie T Pierce

Poster Board #: 903

### **Air quality or air equity? A comparative study of PM<sub>2.5</sub> and metal aerosol concentrations in areas around Whittier, CA**

(4185337)

Division of Environmental Chemistry

Presenter(s): Casandra Avila

Poster Board #: 904

### **Determination of the surface activity of methanesulfinic acid**

(4189607)

Division of Environmental Chemistry

Presenter(s): Erica Peterson

Poster Board #: 905

### **Interfacial reactivity of**

### **environmentally-relevant organic films**

(4196181)

Division of Environmental Chemistry

Presenter(s): Katherine Holt

Poster Board #: 906

### **Kinetics of methylglyoxal oligomer reactions driven by dilution during cloud droplet formation on aerosol particles**

(4196860)

Division of Environmental Chemistry

Presenter(s): Alejandro Muncio

Poster Board #: 907

### **Modeling the reactivity of irregular terpenes: Volatile organic compound emissions from the coastal sage scrub**

(4198133)

Division of Environmental Chemistry

Presenter(s): Woo Hyun Woohyun Song

Poster Board #: 908

### **Smoke aging: Optical effects and radical generation by smoke aerosol aged by sunlight, ozone, OH, or nitrate radicals under wet and dry conditions**

(4198855)

Division of Environmental Chemistry

Presenter(s): Aubrie A. Ackland

Poster Board #: 952

### **What is the equilibrium phosphorus concentration in H<sub>2</sub>O Ohio Wetland Sediments?**

(4174894)

Division of Environmental Chemistry

Presenter(s): Emma Rettig  
Poster Board #: 953

**Properties of Convective Outflow during the Tracking Aerosol Convection interactions Experiment (TRACER) campaign**

(4175202)  
Division of Environmental Chemistry  
Presenter(s): Jordan Newton  
Poster Board #: 954

**Effects of the Addition of antibiotics and climate change on the molecular composition of Dissolved Organic Matter in water using FTICR mass spectrometry**

(4175952)  
Division of Environmental Chemistry  
Presenter(s): Debra Deauna Davis  
Poster Board #: 955

**Understanding indoor air quality in heritage and historic environments**

(4178705)  
Division of Environmental Chemistry  
Presenter(s): Kylie Blake  
Poster Board #: 956

**Observation of particulate matter as a proxy for cloud condensation nuclei in Southeast Texas**

(4179429)  
Division of Environmental Chemistry  
Presenter(s): Sonia Fanyasia Durgan  
Poster Board #: 957

**Assessing the health of the Little River in Townsend, TN through Escherichia coli presence, total**

**suspended solids, microplastics analysis, and chemical profile collection**

(4183751)  
Division of Environmental Chemistry  
Presenter(s): Isabella Wright  
Poster Board #: 959

**Biodegradation of sulfur-based polymers facilitated by soil bacteria**

(4184087)  
Division of Environmental Chemistry  
Presenter(s): Zachery McLane  
Poster Board #: 960

**Modification and characterization of polyethersulfone (PES) membranes for greener water filtration**

(4184512)  
Division of Environmental Chemistry  
Presenter(s): Basmala Alemam  
Poster Board #: 961

**Increased temperatures lead to increased discrepancies between TROPOMI satellite-based and Pandora ground-based atmospheric formaldehyde measurements over Whittier, CA**

(4186871)  
Division of Environmental Chemistry  
Presenter(s): Charlotte Umstead  
Poster Board #: 962

**Development and application of silicone band passive sampler rate constants for per- and**



**polyfluoroalkyl substances (PFAS)  
for use in coastal ecosystems**

(4188181)

Division of Environmental Chemistry

Presenter(s): Julianne Chan

Poster Board #: 963

**Grand River Narrative:  
Development of low-cost, aquatic,  
electrochemical sensors for  
environmental monitoring**

(4190058)

Division of Environmental Chemistry

Presenter(s): Ella Satterthwaite

Poster Board #: 964

**Reduced graphene oxide-based  
forward osmosis membranes for  
enriching PFAS in wastewater**

(4195792)

Division of Environmental Chemistry

Presenter(s): Emily Gonzalez Baltazar

Poster Board #: 965

**Addressing the viability and  
unique challenges of real-time sub-  
80-nm airborne nanoparticle  
characterization for applications in  
community health and  
environmental monitoring**

(4196006)

Division of Environmental Chemistry

Presenter(s): Kenneth Ryan Encarnacion

Poster Board #: 966

**Lactate dehydrogenase and heat  
shock protein 70 in fiddler crab  
Minuca longisignalis as biomarkers  
of environmental health in SE**

**Louisiana**

(4196685)

Division of Environmental Chemistry

Presenter(s): Nasrine Ningbinnin

Poster Board #: 967

**Analysis of legacy PFAS: Isomeric  
distribution of perfluorooctanoic  
acid (PFOA) and perfluorooctane  
sulfonic acid (PFOS) in fish from  
the Great Lakes**

(4197593)

Division of Environmental Chemistry

Presenter(s): Cheyanne Witmer

Poster Board #: 968

**Strategic material design to reduce  
the environmental impact of  
injection molding**

(4198718)

Division of Environmental Chemistry

Presenter(s): Amren C. Ross-Obare

Poster Board #: 969

Division of Fluorine  
Chemistry (FLUO)

**Chemoselective cysteine  
reengineering**

(4175654)

Division of Fluorine Chemistry

Presenter(s): Fang Wang

Poster Board #: 684

**Investigations into boron-silica  
fluorine exchange: Access to  
benchtopyl aryl-aryl cross-couplings**

(4189859)  
Division of Fluorine Chemistry  
Presenter(s): Matthew Minus  
Poster Board #: 686

**Photo-induced  
hydroxypentafluorosulfanylation  
of alkenes with SF<sub>5</sub>Cl and oxygen  
gas**

(4194604)  
Division of Fluorine Chemistry  
Presenter(s): Shuo Guo  
Poster Board #: 688

**Benchtop 19F NMR spectroscopy  
optimized Knorr pyrazole synthesis  
of celecoxib and mavacoxib, 3-  
(trifluoromethyl) pyrazolyl  
benzenesulfonamides non-  
steroidal anti-inflammatory drugs  
(NSAIDs)**

(4199016)  
Division of Fluorine Chemistry  
Presenter(s): Andrew Chyu | Selina Xi | Joshua  
Kim | Galen Liu | Edward Njoo  
Poster Board #: 689

**Mechanistic control over  
trifluoromethyldiazomethane  
selectivity for 2+1  
cyclopropanations versus  
photochemical 3+2 cycloaddition  
enables differential access to  
diverse  
trifluoromethylcyclopropanes and  
trifluoromethylpyrazolines**

(4199104)  
Division of Fluorine Chemistry  
Presenter(s): Abhinav Chalasani | Edward Njoo

Poster Board #: 690

**Difluoromethylation of  
organohalides**

(4208306)  
Division of Fluorine Chemistry  
Presenter(s): Daniel Lin  
Poster Board #: 691

**Division of Geochemistry  
(GEOC)**

**Mechanisms of water trapping in  
carbohydrate-loaded smectite clay**

(4182629)  
Division of Geochemistry  
Presenter(s): Benjamin Barrios Cerda  
Poster Board #: 693

**Molecular dynamics simulations of  
dissolved organic matter at zeolite-  
water interfaces: A study of  
hydrophobic and hydrophilic  
interactions**

(4183450)  
Division of Geochemistry  
Presenter(s): Caridad Estrada  
Poster Board #: 694

**Adsorptive and desorptive  
behavior of metal cations on iron  
oxyhydroxide nanoparticles under  
varying salinity conditions**

(4191977)  
Division of Geochemistry  
Presenter(s): Cristina Inboden  
Poster Board #: 695

**Iron oxyhydroxide-enhanced removal of dissolved metals: insights into sorption and desorption dynamics**

(4197383)

Division of Geochemistry

Presenter(s): Miguel Olivas

Poster Board #: 728

**Effects of freezing and organic matter on iron oxyhydroxide nanoparticle aggregation**

(4198061)

Division of Geochemistry

Presenter(s): Janelle Raye Jacques

Poster Board #: 729

**Nutrient extraction from Martian regolith simulants to establish their suitability as a substrate for plant growth**

(4190196)

Division of Geochemistry

Presenter(s): Jamie C Wells

Poster Board #: 730

**Investigating bioavailability and chelation of metal ions from Mars regolith simulant to determine their ability to sustain rooted plant growth**

(4193176)

Division of Geochemistry

Presenter(s): Meisi Gaudreau

Poster Board #: 731

**Evaluating wildfire impacts on the biogeochemical characteristics of pyrogenic organic matter by**

**watershed-scale burning experiments**

(4193854)

Division of Geochemistry

Presenter(s): Kenneth Yui-Hang Chow

Poster Board #: 732

**Electrical conductivity of a KCl-Na<sub>2</sub>SO<sub>4</sub>-Na<sub>2</sub>CO<sub>3</sub> aqueous solution via impedance spectroscopy, and implications for the electrical conductivity of Europa's ocean**

(4197253)

Division of Geochemistry

Presenter(s): Daniel Soriano | Dillon Contreras

Poster Board #: 733

**Nature based offshore CCS: a novel alternative for permanent carbon storage via enhanced organic carbon sequestration without drilling**

(4195026)

Division of Geochemistry

Presenter(s): Brenna Boehman

Poster Board #: 735

**Analysis of Huntite structural features as a precursor to Dolomite formation**

(4183257)

Division of Geochemistry

Presenter(s): Sahithi Kadari

Poster Board #: 736

**Low-temperature geologic hydrogen generation for the clean energy transition**

(4197919)

Division of Geochemistry

Presenter(s): Yarong Qi  
Poster Board #: 737

**Molecular dynamics insights into hydrogen adsorption and reactivity in natural nanopores**

(4195522)

Division of Geochemistry  
Presenter(s): Hyeonseok Lee  
Poster Board #: 738

**Assessing the impact of weathering on bioaccessibility at Empire Mine, CA**

(4195757)

Division of Geochemistry  
Presenter(s): Elena Skender  
Poster Board #: 739

**Assessing arsenic bioaccessibility and spatial distribution in mine wastes: an integrated microscopic and macroscopic approach**

(4197458)

Division of Geochemistry  
Presenter(s): Lea-Sophie Vetter  
Poster Board #: 740

**Effects of low molecular weight organic acids on nickel capture by surface-immobilized ligands**

(4196547)

Division of Geochemistry  
Presenter(s): Anneliese Hanson  
Poster Board #: 741

**Insights into soil carbon sequestration: Drylands**

(4195169)

Division of Geochemistry  
Presenter(s): Meredith Johnson

Poster Board #: 742

**Division of the History of Chemistry (HIST)**

**Celebrating the chemical elements with music, poetry, and visual art**

(4195727)

Division of the History of Chemistry  
Presenter(s): David B Cordes  
Poster Board #: 749

**Effect of charcoal type and organic additives on the performance of medieval black powders**

(4195971)

Division of the History of Chemistry  
Presenter(s): Justin Hunter  
Poster Board #: 750

**Division of Industrial and Engineering Chemistry (I&EC)**

**Theoretical quantification of pH-responsiveness of blend membrane**

(4188510)

Division of Industrial and Engineering Chemistry  
Presenter(s): Shubham Saroha  
Poster Board #: 681

**Lipophilic sulfonamidophenol ligands as f-element extractants for**

## **caustic High-Level Waste**

(4198376)

Division of Industrial and Engineering Chemistry

Presenter(s): Leigh D. Ruddock

Poster Board #: 682

## **Fully solution-processed, highly efficient, stable, and cost-effective carbon-based perovskite solar cells with a dopant-free organic hole transport layer**

(4198692)

Division of Industrial and Engineering Chemistry

Presenter(s): Nafisa Tasnim

Poster Board #: 683

## **Division of Inorganic Chemistry (INOR)**

## **Hydrolytic mini-metalloenzymes**

(4195264)

Division of Inorganic Chemistry

Presenter(s): Sarah Marcus | Savarna Goutam

Poster Board #: 743

## **Synthesis, structure, and reactivity of novel low-coordinate 3d metal complexes supported by a carbazole ligand framework**

(4198208)

Division of Inorganic Chemistry

Presenter(s): Ryan Pinard

Poster Board #: 744

## **Size-dependent optical behavior of nanoscale metal-organic frameworks**

(4191934)

Division of Inorganic Chemistry (INOR)

Division of Inorganic Chemistry

Presenter(s): Faiqa Khaliq

Poster Board #: 745

## **Understanding oxygen movement and catalytic properties of cobalt doped Perovskites: $\text{LaFe}_{1-y}\text{Co}_y\text{O}_{3-\delta}$**

(4185658)

Division of Inorganic Chemistry

Presenter(s): Nikolai Clark

Poster Board #: 746

## **Copper(I) compounds with bis(phosphino)metallocene ligands**

(4177458)

Division of Inorganic Chemistry

Presenter(s): Greer S. Marvel

Poster Board #: 747

## **Electrochemical and spectroscopic study of $\beta$ -diketiminato ruthenium complexes**

(4193456)

Division of Inorganic Chemistry

Presenter(s): Maxwell Coyne

Poster Board #: 748

## **Synthesis of benzimidazole derivatives and the incorporation with a phosphazene-based drug delivery system as potential anti-cancer agents**

(4196815)

Division of Inorganic Chemistry

Presenter(s): Chelsea Niedermier

Poster Board #: 787

## **Understanding origins of color in $\text{Li}_2\text{Cu}_{1-x}\text{Ni}_x\text{P}_2\text{O}_7$ , a potential cool pigment**

(4191022)  
Division of Inorganic Chemistry  
Presenter(s): Charles A Nava  
Poster Board #: 788

### **Reactivity of bis(phosphino)metallocene gold(I) Lewis acids**

(4177450)  
Division of Inorganic Chemistry  
Presenter(s): Ava G. Katz  
Poster Board #: 789

### **Mutating D111 in the CuA protein to determine the reactivity of ligating histidines to chemical modifiers**

(4183978)  
Division of Inorganic Chemistry  
Presenter(s): Maddie Belvis  
Poster Board #: 790

### **Zeotype mesoporous zirconium-based metal-organic framework for efficient siRNA loading**

(4192295)  
Division of Inorganic Chemistry  
Presenter(s): Thu Ho  
Poster Board #: 792

### **Design of tetrazolium prochelators and formazan chelators for iron sequestration in cancer cells**

(4192167)  
Division of Inorganic Chemistry  
Presenter(s): Ren-Hua (Jeff) Jheng  
Poster Board #: 793

### **Microwave synthesis pathway for next-generation Li-ion battery cathodes**

(4193318)  
Division of Inorganic Chemistry  
Presenter(s): Erick Lawrence  
Poster Board #: 794

### **Hourglass-shaped Ln9 clusters from acetohydrazide arm bearing ligand anions: Synthesis, structure and characterization**

(4192421)  
Division of Inorganic Chemistry  
Presenter(s): Shyamali Dutta  
Poster Board #: 795

### **Lanthanide and actinide coordination chemistry using butyl-substituted multidentate CMPO compounds**

(4190884)  
Division of Inorganic Chemistry  
Presenter(s): Brianna Gordon  
Poster Board #: 796

### **Solid-State dispersion of photosensitizing nanocrystals in metal-oxide aerogel matrices**

(4196571)  
Division of Inorganic Chemistry  
Presenter(s): Joshua J Kim | Matthew R Buck  
Poster Board #: 797

### **Collective analysis of crystallographic trends in type-I intermetallic clathrates**

(4196315)  
Division of Inorganic Chemistry  
Presenter(s): William D. Cranney-Fee | Zoe Jackson Delos Angeles  
Poster Board #: 798

### **In situ spectroscopic study on the**

**formation of 2D conductive metal-organic frameworks**

(4191009)

Division of Inorganic Chemistry

Presenter(s): Samuel Weiss

Poster Board #: 799

**Isocyanide coupling and cleavage mediated by reductive cyclopentadienyl scandium chemistry**

(4197983)

Division of Inorganic Chemistry

Presenter(s): Jonah Philip Stiel

Poster Board #: 800

**Synthesis and characterization of copper(I) complexes of methyl substituted tris(2-pyridyl)phosphine oxides**

(4193439)

Division of Inorganic Chemistry

Presenter(s): Abbigail Snyder

Poster Board #: 801

**Photocatalytic hydrogen production using molecular cobalt complexes with polypyridyl ligands in aqueous solution**

(4178846)

Division of Inorganic Chemistry

Presenter(s): Jacob Wilkinson

Poster Board #: 802

**Tridentate-dianionic group III complexes for copolymerization of olefins with conjugated dienes**

(4181789)

Division of Inorganic Chemistry

Presenter(s): Torin Dupper

Poster Board #: 803

**Controlling kinetic and electrochemical properties of Eull-containing macrocyclic complexes using peripheral charges**

(4188701)

Division of Inorganic Chemistry

Presenter(s): Md Sydul Islam

Poster Board #: 804

**Analysis of ion binding constants of a three-fold symmetric copper complex**

(4192797)

Division of Inorganic Chemistry

Presenter(s): Jennifer Thommes

Poster Board #: 805

**Tuning tris(amido) redox active ligands to expand the reactivity of d0 metals**

(4171164)

Division of Inorganic Chemistry

Presenter(s): Faith Tung

Poster Board #: 806

**Neutron diffraction studies hexagonal-layered LnM<sub>2</sub>+M'<sub>3</sub>+O<sub>4</sub> Materials upon Oxidation**

(4192156)

Division of Inorganic Chemistry

Presenter(s): Stephanie Jinhwa Hong

Poster Board #: 844

**Synthesis of silver nanoparticles using different natural antioxidants**

(4196835)

Division of Inorganic Chemistry

Presenter(s): Nataley Kemmer

Poster Board #: 845

**Probing the effect of distal charges and proline loop mutations on the reduction potential and overall charge state of the Rieske protein from *Thermus thermophilus***

(4183963)

Division of Inorganic Chemistry

Presenter(s): Simran Lapsiwala

Poster Board #: 846

**Preparation of a protonated tripodal triamine ligand with triflate anion**

(4197093)

Division of Inorganic Chemistry

Presenter(s): Tracey Ta

Poster Board #: 847

**Structural investigation of AMnGaO<sub>4</sub> (A = Lu, Yb, In) materials for oxygen storage**

(4192152)

Division of Inorganic Chemistry

Presenter(s): Diallo Barnes

Poster Board #: 848

**Structure-property relationships in novel solid solution compositions based on BaM<sub>1-x</sub>M'<sub>x</sub>Te<sub>2</sub>O<sub>7</sub> structure (M<sub>2+</sub> = 3d transition metal)**

(4188311)

Division of Inorganic Chemistry

Presenter(s): Chung-Yi Hsu

Poster Board #: 849

**Synthesis, characterization, and reactivity of substituted N<sub>2</sub>P<sub>2</sub> cobalt complexes**

(4196459)

Division of Inorganic Chemistry (INOR)

Division of Inorganic Chemistry

Presenter(s): Maia Chavez

Poster Board #: 850

**Copper macrocycles as mimics of SOD-1**

(4182798)

Division of Inorganic Chemistry

Presenter(s): Mark Sayegh

Poster Board #: 851

**Biophysical characterization of de novo mini-metalloenzymes**

(4195185)

Division of Inorganic Chemistry

Presenter(s): Savarna Goutam | Bonnie Coley

Poster Board #: 852

**Synthesis of benzimidazole compounds and the incorporation of triphenylphosphonium cations and silver as potential anti-cancer agents**

(4196849)

Division of Inorganic Chemistry

Presenter(s): Madeline Whitticar

Poster Board #: 853

**Supramolecular and anion recognition chemistry of Pentacyano(trifluoromethyl)benzene**

(4196595)

Division of Inorganic Chemistry

Presenter(s): Taylor Hatch

Poster Board #: 854

**Synthesis of verdazyl radical substituted carboranes**

(4196725)

Division of Inorganic Chemistry



Presenter(s): Nadia Palomares | Nicholas Adams  
| Taylor Jackson | Khason Ong  
Poster Board #: 855

### **Purification and characterization of the Rieske protein from spinach**

(4181128)

Division of Inorganic Chemistry  
Presenter(s): Caroline Meehan  
Poster Board #: 856

### **Sustainable degradation of PFAS via light-driven, plasmonic-enhanced catalysis**

(4196345)

Division of Inorganic Chemistry  
Presenter(s): Chloe Pressley  
Poster Board #: 857

### **Water oxidation by a Cobalt(II) compound with redox active ligands**

(4196605)

Division of Inorganic Chemistry  
Presenter(s): Mario Escudero | Tanvir Mann |  
Shouq Almutairi | Erick Quiroz | David James R  
Brook  
Poster Board #: 858

### **Understanding the influence of phosphorus substituents on ligand-centered catalysis with reactive boron ligands**

(4195967)

Division of Inorganic Chemistry  
Presenter(s): Mai Yer Yang  
Poster Board #: 859

### **Controlling ground state multiplicity with coordination geometry**

(4197122)

Division of Inorganic Chemistry  
Presenter(s): David James R Brook  
Poster Board #: 860

### **Optimizing flow chemistry for click reactions: Functionalizing 3D-printed nylon/glass fiber columns with tethered catalysts**

(4196739)

Division of Inorganic Chemistry  
Presenter(s): Taylor Munger  
Poster Board #: 861

### **Synthesis, characterization and biological activities of co(ii), fe(ii) and pd(ii) complexes with [o, n] donor ligands derived from 2-hydroxy-1-naphthaldehyde**

(4196230)

Division of Inorganic Chemistry  
Presenter(s): Manaal Iftikhar  
Poster Board #: 862

### **Characterization of yeast Rieske protein and exploration of the possible effects of Rieske reduction potential on superoxide formation**

(4181112)

Division of Inorganic Chemistry  
Presenter(s): Graycen Hall | Omkar Satpathy  
Poster Board #: 863

### **Modular approach towards sterically non-protected biradicaloids**

(4190327)

Division of Inorganic Chemistry  
Presenter(s): Stefan Frei  
Poster Board #: 864

**Layered hybrid organic-inorganic solids through intercalation synthesis**

(4192884)

Division of Inorganic Chemistry

Presenter(s): Lucas Madak

Poster Board #: 865

**Studying C-H bond thermochemistry of the CpN3 ligand and its coordination chemistry with cobalt and nickel**

(4193396)

Division of Inorganic Chemistry

Presenter(s): Sanju Kumari

Poster Board #: 866

**Developing supramolecular chelates to sequester heavy metal toxins**

(4188915)

Division of Inorganic Chemistry

Presenter(s): Brooke Bounyavong

Poster Board #: 867

**Preparation, structures, computational studies, and reactivity of new thione and selone derivatives of caffeine**

(4189810)

Division of Inorganic Chemistry

Presenter(s): Moises Jonathan Zelada Bazan

Poster Board #: 868

**Complementary cost-effective electrochemical platforms for point-of-use biosensing**

(4182513)

Division of Inorganic Chemistry

Presenter(s): Mason Monaco

Poster Board #: 869

**Synthesis and purification of substituted cyclophosphazenes as drug delivery systems**

(4196751)

Division of Inorganic Chemistry

Presenter(s): Melanie Eichler

Poster Board #: 870

**Ratiometric pH and temperature sensing at the nanoscale for chemical applications**

(4197135)

Division of Inorganic Chemistry

Presenter(s): Bradley Demosthene

Poster Board #: 871

**Detection of Per- and polyfluoroalkyl substances (PFAS) by Metal–Organic Frameworks**

(4188272)

Division of Inorganic Chemistry

Presenter(s): Maryam Piroozzadeh

Poster Board #: 916

**Exploration of Cu(I) electrocatalysts for N<sub>2</sub>O reduction**

(4198032)

Division of Inorganic Chemistry

Presenter(s): Robert Till

Poster Board #: 917

**Electrochemical oxidation of W(CO)<sub>4</sub>(LL): A mechanistic study of reactions involving the electrogenerated tungsten(I) species**

(4192238)

Division of Inorganic Chemistry

Presenter(s): Halley Le

Poster Board #: 918

**Synthesis of plasmonically active atomically thin titanium-based quasicrystal for dopamine sensing**

(4192494)

Division of Inorganic Chemistry

Presenter(s): Nabarun Mandal

Poster Board #: 919

**Synthesis of potentially biologically active copper(II) complexes with ligands derived from various amino acids and 2-pyridinecarbaldehyde N-oxide**

(4196885)

Division of Inorganic Chemistry

Presenter(s): Kya Lester | Karis Huff-Love |

Ashley Cheung

Poster Board #: 920

**Unveiling the unique reactivity of anionic Mn(I) complexes via metal–ligand cooperation: Nucleophilic attack on C(sp<sup>3</sup>)–X bonds**

(4184552)

Division of Inorganic Chemistry

Presenter(s): Hengxu Li

Poster Board #: 921

**Volatile organic compounds capture in a tunable metal-organic frameworks platform**

(4182500)

Division of Inorganic Chemistry

Presenter(s): Madeline Steinberg

Poster Board #: 922

**Copper CNC pincer complexes:**

**Synthesis, characterization, and opportunities for polymerization catalysis**

(4196379)

Division of Inorganic Chemistry

Presenter(s): Enzo Acosta

Poster Board #: 923

**Exploring the unconventional red emission of terbium hexafluoroacetylacetonate: synthesis and characterization**

(4196513)

Division of Inorganic Chemistry

Presenter(s): Seth G Doughty

Poster Board #: 924

**Photo-electrochemical ethanol oxidation by CuWO<sub>4</sub> in neat ethanol**

(4172254)

Division of Inorganic Chemistry

Presenter(s): Olivia Lyon

Poster Board #: 925

**Transition-metal-based molecular electrocatalyst for nitrogen oxoanion reduction**

(4191454)

Division of Inorganic Chemistry

Presenter(s): Anurupa Naskar

Poster Board #: 926

**Synthesizing quaternary alloy NiCuPdAu nanoparticles for nitrite reduction**

(4191708)

Division of Inorganic Chemistry

Presenter(s): Austin Engstrom

Poster Board #: 927

**Synthesis of new copper(II) and vanadyl(II) complexes with an imidazoledioxido ligand that exhibit unusual magnetic properties**

(4192988)

Division of Inorganic Chemistry

Presenter(s): Franklin Dorman

Poster Board #: 928

**Tripodal CMPO compound bearing hexyl chains: Coordination chemistry of f-elements**

(4190938)

Division of Inorganic Chemistry

Presenter(s): Nancy Martinez

Poster Board #: 929

**Synthetic investigation of discrete nanoparticles MnNiSb and assessment of potential for magnetic heat recovery**

(4195239)

Division of Inorganic Chemistry

Presenter(s): Folake Amoo

Poster Board #: 930

**Probing the surface chemistry of metal-organic frameworks with coordinating organic dyes**

(4191317)

Division of Inorganic Chemistry

Presenter(s): SRIJITA PAL

Poster Board #: 931

**Stability of 3d transition metal carbonyl complexes in electrocatalytic reactions**

(4191696)

Division of Inorganic Chemistry

Presenter(s): Caitlin Ghent

Poster Board #: 932

**Development of EQCM techniques to study hybrid molecular/semiconductor photocatalysis**

(4195250)

Division of Inorganic Chemistry

Presenter(s): Dalaney Westbrook

Poster Board #: 933

**Electrochemically controlled cation exchange reactions of transition metal sulfides nanostructures**

(4193356)

Division of Inorganic Chemistry

Presenter(s): SHASHANK MISHRA

Poster Board #: 934

**Aqueous quinoxaline and schiff-base metal complex fluorescent hydrogen sulfide sensors**

(4191307)

Division of Inorganic Chemistry

Presenter(s): Amanda Thompson | Emily Goodfellow

Poster Board #: 935

**Anchoring/immobilization effects of para- and diamagnetic metals in combination with polar and non-polar functionalization of electron-deficient phthalocyanine complexes**

(4186697)

Division of Inorganic Chemistry

Presenter(s): Sean J Scally

Poster Board #: 936

**Chemical insights into**

**simultaneous cation exchange reactions towards high entropy sulfide nanoparticles**

(4193353)

Division of Inorganic Chemistry

Presenter(s): Aaron Tsai

Poster Board #: 937

**Design and synthesis of BODIPY-functionalized Ru(II)-Fe(II) heterobimetallic dyad as a potential photosensitizer for singlet oxygen generation**

(4176585)

Division of Inorganic Chemistry

Presenter(s): Supriya Das

Poster Board #: 938

**Cu(DO3Am) – Abridged models of <sup>64</sup>Cu PET agents**

(4179784)

Division of Inorganic Chemistry

Presenter(s): Matthew Titan Liu

Poster Board #: 939

**Low-temperature properties of bismuth double perovskites**

(4188232)

Division of Inorganic Chemistry

Presenter(s): Haowen Tian

Poster Board #: 940

**Synthesis and magnetic properties of CoMnP nanoparticles as a function of annealing temperature**

(4193223)

Division of Inorganic Chemistry

Presenter(s): Folake Amoo

Poster Board #: 941

**Uranyl coordination compounds**

Division of Inorganic Chemistry (INOR)

**with verdazyl free radical ligands**

(4197176)

Division of Inorganic Chemistry

Presenter(s): Katie Liu | Anna Buryachenko

Poster Board #: 942

**Exploration of La<sub>1-y</sub>BayFeO<sub>3</sub> as oxygen transport membranes**

(4191045)

Division of Inorganic Chemistry

Presenter(s): Guian Carlo Calisterio

Poster Board #: 943

**Synthesis of bioresponsive aggregation-activated magnetic resonance probe for real-time detection of  $\beta$ -galactosidase**

(4186693)

Division of Inorganic Chemistry

Presenter(s): Willie Tsao

Poster Board #: 944

**Multidrug delivery in metal-organic frameworks with backbone-coordinated medications**

(4192324)

Division of Inorganic Chemistry

Presenter(s): liliana ingalls

Poster Board #: 945

**Synthesis and characterization of Ir(III) complexes with one Cyclometalating ligand and two dative ligands**

(4185027)

Division of Inorganic Chemistry

Presenter(s): Nataly Areosa Suarez | Daniela

Moncada | Erin Barno

Poster Board #: 946

**Types of cubane like {Cu<sub>4</sub>} complexes: Potential of asymmetric ligands for aggregation**

(4194114)

Division of Inorganic Chemistry

Presenter(s): Anupama Manna

Poster Board #: 947

**Synthesis of redox-active Bis(imino)acenaphthene (BIAN) copper(I) complexes**

(4193473)

Division of Inorganic Chemistry

Presenter(s): Daniel Lopez Espinoza

Poster Board #: 948

**Convenient access to volatile carbene complexes of zero-valent metals**

(4194879)

Division of Inorganic Chemistry

Presenter(s): Lee Lee Blackmer

Poster Board #: 949

Division of Medicinal  
Chemistry (MEDI)

**S-880008, a peptide inhibitor for a broad range of SARS-CoV-2 variants**

(4191243)

Division of Medicinal Chemistry

Presenter(s): Yoshifumi Kusumoto

Poster Board #: 972

**Utilizing DegTag for target validation studies: Overcoming MAT2A feedback upregulation by**

**protein degradation to target chr9p21 deleted tumors**

(4197506)

Division of Medicinal Chemistry

Presenter(s): Edward M. Laguna

Poster Board #: 973

**Development of cleavable linkers for polymer-drug conjugates**

(4192659)

Division of Medicinal Chemistry

Presenter(s): Sarah Phillips

Poster Board #: 974

**Inhibition of bacterial sodium-dependent NADH: Ubiquinone oxidoreductase (Na<sup>+</sup>-NQR) by clofazimine-like derivatives**

(4183936)

Division of Medicinal Chemistry

Presenter(s): Emma Kelley

Poster Board #: 975

**Synthesis and biological evaluation of novel sigma receptor ligands based on isoindoline and pyrrolidine scaffolds**

(4192227)

Division of Medicinal Chemistry

Presenter(s): Emmanuel Faderin

Poster Board #: 976

**Discovery of a new cyclic depsipeptide from a filamentous cyanobacterium collected in Boa Vista, Cape Verde**

(4192240)

Division of Medicinal Chemistry

Presenter(s): Marine Cuau

Poster Board #: 977

**Protein kinase inhibitors (PKIs) of  
Acanthamoeba castellanii growth**

(4193756)

Division of Medicinal Chemistry  
Presenter(s): Brad Anthony Haubrich  
Poster Board #: 978

**RNA product delivery using 3D  
printed microarray patches (MAPs)**

(4195658)

Division of Medicinal Chemistry  
Presenter(s): Madison Driskill  
Poster Board #: 979

**Synthesis of novel 4-  
aminopiperidines for the  
development of novel voltage-  
gated potassium (KV7) channel  
agonists**

(4198606)

Division of Medicinal Chemistry  
Presenter(s): Clare Hill  
Poster Board #: 980

**Anchimerically activatable  
protides with dengue antiviral  
activity and a tunable rate of  
activation**

(4183222)

Division of Medicinal Chemistry  
Presenter(s): Bryan Magana  
Poster Board #: 1019

**PROTAC-induced degradation of  
the METTL3/METTL14 complex to  
alter m6A mRNA abundance in  
AML**

(4195964)

Division of Medicinal Chemistry  
Presenter(s): Alexis Smith

Poster Board #: 1020

**Lenacapavir: towards a more  
economical synthesis**

(4199144)

Division of Medicinal Chemistry  
Presenter(s): Douglas Allen Klumpp  
Poster Board #: 1021

**Ultra-rapid cysteine bioconjugation  
(4184711)**

Division of Medicinal Chemistry  
Presenter(s): Fang Wang  
Poster Board #: 1022

**Advanced carbon nanodots doped  
with gadolinium and manganese  
for enhanced bioimaging  
applications**

(4185098)

Division of Medicinal Chemistry  
Presenter(s): Michele Cesco  
Poster Board #: 1023

**Improved small molecules with  
anti-aggregation effect on alpha-  
synuclein and tau isoform 2N4R**

(4172063)

Division of Medicinal Chemistry  
Presenter(s): Ahmed A Elbatrawy | Jessica Sonia  
Fortin  
Poster Board #: 1024

**Synthesis and evaluation of A-ring  
substituted compounds inspired  
by Mitragynine with an open D-  
ring structure**

(4187169)

Division of Medicinal Chemistry  
Presenter(s): Michael Casanueva  
Poster Board #: 1025

**Reversible nonhormonal male  
contraceptive with the STK33  
target: improving CDD-2807**

(4194016)

Division of Medicinal Chemistry

Presenter(s): Geena Kaown

Poster Board #: 1026

**Fight against Alzheimer's:  
Developing a new generation of  
multifunctional drug therapeutics  
using pyridine-containing tetra-aza  
macrocycles**

(4196693)

Division of Medicinal Chemistry

Presenter(s): Saba Anjum

Poster Board #: 1027

Division of Nuclear  
Chemistry and Technology  
(NUCL)

**Molecular dynamics investigation  
of the solvation of M(III) cations in  
a room-temperature ionic liquid:  
[BMI][Ac]**

(4193407)

Division of Nuclear Chemistry and Technology

Presenter(s): W. K. B. Sandaruwani T. Fernando

Poster Board #: 994

**First GRP39-imaging radioligand  
and its utility in cancer and  
neurodegenerative PET imaging**

(4186923)

Division of Nuclear Chemistry and Technology

Presenter(s): Bhuvanachandra Bhoopal

Division of Nuclear Chemistry and Technology (NUCL)

Poster Board #: 995

**Separation of neodymium and  
praseodymium using ligand-  
assisted displacement column  
chromatography**

(4194835)

Division of Nuclear Chemistry and Technology

Presenter(s): Haley Noelle Lightfoot

Poster Board #: 996

**Employing an ionic liquid  
impregnated resin to separate  
platinum from iridium**

(4199685)

Division of Nuclear Chemistry and Technology

Presenter(s): Evan Williams

Poster Board #: 997

**Uranium separation using  
monoamide extractants**

(4187502)

Division of Nuclear Chemistry and Technology

Presenter(s): Jopaul Mathew

Poster Board #: 998

**Bonding in Actinides: A  
quantitative study in terms of  
PNAOs and SFOs**

(4198305)

Division of Nuclear Chemistry and Technology

Presenter(s): Asmita Sen

Poster Board #: 999

Division of Organic  
Chemistry (ORGN)

**Ruthenium-catalyzed azide-alkyne**



**cycloaddition reactions for the preparation of synthetic receptors**

(4190012)

Division of Organic Chemistry

Presenter(s): Flavia Ferrara

Poster Board #: 1000

**Study of formylation reactions with 1,3-dithiane-based agents**

(4169787)

Division of Organic Chemistry

Presenter(s): Gustavo Marin

Poster Board #: 1001

**Harnessing doubly nucleophilic intermediates from carbonyls**

(4193595)

Division of Organic Chemistry

Presenter(s): Ali Pinarci

Poster Board #: 1002

**Organophotocatalyst mediated chemoselective synthesis of  $\delta$ -hydroxyalkynones and 4-H pyranones**

(4197446)

Division of Organic Chemistry

Presenter(s): Nishikant Satam

Poster Board #: 1003

**Carbene-mediated construction of heterocyclic rings**

(4197960)

Division of Organic Chemistry

Presenter(s): Mohamed Elsayed

Poster Board #: 1004

**Chemical profiling of the ethanolic extract of Live Oak (*Quercus virginiana*) galls**

(4198473)

Division of Organic Chemistry (ORGN)

Division of Organic Chemistry

Presenter(s): Debasish Bandyopadhyay

Poster Board #: 1005

**Leveraging C–H activation for efficient syntheses of diterpenoid lactones**

(4183349)

Division of Organic Chemistry

Presenter(s): Clara Wiesler

Poster Board #: 1045

**Labeling lisinopril: Effect of pyrene incorporation on binding to angiotensin converting enzyme (ACE)**

(4195917)

Division of Organic Chemistry

Presenter(s): Rhyan D Johnson

Poster Board #: 1046

**(Photo)oxidation of hydroxymethylated polycyclic aromatic dyes: Mechanistic insights and synthetic advances**

(4185391)

Division of Organic Chemistry

Presenter(s): Omid Ghasemloo

Poster Board #: 1047

**Intramolecular Photo-cross-[2+2] Addition of Host Encapsulated 1,n-dienes in Water**

(4194900)

Division of Organic Chemistry

Presenter(s): Sujit Kumar Ghosh

Poster Board #: 1048

**Photoredox paradox: Electron and hole upconversion as the hidden secrets of photoredox catalysis**

(4187430)  
Division of Organic Chemistry  
Presenter(s): Paul Eckhardt  
Poster Board #: 1050

### **Diastereoselective synthesis of 2,3-disubstituted 1,4-dioxanes**

(4192803)  
Division of Organic Chemistry  
Presenter(s): Serhiy Ryabukhin  
Poster Board #: 1051

### **Stereoselective conjugate addition of 2-alkylpyridines enabled by chiral lithium amides**

(4199009)  
Division of Organic Chemistry  
Presenter(s): Dyllan Ly  
Poster Board #: 1052

### **Novel, photochemical, high-throughput method to access sulfur (VI) libraries**

(4178459)  
Division of Organic Chemistry  
Presenter(s): Matthew Southern  
Poster Board #: 1053

### **High pressure activation in green synthesis: solvent and catalyst-free syntheses of heterocycles, hydrazones, APIs and esters**

(4191257)  
Division of Organic Chemistry  
Presenter(s): Valerie Wright  
Poster Board #: 1055

### **Physico-chemical principles of AC electrosynthesis: Reversible reactions**

(4179729)

Division of Organic Chemistry (ORGN)

Division of Organic Chemistry  
Presenter(s): Yong Rui Poh  
Poster Board #: 1056

### **Cyclooctatetraene attached $\pi$ conjugated porphyrins and optoelectronic studies on their conformational planarization state**

(4199034)  
Division of Organic Chemistry  
Presenter(s): Saad Shaikh  
Poster Board #: 1057

### **Extension of the Ugi-Smiles reactions to incorporate conjugated and heterocyclic aldehydes**

(4195711)  
Division of Organic Chemistry  
Presenter(s): Sarah B Luesse  
Poster Board #: 1058

### **Microwave-assisted solid acid-catalyzed synthesis of substituted 2,2,2-trifluoro-1-phenylethan-1-imines**

(4192127)  
Division of Organic Chemistry  
Presenter(s): David Daggett  
Poster Board #: 1059

### **Titanium promoted cross electrophile coupling reactions: Modular approach to synthesize biologically active molecules**

(4194818)  
Division of Organic Chemistry  
Presenter(s): Sajan Silwal  
Poster Board #: 1060

### **Supramolecular catalysis with**

### **lipophilic cage hosts**

(4177019)

Division of Organic Chemistry

Presenter(s): Komal Sharma

Poster Board #: 1061

### **Quinoline-fused NIR-II/SWIR polymethines: synthetic approach, photophysical properties, and perspective outlooks in biological imaging**

(4192113)

Division of Organic Chemistry

Presenter(s): Jesse Randal Cantrell

Poster Board #: 1062

### **Five- and six-membered ring oxocarbenium ion conformational energies and geometries by DFT and MP2: Foundation for predicting acetal substitution diastereomeric ratios**

(4198161)

Division of Organic Chemistry

Presenter(s): Edgar Alberto Rodo

Poster Board #: 1063

### **Greening solid phase peptide synthesis: reducing washes while maintaining crude purity**

(4198418)

Division of Organic Chemistry

Presenter(s): Elizabeth Denton

Poster Board #: 1064

### **Umpolung Nicholas reaction analogue for propargylic C(sp<sup>3</sup>)–H etherification**

(4197650)

Division of Organic Chemistry

Presenter(s): Yue Xia

Poster Board #: 1065

### **Developing a selective DNA alkylator with a reverse-prodrug mechanism**

(4181352)

Division of Organic Chemistry

Presenter(s): Christine Marie Albrecht

Poster Board #: 1066

### **Synthesis and hydrolytic stability of arachidonoyl ethanolamide derivatives**

(4191080)

Division of Organic Chemistry

Presenter(s): Joshua Ibs

Poster Board #: 1101

### **Chat-microreactor: An assistant based on large language models for designing flow reactor systems**

(4186216)

Division of Organic Chemistry

Presenter(s): Yongqi Pan

Poster Board #: 1102

### **Semisynthetic approaches to access novel chloramphenicol derivatives**

(4184677)

Division of Organic Chemistry

Presenter(s): Suzzudul Islam Islam

Poster Board #: 1103

### **Electro-oxidative intramolecular diamination en route to form functionalized pyridinium salts**

(4193368)

Division of Organic Chemistry

Presenter(s): Jabez Zacharia Zacharia  
Thullaprambil  
Poster Board #: 1104

### **Synthesis of enantioenriched allylic boronates using Ni-catalyzed reductive cross-coupling**

(4197673)  
Division of Organic Chemistry  
Presenter(s): Zachary Hill  
Poster Board #: 1105

### **Mechanistic insight to olefin additives in nickel catalyzed reductive couplings**

(4196911)  
Division of Organic Chemistry  
Presenter(s): Elizabeth Claire Jaekle  
Poster Board #: 1106

### **Collagen, interrupted: Analysis and application of fluorescent collagen capsules**

(4185166)  
Division of Organic Chemistry  
Presenter(s): Jordan Lynne Stanley | Sydney Coll  
Poster Board #: 1107

### **Methodologies and synthesis of C-linked ribonucleosides**

(4197426)  
Division of Organic Chemistry  
Presenter(s): Sritin Ghosh  
Poster Board #: 1108

### **Operationally-simple, regioselective, Platinum-catalyzed hydroboration of unactivated alkynes**

(4185676)  
Division of Organic Chemistry

Presenter(s): Karl Lawrence Edward Hale  
Poster Board #: 1109

### **Studying verdazyl radical single molecular junctions: Synthesis and applications**

(4192332)  
Division of Organic Chemistry  
Presenter(s): Rashmi Yohani Amarakoon  
Arachchige  
Poster Board #: 1110

### **Total synthesis and optical rotation reassignment of homoseongomycin enantiomers**

(4176452)  
Division of Organic Chemistry  
Presenter(s): Greg Petruncio  
Poster Board #: 1111

### **Fluorescently labeled lactose functionalized PAMAM dendrimers for multivalent studies in cells**

(4189508)  
Division of Organic Chemistry  
Presenter(s): Magalee Rose Frometa  
Poster Board #: 1112

### **Chemical characterization and inhalation toxicity: Free-base nicotine, nicotine salts, and synthetic nicotine analogs in vaped aerosols**

(4193859)  
Division of Organic Chemistry  
Presenter(s): Mohana Sengupta  
Poster Board #: 1113

### **Design of a molecular pump based on a redox switchable aminoxy**

## **ring**

(4198717)

Division of Organic Chemistry

Presenter(s): Chenxin Ou

Poster Board #: 1114

## **Expanding the scope and limits of C60 cage by encapsulating the bigger heteronuclear guests like CH2O, CO and CH3F**

(4185023)

Division of Organic Chemistry

Presenter(s): Vijyesh Vyas

Poster Board #: 1115

## **Substrate behavior in carbonyl-olefin metathesis reactions**

(4195528)

Division of Organic Chemistry

Presenter(s): Keren Flores Saavedra

Poster Board #: 1116

## **Isolation of secondary carbon radicals**

(4197832)

Division of Organic Chemistry

Presenter(s): Levan Gojiashvili

Poster Board #: 1117

## **Correlation of kinetic isotope effects with their temperature dependences of hydride transfer reactions of NADH/NAD<sup>+</sup> analogues in solution**

(4182709)

Division of Organic Chemistry

Presenter(s): Ava Austin

Poster Board #: 1118

## **PdCl<sub>2</sub>(butylamine)<sub>2</sub> as a precatalyst for Buchwald Hartwig**

Division of Organic Chemistry (ORGN)

## **amination**

(4186805)

Division of Organic Chemistry

Presenter(s): Adedayo Adebayo

Poster Board #: 1119

## **Utilizing High Throughput Experimentation to enable and improve the synthesis of a RORc2 agonist to support advanced preclinical evaluation**

(4192692)

Division of Organic Chemistry

Presenter(s): Simon Berritt

Poster Board #: 1120

## **Role of triplet states in the operation of photoreactive protecting groups**

(4206028)

Division of Organic Chemistry

Presenter(s): Bence Kontra

Poster Board #: 1121

## **Non- cytotoxic anticancer active water soluble nano carbons**

(4196047)

Division of Organic Chemistry

Presenter(s): Sujeet Kumar Kumar Thakur

Poster Board #: 1122

## **Preparation of pyridine-2-boronic esters through mixed palladium catalysts**

(4181164)

Division of Organic Chemistry

Presenter(s): George Y Li

Poster Board #: 1157

## **Accessing 3-Amido-Piperidines via I(III) catalyzed Ritter-type olefin**

## **diamination**

(4190376)

Division of Organic Chemistry

Presenter(s): Talia Watson

Poster Board #: 1158

## **Visible-light induced anticancer activity of a conjugated oligoelectrolyte with thiophene-benzothiadiazole core**

(4198104)

Division of Organic Chemistry

Presenter(s): KANYASHREE JANA

Poster Board #: 1159

## **Designed $\mu$ -Chlorido-bridged dimanganese(II) complexes with 2-(1-phenylhydrazineyl)pyridine-derived Schiff base catalysts for dehydrogenative oxidation, aldol and aldol condensation reactions**

(4184997)

Division of Organic Chemistry

Presenter(s): Apurva Singh

Poster Board #: 1160

## **Synthesis and spectral properties of zinc chlorin, bacteriochlorin and phthalocyanine for molecular quantum computing materials**

(4191141)

Division of Organic Chemistry

Presenter(s): tycen reche

Poster Board #: 1161

## **Enantioselective [6 $\pi$ ]-photocyclization via chromophore activation by chiral lewis acids**

(4194212)

Division of Organic Chemistry

Presenter(s): Dominik Gruenwald

Poster Board #: 1162

## **Stereoselective convergent total synthesis of oxylipins**

(4192676)

Division of Organic Chemistry

Presenter(s): Sanjita Moharana

Poster Board #: 1163

## **Assembly of fused pyridazines via one-pot sequence IEDDA reaction, scope and limitations**

(4198876)

Division of Organic Chemistry

Presenter(s): Dmytro Volochnyuk

Poster Board #: 1164

## **Energy efficiency of Paal-Knorr reactions using traditional and non-traditional activation methods: Ultrasonication, microwave-assisted heating, and high hydrostatic pressure**

(4192162)

Division of Organic Chemistry

Presenter(s): Maximilian Costa

Poster Board #: 1165

## **Exploring the Ugi and Ugi-Smiles reactions with ferulic acid derivatives**

(4196831)

Division of Organic Chemistry

Presenter(s): Cristian Herrera

Poster Board #: 1166

## **New method for safely handling air- and moisture-sensitive chemicals**

(4189598)

Division of Organic Chemistry  
Presenter(s): Kaden Hekker | Gregory W O'Neil  
Poster Board #: 1167

**Electrochemistry in thin layer:  
elucidating the sequential steps of  
Ni-catalyzed reductive aryl  
coupling**

(4192413)

Division of Organic Chemistry  
Presenter(s): Mohammad Rafiee  
Poster Board #: 1168

**Synthesis, optical spectroscopy,  
and water-solubility of 2,4,6-tris(4-  
(2-(2-  
ethoxyethoxy)ethoxy)phenyl)pyryl  
ium tosylate and triflate**

(4197860)

Division of Organic Chemistry  
Presenter(s): David King  
Poster Board #: 1169

**Mechanistic insights into Ritter-  
enabled chloroamidation of alkene  
amides**

(4196070)

Division of Organic Chemistry  
Presenter(s): Jiaojiao Wang  
Poster Board #: 1170

**Design, synthesis, and applications  
of electron-deficient fluorescent  
nucleoside analogues**

(4197866)

Division of Organic Chemistry  
Presenter(s): Dana Brynn Rosansky  
Poster Board #: 1171

**Continuous flow synthesis of  
natural products: Flow synthesis of**

Division of Organic Chemistry (ORGN)

**ascorbic acid**

(4176018)

Division of Organic Chemistry  
Presenter(s): Maduabuchi Angus Modum  
Poster Board #: 1172

**Allylation of ketone-derived  
hydrazones using allyl-boronic  
pinacol esters in simple and mild  
conditions**

(4186000)

Division of Organic Chemistry  
Presenter(s): Christian Lopez  
Poster Board #: 1173

**N → n' acyl migration in the  
context of a medicinal chemistry  
program**

(4192912)

Division of Organic Chemistry  
Presenter(s): Liuqing Wei  
Poster Board #: 1174

**Antiseptic properties of polyvalent  
triazolium salts**

(4192901)

Division of Organic Chemistry  
Presenter(s): James T. Fletcher  
Poster Board #: 1175

**Snar of electron-rich arenes via  
I(III)-mediated amination**

(4186500)

Division of Organic Chemistry  
Presenter(s): Jasjit Kaur  
Poster Board #: 1176

**Scale-up synthesis, stability and  
physicochemical evaluation of 2,2-  
difluoro-β-alanine**

(4197767)

Division of Organic Chemistry  
Presenter(s): Dmitriy Lega | Dmytro Volochnyuk  
Poster Board #: 1177

**Up-scale pseudo-telescopic photo-induced Arndt-Eistert  $\alpha$ -amino acids homologation in flow reactors cascade**

(4193268)

Division of Organic Chemistry  
Presenter(s): Alexander Pashenko | Dmytro Volochnyuk  
Poster Board #: 1178

**Iron-catalyzed cyclopropanation of diverse unactivated alkenes**

(4190440)

Division of Organic Chemistry  
Presenter(s): Bethany DeMuyneck  
Poster Board #: 1179

**Fluorinated carbocations: design, synthesis and properties**

(4184039)

Division of Organic Chemistry  
Presenter(s): Ramandeep Kaur  
Poster Board #: 1236

**Mechanistic investigation of catalytic carbonyl-olefin metathesis and carbonyl-alkyne metathesis reaction**

(4198297)

Division of Organic Chemistry  
Presenter(s): Anjali Ravindran Nair  
Poster Board #: 1237

**Copper and homocysteine redox chemistry in biomolecular mechanisms**

(4197530)

Division of Organic Chemistry (ORGN)

Division of Organic Chemistry  
Presenter(s): Megha Gupta  
Poster Board #: 1238

**Facile Multigram Synthesis of 4-Azidomethyl-L-phenylalanine**

(4175845)

Division of Organic Chemistry  
Presenter(s): Wuping Ma  
Poster Board #: 1239

**S-Imines at the bridging position of fluorescent dyes**

(4195483)

Division of Organic Chemistry  
Presenter(s): Nagaraju Mupparapu  
Poster Board #: 1240

**C-H functionalization-enabled 11-step semisynthesis of (-)-**

**Veragranine A and**

**Characterization of synthetic analogs in osteoarthritis-related pain treatment**

(4202909)

Division of Organic Chemistry  
Presenter(s): Reem Al-Ahmad  
Poster Board #: 1241

**Synthesis and photophysical study of donor-acceptor-donor dyes for applications in transparent luminescent solar concentrators**

(4187873)

Division of Organic Chemistry  
Presenter(s): Nikita Nikita  
Poster Board #: 1242

**Development of novel aminoborane-based fluorescent dyes mimicking the GFP for use in**



## **microscopy**

(4205984)

Division of Organic Chemistry

Presenter(s): Attila Csomos

Poster Board #: 1243

## **Partially sulfated Pillar[5]arenes: Synthesis and molecular recognition properties**

(4178141)

Division of Organic Chemistry

Presenter(s): Ayona Goswami

Poster Board #: 1244

## **Efforts towards the biomimetic total synthesis of Heliannuol C**

(4196002)

Division of Organic Chemistry

Presenter(s): Matthew Sherwood

Poster Board #: 1245

## **Selective oxidative cleavage of lignin with side-chain exchange under room temperature**

(4195237)

Division of Organic Chemistry

Presenter(s): Xinquan Li

Poster Board #: 1246

## **Modular synthesis of $\alpha$ -branched secondary alkylamines via visible- light-mediated carbonyl alkylative amination**

(4195750)

Division of Organic Chemistry

Presenter(s): Milo Smith

Poster Board #: 1247

## **Delicate kinetic switch to access macrocyclic ethers or Spiroketal: A divergent scaffold remodeling**

Division of Organic Chemistry (ORGN)

## **approach**

(4195503)

Division of Organic Chemistry

Presenter(s): Nicholas Wills

Poster Board #: 1248

## **Synthesis, characterization, and computational studies of fluorinated pyridazines for biological applications**

(4187086)

Division of Organic Chemistry

Presenter(s): Nathan C Tice

Poster Board #: 1249

## **Manipulating the quinoline scaffold for a turn-on fluorescent hypochlorite probe in living cells**

(4192716)

Division of Organic Chemistry

Presenter(s): Fiyinfolu Funmibi Olubiyo

Poster Board #: 1250

## **Synthesis of difluorinated glycosyl thioethers of exocyclic enol-ethers utilizing the difluoro olefin precursors**

(4177097)

Division of Organic Chemistry

Presenter(s): Amena Begum

Poster Board #: 1251

## **FRET studies of enzyme arrangements in guanosine-based supramolecular particles**

(4196278)

Division of Organic Chemistry

Presenter(s): Andres Ramos

Poster Board #: 1252

## **Dynamic covalent macrocycles,**

**interlocked molecules, and  
supramolecular materials  
assembled in aqueous  
environments**

(4192196)

Division of Organic Chemistry

Presenter(s): Andrew Lee

Poster Board #: 1254

**Synthesis and investigation of  
triarylpyrylium-based fluorescent  
DNA-binding dyes**

(4206011)

Division of Organic Chemistry

Presenter(s): Farkas Domahidy

Poster Board #: 1255

**Ni-NHC catalyzed regiodivergent  
difunctionalization of internal  
alkynes**

(4192707)

Division of Organic Chemistry

Presenter(s): AANKHI KHAMRAI

Poster Board #: 1256

**Flowzonolysis: A green approach  
towards continuous oxidative  
ozonolysis of unsaturated fatty  
acids**

(4189634)

Division of Organic Chemistry

Presenter(s): Caitlin Hudecek

Poster Board #: 1257

Division of Physical  
Chemistry (PHYS)

**Band-to-band tunneling effect in a**

Division of Physical Chemistry (PHYS)

**robust type-III van der Waals bilayer  
heterostructure based on monolayer  
gallium oxide and silicon-carbide**

(4101239)

Division: PHYS

Presenter(s): Naim Ferdous

**Breakdown and potential remedies for  
DFT+U total energy differences and  
linear-response parameter calculations  
in spin-crossover complexes**

(4089138)

Division: PHYS

Presenter(s): Lorien MacEnulty

**Broadband coherent anti-Stokes Raman  
scattering (BCARS) microscopy for  
spatio-spectral analysis of prostate  
cancer**

(4101436)

Division: PHYS

Presenter(s): Jessica Zahn

**Can strong electron correlations remove  
polarons in transition metal oxide  
photocatalysts**

(4097070)

Division: PHYS

Presenter(s): Jocelyn Mendes

**Characterizing the conformational  
ensemble of PROTAC degraders in  
solution**

(4082171)

Division: PHYS

Presenter(s): Shikshya Bhusal

**Coal-based graphene and activated  
carbon as an electrode material for  
energy storage application**

(4102204)

Division: PHYS

Presenter(s): Debashis Sarmah

**Conformational dynamics of glycosylated catalytic domain of human carbonic anhydrase IX in water**

(4102757)

Division: PHYS

Presenter(s): Ritwika Dey

**Cost-effective synthesis of graphene derivatives from coal/ pet-coke as an anode material for Li-ion capacitor**

(4102206)

Division: PHYS

Presenter(s): Abhishek Hazarika

**Embedding reactive molecular dynamics into a coarse-grained environment**

(4103057)

Division: PHYS

Presenter(s): Kuntal Ghosh

**Equation-of-motion internally contracted multireference unitary coupled-cluster theory**

(4089145)

Division: PHYS

Presenter(s): Shuhang Li

**EvaST: Neoantigen maturation framework with evaluation through structure-based information**

(4098556)

Division: PHYS

Presenter(s): Guanqiao Zhang

**Exploring chemical-physical interactions between carbon atomic wires and silver nanoparticles using SERS and synchrotron-based UV resonant Raman spectroscopy**

(4082775)

Division: PHYS

Presenter(s): Simone Melesi

**Exploring planar pentacoordinate carbon: Theoretical insights into  $[XC_7H_2]^{2+}$  (X = Be, Mg) and its derivatives**

(4098595)

Division: PHYS

Presenter(s): PRATIK SARKAR

**Exploring relationships between cryoprotectant permeation, membrane responses, and water exchange in *Oryza Sativa* cells**

(4102543)

Division: PHYS

Presenter(s): Kylie Pearce

**Exploring Rhodamine 6G's potential as a photocatalyst through time-resolved spectroscopy**

(4101877)

Division: PHYS

Presenter(s): Laura Sawyer

**Formation of ethanolamine-mediated surfactant-free microemulsions using hydrophobic deep eutectic solvents**

(4102231)

Division: PHYS

Presenter(s): Anjali .

**High Na-containing P2-structured 'layered' Na- transition metal oxide-based cathode material for Na-ion batteries: Development strategy, electrochemical behaviour, including anionic redox**

(4102845)

Division: PHYS

Presenter(s): Adrija Goswami

**Hydrogen bonding and hydrophobic forces modulate deep eutectic solvents'**

**interaction with biomolecules**

(4091709)

Division: PHYS

Presenter(s): Samuel Oluwole | Welayd Weldu | Christian Agatemor

**In situ spectroscopy of excited-state dynamics and intermolecular structure during molecular aggregation of squaraine molecules**

(4100283)

Division: PHYS

Presenter(s): Zachary Scott Walbrun

**Increasing the photothermal performance of dual plasmonic nanoparticles through coupling with optically complementary upconversion nanoparticles**

(4096692)

Division: PHYS

Presenter(s): Caroline Friedersdorf

**Influence of internal molecular motions in the photothermal conversion effect of charge-transfer cocrystals**

(4082897)

Division: PHYS

Presenter(s): Armando Navarro

**Insights into the ultrafast charge dynamic in plasmonic metal-metal phosphide nanohybrids**

(4100896)

Division: PHYS

Presenter(s): Ashkan Yazdanshenas

**Integrative statistical analysis of fluorescence intermittency in single CsPbBr<sub>3</sub> quantum dots**

(4096557)

Division: PHYS

Presenter(s): Hawi Nyiera

**Interpretation of protein-corona formation and inhibition of fibrillation by polyphenol capped gold nanoparticles**

(4094698)

Division: PHYS

Presenter(s): Kakali Baruah

**Investigating enzyme-like photocatalytic oxidation on ligand-protected metal nanoclusters**

(4097414)

Division: PHYS

Presenter(s): Vikas Tiwari

**Machine learning techniques for the dimensionality downfolding of ab-initio Hamiltonians**

(4088024)

Division: PHYS

Presenter(s): Ziyang Cao

**Monitoring polymerization in microdroplets via fluorescence anisotropy**

(4099093)

Division: PHYS

Presenter(s): Rachel Czerwinski

**Multi-step degradation kinetics of amphotericin B in a microemulsion**

(4102606)

Division: PHYS

Presenter(s): Julio Abreu Miranda

**Non-invasive visualization of intracellular protein aggregates utilizing plasmon-assisted clusteroluminescence**

(4082963)

Division: PHYS

Presenter(s): Ashish Kumar Dhillon

**Paper-based smartphone enhanced**

**quercetin detection: Novel colorimetric sensing approach using poly lactide-stabilized gold nanoparticles**

(4086593)

Division: PHYS

Presenter(s): Daim Asif Raja

**Photo-switchable radicals as reporter spins for single molecule quantum sensing**

(4102991)

Division: PHYS

Presenter(s): Lakshmy Priya Ajayakumar

**pMAIRS: Novel surface FT-IR technique to determine the orientation of membrane protein in monolayer**

(4093656)

Division: PHYS

Presenter(s): Olatayo Adedayo Olanmi | Damilola Ogunmola

**Quantifying the formation of the oxyl's potential energy surface using time-resolved ATR**

(4094922)

Division: PHYS

Presenter(s): Paul Ryan Zayka

**Raman snapshots of Ultrafast C-H bond activation in water soluble nanocage**

(4086883)

Division: PHYS

Presenter(s): Sunandita Paul

**Rational design of binding affinities of green fluorescent proteins**

(4096122)

Division: PHYS

Presenter(s): Yu-Gon Eom

**Renormalization of exciton binding by polar phonons in 2D perovskites**

(4102804)

Division: PHYS

Presenter(s): Rohit Rana

**Searching for catalyst intermediates with single-molecule spectroscopy**

(4098265)

Division: PHYS

Presenter(s): Mackinsey A Smith

**Single-molecule orientation measurement via polarimetry in widefield super-resolution microscopy: Accuracy and applications**

(4085030)

Division: PHYS

Presenter(s): Kishalay Mahato

**Theoretical investigation on the interstellar formation of unsaturated dinitriles**

(4096072)

Division: PHYS

Presenter(s): Suphal Sen

**Theory of surface vibrations and their coupling to molecular adsorbates**

(4088289)

Division: PHYS

Presenter(s): Ardavan Farahvash

**Towards imaging defect-mediated energy transfer between single nanocrystal donors and single molecule acceptors**

(4080424)

Division: PHYS

Presenter(s): Danielle Lustig

**Towards the control of protein corona effects on nanoparticles**

(4102508)

Division: PHYS

Presenter(s): Jiajin He

**Ultrafast charge transfer dynamics in a slip-stacked Donor–Acceptor–Acceptor system**

(4102419)

Division: PHYS

Presenter(s): James Patrick O'Connor

**Ultrafast spectroscopy of dye sensitized solar cells: Investigating charge transfer dynamics between a novel porphyrin-based dye and TiO<sub>2</sub>**

(4079865)

Division: PHYS

Presenter(s): Likun Cai

**Understanding the host-guest interaction involved in MOF based gas separation using terahertz (THz) spectroscopy**

(4103132)

Division: PHYS

Presenter(s): Kendra Hamilton

**Unprecedented restriction of the internal dynamics in a Zr MOF by the generation of an intermolecular charge-transfer complex**

(4102493)

Division: PHYS

Presenter(s): Alonso Acosta-Vera

**Unraveling fluorescence and absorption mechanisms of carbon dots by optical spectroscopy and laser-assisted STM**

(4097837)

Division: PHYS

Presenter(s): Zhengyi Bian

**Unveiling critical hydrogen-bond dynamics in  $\alpha$ -glycine through Raman spectroscopy and mode coupling analysis**

Division of Physical Chemistry (PHYS)

(4089683)

Division: PHYS

Presenter(s): Noam Pinsk

**Bright and fast emission from robust supramolecular J-aggregate nanostructures through silica-encapsulation**

(4171435)

Division of Physical Chemistry

Presenter(s): Dimuthu H Thanippuli Arachchi

Poster Board #: 1028

**Bridging electrochemistry and nonlinear optics: Studying the oxygen evolution reaction using second harmonic generation**

(4177061)

Division of Physical Chemistry

Presenter(s): Raiden Speelman

Poster Board #: 1029

**Exploring nondiffusive mechanisms for the formation of acetaldehyde: Insights from computational studies**

(4179887)

Division of Physical Chemistry

Presenter(s): Berta Martínez-Bachs

Poster Board #: 1030

**Time-resolved SFG vibrational spectroscopy reveals surprises in the Stark tuning slope for CO on copper**

(4180933)

Division of Physical Chemistry

Presenter(s): Jaclyn Rebstock

Poster Board #: 1031

**Structural and thermodynamic**

**features of HIV-1 capsid self-assembly**

(4182655)

Division of Physical Chemistry

Presenter(s): Lorenzo Foglia

Poster Board #: 1032

**Vibrational spectroscopy at the ice-air interface: A molecular-level picture of the quasi-liquid layer**

(4184147)

Division of Physical Chemistry

Presenter(s): Richa Rashmi

Poster Board #: 1033

**Accelerating transition dynamics simulation with recent advances in probabilistic machine learning**

(4184829)

Division of Physical Chemistry

Presenter(s): Yuanqi Du

Poster Board #: 1034

**Stable surfactant monolayers at the electrochemical interfacial double layer across a wide potential range**

(4185490)

Division of Physical Chemistry

Presenter(s): Chenglai Wang

Poster Board #: 1035

**Calibrating the oxidative capacity of microdroplets**

(4191207)

Division of Physical Chemistry

Presenter(s): Tirthick Majumder

Poster Board #: 1075

**Spectrochemical series for electron spin relaxation**

Division of Physical Chemistry (PHYS)

(4191493)

Division of Physical Chemistry

Presenter(s): Nathanael Kazmierczak

Poster Board #: 1076

**High-performance near-infrared OLEDs maximized at 925 nm and 1022 nm through interfacial energy transfer**

(4192420)

Division of Physical Chemistry

Presenter(s): Chieh-Ming Hung

Poster Board #: 1077

**Modulating the reactivity of an antenna-reactor Al@TiO<sub>2</sub> plasmonic photocatalyst by modifying annealing conditions**

(4193304)

Division of Physical Chemistry

Presenter(s): Aliyu A. Ahmad

Poster Board #: 1078

**Blinking and bleaching dynamics of mixed halide perovskite quantum dots synthesized with various ligands and their impact on light emitting diode performance**

(4195087)

Division of Physical Chemistry

Presenter(s): Deepani Vidarshika Athapaththu

Poster Board #: 1079

**First principles simulations of optical rotation of chiral molecular crystals**

(4195687)

Division of Physical Chemistry

Presenter(s): Emmanuel Forson

Poster Board #: 1080

**Nanoparticle detection and identification by hyperspectral SRS microscopy**

(4195775)

Division of Physical Chemistry

Presenter(s): Naixin Qian

Poster Board #: 1081

**Compressive sensing in sum frequency generation microscopy**

(4195925)

Division of Physical Chemistry

Presenter(s): Sarah Ortiz

Poster Board #: 1082

**Exploring the Molecular Origin of the XCN Band in Interstellar Ice**

(4195998)

Division of Physical Chemistry

Presenter(s): Rebecca Vanessa Tomann

Poster Board #: 1083

**Influence of photo-induced polarons on excited-state dynamics in lead chloride perovskites**

(4196396)

Division of Physical Chemistry

Presenter(s): David Robert Graupner

Poster Board #: 1084

**Single-molecule infrared spectroscopy on Cu(100) with scanning tunneling microscopy**

(4203187)

Division of Physical Chemistry

Presenter(s): Kangkai Liang

Poster Board #: 1085

**Division of Polymeric Materials Science and Engineering (PMSE)**

**Thiol-ene resins for additive manufacturing by heating at a patterned photothermal interface**

(4180138)

Division of Polymeric Materials Science and Engineering

Presenter(s): Hayoung Yi

Poster Board #: 1037

**Understanding the drug interactions with elastin-like peptides and collagen-like peptides**

(4191946)

Division of Polymeric Materials Science and Engineering

Presenter(s): Nina Borodin

Poster Board #: 1038

**Imide-linked porous organic polymers for loading, controlled release and sensing of antibacterial drugs**

(4192611)

Division of Polymeric Materials Science and Engineering

Presenter(s): Rasha Diab | Fatima Mahroos

Poster Board #: 1039

**Development of the cellulose nanofiber-Ti<sub>3</sub>C<sub>2</sub>T<sub>x</sub> MXene composite membranes: Structural colors at the microscale**



(4177288)

Division of Polymeric Materials Science and Engineering

Presenter(s): Laura Mae Killingsworth

Poster Board #: 1040

### **Preparation of curcumin-doped metal-organic framework, UiO-66, for applications in cancer therapy**

(4182427)

Division of Polymeric Materials Science and Engineering

Presenter(s): Daizeiona Finley

Poster Board #: 1041

### **Synthesis and characterization of Norbornene-based bottlebrush polymers and gels**

(4184906)

Division of Polymeric Materials Science and Engineering

Presenter(s): Nicole Fang

Poster Board #: 1042

### **Programmable release of antibody from Oxanorbornadiene-based injectable hydrogels**

(4186294)

Division of Polymeric Materials Science and Engineering

Presenter(s): Xi Ying

Poster Board #: 1043

### **Accelerated hydrolytic degradability of polyester thermosets from birch bark**

(4186528)

Division of Polymeric Materials Science and Engineering

Presenter(s): Sophia Harrill

Poster Board #: 1044

### **Unlocking the potential of biopolymer extraction for the development of a hybrid hydrogel dressing with future applications in wound healing**

(4186835)

Division of Polymeric Materials Science and Engineering

Presenter(s): odette Adhara orrego amico

Poster Board #: 1067

### **Development of CD-PDA hybrid composites for enhanced antimicrobial activity in textiles**

(4188567)

Division of Polymeric Materials Science and Engineering

Presenter(s): Mohammed Ausaaf Ausaaf Akram

Poster Board #: 1068

### **Exploring the mechanical and physical properties of ultra-soft colloidal microgels**

(4189059)

Division of Polymeric Materials Science and Engineering

Presenter(s): Hatte Hamilton

Poster Board #: 1069

### **Development of fluorescent high-density collagen gels for tracking cellular turnover of collagen during hierarchical fiber formation**

(4190237)

Division of Polymeric Materials Science and Engineering

Presenter(s): Graceyn Martin

Poster Board #: 1070

### **Enhanced properties of**

**polymerized garlic essential oil  
with plant extracts and elemental  
sulfur**

(4190359)

Division of Polymeric Materials Science and  
Engineering

Presenter(s): Veronica Miller

Poster Board #: 1071

**Production of extracellular vesicles  
from mammalian cells modulated  
by a biomimetic surface**

(4190424)

Division of Polymeric Materials Science and  
Engineering

Presenter(s): Ariel Wilson-Gray

Poster Board #: 1072

**Progress towards the evaluation of  
biobased polyesters in additive  
manufacturing**

(4190674)

Division of Polymeric Materials Science and  
Engineering

Presenter(s): Jillian Rae Oncay

Poster Board #: 1073

**Surface functionalization of metal-  
organic frameworks by click  
reaction**

(4191081)

Division of Polymeric Materials Science and  
Engineering

Presenter(s): Shiqi Lai

Poster Board #: 1074

**Tuning crystallinity and uncovering  
the role of the electrolyte in  
organic mixed conductor  
polythiophenes with carboxyl-alkyl**

**side chains**

(4191183)

Division of Polymeric Materials Science and  
Engineering

Presenter(s): Delaney E Miller

Poster Board #: 1086

**Investigating impacts of E/Z  
backbone stereochemistry on  
functional polymer properties**

(4191365)

Division of Polymeric Materials Science and  
Engineering

Presenter(s): Leonardo C Romero | Claire Boege

Poster Board #: 1087

**Greener synthesis of peptoids with  
varying hydrophobic monomers  
for the formation of peptoid nano-  
sandwich**

(4192038)

Division of Polymeric Materials Science and  
Engineering

Presenter(s): Raquel Dueñas

Poster Board #: 1088

**Developing sequence design rules  
for peptoids capable of assembly  
into nano-sandwiches**

(4192055)

Division of Polymeric Materials Science and  
Engineering

Presenter(s): Sasha Stark

Poster Board #: 1089

**Optimizing the solid-phase  
synthesis of amphiphilic peptoid  
sequences for the assembly of gold  
embedded nanosheets**

(4192061)

Division of Polymeric Materials Science and Engineering

Presenter(s): Khadija Amir

Poster Board #: 1090

**Synthesis of biodegradable epoxy resins via dehydrohalogenation reaction with bipolar membrane electro dialysis**

(4192562)

Division of Polymeric Materials Science and Engineering

Presenter(s): Iga Bartlomiejczyk

Poster Board #: 1091

**Investigation of substitution heterogeneity on acetal-modified dextran through use of selectively modified monomer**

(4192745)

Division of Polymeric Materials Science and Engineering

Presenter(s): Natalia Pollock-O'Dorisio

Poster Board #: 1092

**Synthesis and characterization of novel green plastics THF and THP modified dextran**

(4192852)

Division of Polymeric Materials Science and Engineering

Presenter(s): Illia Kawash-Cooper

Poster Board #: 1093

**Enhanced water absorption of polysulfides attributable to hydrophilic cross-linkers and Porogens**

(4192946)

Division of Polymeric Materials Science and Engineering

Division of Polymeric Materials Science and Engineering (PMSE)

99

Presenter(s): Mayra Lozano | Austin Pepin

Poster Board #: 1094

**Fabrication & chemistry of sustainable, electrically conductive biocomposites**

(4193211)

Division of Polymeric Materials Science and Engineering

Presenter(s): Jesse Roman

Poster Board #: 1095

**Polymeric hydrogel skin scaffold degradation analysis of varying pH and temperature**

(4193906)

Division of Polymeric Materials Science and Engineering

Presenter(s): Eliza Atkinson

Poster Board #: 1096

**Investigation on morphologies of pH-responsive acetal-modified-dextran-block-mPEG self-assembled nanostructures for targeted drug delivery**

(4194470)

Division of Polymeric Materials Science and Engineering

Presenter(s): Xinran Peng

Poster Board #: 1097

**Effectiveness process separation of polymer additives from the poly(methyl methacrylate) wastes using Glyme solvent**

(4194912)

Division of Polymeric Materials Science and Engineering

Presenter(s): Michal Rabiej

Poster Board #: 1098

**Can transconductance of organic electrochemical transistors (OECTs) be enhanced by in-channel incorporation of ionic liquids**

(4195337)

Division of Polymeric Materials Science and Engineering

Presenter(s): KAITOCHUKWU JOSHUA CHUKWUKA

Poster Board #: 1099

**Bimetallic MOF-siloxane hybrid composite materials as photocatalysts**

(4196217)

Division of Polymeric Materials Science and Engineering

Presenter(s): Amanda Anderson

Poster Board #: 1123

**Harnessing nature's design: Investigation of proteins as sustainable build materials**

(4196350)

Division of Polymeric Materials Science and Engineering

Presenter(s): Daria Rudykh

Poster Board #: 1124

**Creation of degradable plant pots using Bourbon distillation waste products**

(4196865)

Division of Polymeric Materials Science and Engineering

Presenter(s): Annie Miloser

Poster Board #: 1125

**Impact of charge, binding region, and co-assembly on intrinsic fluorescence of peptide**

Division of Polymeric Materials Science and Engineering (PMSE)

100

**amphiphile nanofibers**

(4199014)

Division of Polymeric Materials Science and Engineering

Presenter(s): Liselotte Anna Ryan

Poster Board #: 1126

**Leveraging hydrophobic and hydrogen bonding interactions to synthesize novel molecularly imprinted polymeric nanoparticles for PFAS sensor development**

(4199173)

Division of Polymeric Materials Science and Engineering

Presenter(s): Antonio Moore

Poster Board #: 1127

**Greener synthesis and shape-dependent degradation of Polynorbornenes**

(4191346)

Division of Polymeric Materials Science and Engineering

Presenter(s): Greyson Karis-Sconyers | Britney Baez

Poster Board #: 1128

**Terminal-selective arylation of polyethylene**

(4191371)

Division of Polymeric Materials Science and Engineering

Presenter(s): Julia Kim

Poster Board #: 1129

**Incorporating reactive "Trojan horse" units for facile depolymerization of polyethylene terephthalate**

(4198532)

Division of Polymeric Materials Science and Engineering

Presenter(s): Aadhi Subbiah

Poster Board #: 1130

### **Plastic's Achilles Heel: Selectively Triggered chemical depolymerization of PET**

(4198962)

Division of Polymeric Materials Science and Engineering

Presenter(s): Samuel Alexander Stewart Chambers

Poster Board #: 1131

### **Terminal-selective amination of polyethylene**

(4199018)

Division of Polymeric Materials Science and Engineering

Presenter(s): Pierre Lahaie-Boivin

Poster Board #: 1132

### **Tailoring high hardness and rigidity in thermoplastic polyurethanes**

(4191412)

Division of Polymeric Materials Science and Engineering

Presenter(s): Aanchal Jaisingh

Poster Board #: 1133

### **Hybrid synthesis of bottlebrush DNA polymers for direct visualization at fluid–solid interfaces**

(4193723)

Division of Polymeric Materials Science and Engineering

Presenter(s): Michael Burroughs

Poster Board #: 1134

### **Tailored surface texturing of 3D-**

Division of Polymeric Materials Science and Engineering (PMSE)

101

### **printed superhydrophobic polylactic acid for efficient oil-water separation**

(4197333)

Division of Polymeric Materials Science and Engineering

Presenter(s): Reymark D Maalihan

Poster Board #: 1135

### **Development of First-in-Class polymer nanoparticles of Romidepsin for Peripheral T cell Lymphoma**

(4197461)

Division of Polymeric Materials Science and Engineering

Presenter(s): Deepthi Damera

Poster Board #: 1136

### **Conductive block copolymer elastomers and psychophysical thresholding for accurate haptic effects**

(4193920)

Division of Polymeric Materials Science and Engineering

Presenter(s): Rachel Blau

Poster Board #: 1137

### **Universal interfacial strategy enabling ultra-robust hydrogel-elastomer hybrids for extreme epidermal bio-monitoring**

(4187204)

Division of Polymeric Materials Science and Engineering

Presenter(s): Zibi Wang

Poster Board #: 1139

### **Organic electrochemical sensors**

### **for selective phosphate sensing**

(4189790)

Division of Polymeric Materials Science and Engineering

Presenter(s): Siqi Yu

Poster Board #: 1140

### **Syntheses of luminescent alginate hydrogels using pre-coordinated lanthanide complexes**

(4192362)

Division of Polymeric Materials Science and Engineering

Presenter(s): Su Yu Chia

Poster Board #: 1141

### **Synthesis of butadiene-derived polyolefin graft copolymers and their crystallization kinetics**

(4192753)

Division of Polymeric Materials Science and Engineering

Presenter(s): Jin Qian

Poster Board #: 1142

### **Environment-sensitive degradation of poly(anhydride-ester)s for controlled bioactive release with potential agricultural application**

(4197812)

Division of Polymeric Materials Science and Engineering

Presenter(s): Md Ragib Hasan

Poster Board #: 1143

### **Measurement of kinetically arrested phase separation using resonant soft X-ray scattering**

(4194888)

Division of Polymeric Materials Science and Engineering

Presenter(s): Camille Bishop

Division of Polymeric Materials Science and Engineering (PMSE)

102

Poster Board #: 1144

### **Multiscale simulation techniques to understand the structure-property relationships of next-generation battery materials**

(4197328)

Division of Polymeric Materials Science and Engineering

Presenter(s): Vaidyanathan Sethuraman

Poster Board #: 1145

### **Pioneering the synergy between chemistry and mechanics for advanced applications in mechanical sensing, biomaterials, and biomedical imaging**

(4198040)

Division of Polymeric Materials Science and Engineering

Presenter(s): Xiaocun Lu

Poster Board #: 1146

### **Effect of augmentin-coated silver nanoparticles on biological and mechanical properties of orthodontic bracket cement**

(4192650)

Division of Polymeric Materials Science and Engineering

Presenter(s): Arfa Ahmed

Poster Board #: 1147

### **Swelling-shrinking behavior of a CO<sub>2</sub>-switchable hydrogel**

(4183841)

Division of Polymeric Materials Science and Engineering

Presenter(s): Melissa B. Gordon

Poster Board #: 1148

**Amphiphilic macromolecules-based nanotechnology to inhibit neuroinflammation in Alzheimer's disease**

(4197468)

Division of Polymeric Materials Science and Engineering

Presenter(s): Umme Tamima

Poster Board #: 1149

**Division of Polymer Chemistry (POLY)**

**Effect of molar mass of Poly(2-oxazoline) based glycopolymers on lectin binding**

(4179844)

Division of Polymer Chemistry

Presenter(s): Caitlin Nutting

Poster Board #: 1150

**Poly(2-alkyl-2-oxazoline)-based copolymer library with a thermoresponsive behavior in dodecane**

(4179860)

Division of Polymer Chemistry

Presenter(s): Zivani Varanaraja

Poster Board #: 1151

**Treatment of triple negative breast cancer brain metastases via multi-agent poly(2-oxazoline) micelles**

(4187818)

Division of Polymer Chemistry

Presenter(s): Hallie Hutsell

Poster Board #: 1152

**Self-assembly and drug encapsulation of Amphiphilic Poly(2-Ethyl-2-Oxazoline)-b-Poly(2-Isostearyl-2-Oxazoline) block copolymers**

(4188675)

Division of Polymer Chemistry

Presenter(s): James Lefley

Poster Board #: 1153

**Metal-coordination reinforced poly(2-isopropenyl-2-oxazoline) hydrogels**

(4191190)

Division of Polymer Chemistry

Presenter(s): Kaiming Zhang

Poster Board #: 1154

**Post-polymerization functionalization of bio-based nylon 6,6: Tailoring thermo-mechanical properties through surface crosslinking**

(4178991)

Division of Polymer Chemistry

Presenter(s): Siddhant Bhardwaj

Poster Board #: 1155

**Pseudo-polysaccharides synthesis via cationic polymerization of Thionocarbonate monosaccharide**

(4189149)

Division of Polymer Chemistry

Presenter(s): Nachuan Jiang | Jia Niu

Poster Board #: 1156

**Synthesis of water soluble polysulfides through inverse vulcanization and their application**

### **in heavy metal removal**

(4190411)

Division of Polymer Chemistry  
Presenter(s): William C Kimball  
Poster Board #: 1181

### **Tuning redox activity in phenothiazine-based polyaniline derivatives: A study of synthesis and electrochemical properties**

(4197615)

Division of Polymer Chemistry  
Presenter(s): Hari Giri  
Poster Board #: 1182

### **From waste to wealth: Sustainable valorization of polycondensation polymers into functional materials**

(4198170)

Division of Polymer Chemistry  
Presenter(s): Mousumi Rani Bepari | Jason Edward Bara  
Poster Board #: 1183

### **Preparation and characterization of thin film networks based upon poly (styrene sulfonate)**

(4198050)

Division of Polymer Chemistry  
Presenter(s): Nasrin Samadiani  
Poster Board #: 1184

### **Counter-intuitive behavior of azobenzene functionalized polyacrylamides in aqueous solution**

(4180801)

Division of Polymer Chemistry  
Presenter(s): René Steinbrecher  
Poster Board #: 1185

### **Generation and 2D NMR analysis of blocky sulfonated PEEK with multiple Sulfonations per sulfonated monomer**

(4188259)

Division of Polymer Chemistry  
Presenter(s): Mark McCrary  
Poster Board #: 1186

### **Effect of chain architecture and molecular weight on the chain scission of block copolymers at high strain rate**

(4197242)

Division of Polymer Chemistry  
Presenter(s): PARTH VAGHOLKAR  
Poster Board #: 1187

### **DMAx: A high-throughput computational tool for dynamic mechanical analysis**

(4198707)

Division of Polymer Chemistry  
Presenter(s): Ricardo Silva Buarque  
Poster Board #: 1188

### **Inorganic click (iClick) mediated gold functionalization of polystyrene: Lighting up polystyrene with phosphorescence**

(4184969)

Division of Polymer Chemistry  
Presenter(s): Sohel Ahmed  
Poster Board #: 1189

### **Formulation, 3D printing, and properties of additively manufactured polychloroprene using thiol-ene click chemistry**

(4185318)



Division of Polymer Chemistry  
Presenter(s): Maren Summers  
Poster Board #: 1190

**Mechanochemical synthesis of poly(3,4-propylenedioxythiophene) (PProDOT) analogues at room temperature**

(4186614)  
Division of Polymer Chemistry  
Presenter(s): Tanzida Zubair  
Poster Board #: 1191

**Effective biodegradable amphiphilic polycaprolactone micelles for drug delivery applications**

(4189239)  
Division of Polymer Chemistry  
Presenter(s): Tejas Shah  
Poster Board #: 1192

**Blocky sulfonation of poly(ether ether ketone) to promote formation of highly conductive ionomer membranes**

(4198713)  
Division of Polymer Chemistry  
Presenter(s): Kira Roane Baugh  
Poster Board #: 1193

**Rapid and nontoxic 3D cell encapsulation using beta-thiolactone-mediated native chemical ligation**

(4190121)  
Division of Polymer Chemistry  
Presenter(s): Matthew Currier  
Poster Board #: 1194

**Design and fabrication of customizable chemically-responsive polymer networks by post-polymerization modification**

(4192084)  
Division of Polymer Chemistry  
Presenter(s): Kendra Flanigan  
Poster Board #: 1196

**Using direct-ink write printing to create mechanically robust scaffolds using thiol-based cyclobutadiene mechanophore chemistries**

(4199466)  
Division of Polymer Chemistry  
Presenter(s): Samina Yasmeen  
Poster Board #: 1197

**Stimuli-responsive virus hydrogel scaffolds**

(4205338)  
Division of Polymer Chemistry  
Presenter(s): Jorge Leganes Leganes  
Poster Board #: 1198

**Mechanochemically labile crosslinkers and their effect on abrasive wear of elastomer networks**

(4205363)  
Division of Polymer Chemistry  
Presenter(s): Anthony Mack  
Poster Board #: 1199

**Stable perovskite nanocrystals to overcome the stability photocatalysis trade-off in aqueous photo-RAFT**

## **polymerization**

(4183668)

Division of Polymer Chemistry

Presenter(s): Chengli Wang | Yanjie He

Poster Board #: 1200

## **Probing the impact of side-chain functionality on the sulfonation-based crosslinking and carbonization of fatty-acid based precursors**

(4177953)

Division of Polymer Chemistry

Presenter(s): Demeria Moore

Poster Board #: 1201

## **Kinetic investigations in functionalizing lignin-based polymers**

(4183681)

Division of Polymer Chemistry

Presenter(s): Christina Zhang

Poster Board #: 1202

## **Poly(propylene-oxide)-based benzoxazine blends: Improving processability in benzoxazine composites**

(4185727)

Division of Polymer Chemistry

Presenter(s): Sophia Newcomer

Poster Board #: 1203

## **Uncontrolled fluorogenic radical polymerization for biomolecular detection**

(4186664)

Division of Polymer Chemistry

Presenter(s): Isabela Castillo

Poster Board #: 1204

## **Fluoropolymer silica nanoparticle composites for additive manufacturing of piezoelectric materials**

(4187601)

Division of Polymer Chemistry

Presenter(s): Julia C. Desormeaux

Poster Board #: 1205

## **Optimizing the bioactive modification of alginate films for mesenchymal stem cell proliferation**

(4188937)

Division of Polymer Chemistry

Presenter(s): Wakana Kani

Poster Board #: 1206

## **Styrenic star polymers incorporating a range of comonomers via RAFT**

(4189258)

Division of Polymer Chemistry

Presenter(s): Jacob A. Bryant

Poster Board #: 1207

## **Synthesis and characterization of single-ion copolymer electrolytes for use in lithium-ion batteries**

(4191071)

Division of Polymer Chemistry

Presenter(s): Camilee Boland

Poster Board #: 1208

## **Influence of impurities on network formation and resulting properties of polybenzoxazines**

(4191129)

Division of Polymer Chemistry

Presenter(s): Riley Donahue

Poster Board #: 1209

### **Synthesis and properties of ionene polymers for use in applications**

(4195011)

Division of Polymer Chemistry  
Presenter(s): Jacob Alan Fulcher  
Poster Board #: 1210

### **Establishing a controlled polymerization protocol for epsilon-caprolactone**

(4195732)

Division of Polymer Chemistry  
Presenter(s): Tapiwa Gono Phiri  
Poster Board #: 1211

### **Tailoring the morphology of block copolymers via solvent-vapor annealing**

(4196028)

Division of Polymer Chemistry  
Presenter(s): Bayleigh Loving  
Poster Board #: 1212

### **Click chemistry: Determining the effect chitosan plays on the physicochemical properties of poly(arylene ether)- based glycopolymer for reverse osmosis**

(4196464)

Division of Polymer Chemistry  
Presenter(s): Arianna Malon Davis  
Poster Board #: 1213

### **Sustainable polyesters from CO<sub>2</sub> and butadiene: Synthesis and polymerization of EVP-derived monomers**

(4197804)

Division of Polymer Chemistry

Division of Polymer Chemistry (POLY)

Presenter(s): Audrey Surdell

Poster Board #: 1214

### **Comparison of SEC-MALS analysis strategies for the molecular weight of organic plastics**

(4198267)

Division of Polymer Chemistry  
Presenter(s): Mustafa Khayam  
Poster Board #: 1215

### **Stepwise monomer synthesis and click chemistry: a powerful tool for dendrimer functionalization**

(4199114)

Division of Polymer Chemistry  
Presenter(s): Arianna Chisum  
Poster Board #: 1216

### **Improving mechanical properties of polyglycerol carbonates via photo-crosslinking**

(4176818)

Division of Polymer Chemistry  
Presenter(s): Sophie Kelly  
Poster Board #: 1217

### **Thermoreversible apparel adhesives to enable sustainable garment assembly**

(4179856)

Division of Polymer Chemistry  
Presenter(s): Daniel MacKinnon  
Poster Board #: 1218

### **Polymers under pressure: Baroplastics for a circular plastics economy**

(4179857)

Division of Polymer Chemistry  
Presenter(s): Magdalena Godzina

Poster Board #: 1219

**Recyclable high-performance thermosets with generation invariant material properties**

(4185322)

Division of Polymer Chemistry  
Presenter(s): Zhenchuang Xu  
Poster Board #: 1220

**Oxidative upcycling of post-consumer polyethylene into dicarboxylic acids**

(4193623)

Division of Polymer Chemistry  
Presenter(s): Nishka Edlabadkar  
Poster Board #: 1221

**Efficient upcycling of plastic waste: repolymerization and value-added product formation**

(4195858)

Division of Polymer Chemistry  
Presenter(s): Shelby Watson-Sanders  
Poster Board #: 1222

**Vitrimeric polycaprolactone networks for sustainable 3D printing applications**

(4196411)

Division of Polymer Chemistry  
Presenter(s): Khushi Garg  
Poster Board #: 1223

**Depolymerization of polymethacrylates synthesized via ATRP**

(4196991)

Division of Polymer Chemistry  
Presenter(s): Ferdinando De Luca Bossa  
Poster Board #: 1224

**Sustainable production of linear alkylbenzene via tandem catalysis from waste polyethylene**

(4198484)

Division of Polymer Chemistry  
Presenter(s): Rudan Feng  
Poster Board #: 1225

**Explorations of the silicone lifecycle loop with chemical recycling processes**

(4199006)

Division of Polymer Chemistry  
Presenter(s): Joseph C Furgal | Andrew Deller  
Poster Board #: 1226

**Topology-accelerated and selective cascade depolymerization of architecturally complex polyesters**

(4172579)

Division of Polymer Chemistry  
Presenter(s): Changxia Shi  
Poster Board #: 1227

**From vanillin to concrete plasticizers: An innovative path through ADMET polymerization**

(4174241)

Division of Polymer Chemistry  
Presenter(s): Sami Fadlallah  
Poster Board #: 1228

**Development of bio-inspired glycopolymer for efficient heavy metal trapping and rare earth element separation**

(4185661)

Division of Polymer Chemistry  
Presenter(s): Sungjin Jeon

Poster Board #: 1229

**Using biocompatible focused ultrasound to control mechanochemical reactions for targeted drug delivery applications**

(4187898)

Division of Polymer Chemistry

Presenter(s): Stella Meng Luo

Poster Board #: 1230

**Polypropylene covalent adaptable networks with full property recovery after reprocessing: Development by free-radical reactive processing with a resonance-stabilized divinyl crosslinker**

(4188388)

Division of Polymer Chemistry

Presenter(s): Yen-Wen Huang

Poster Board #: 1231

**Catalyst-free dynamic bonds for covalent adaptable networks**

(4190861)

Division of Polymer Chemistry

Presenter(s): Vy Nguyen

Poster Board #: 1232

**Immiscible polymer blend compatibilization through pendant ionic interactions**

(4191989)

Division of Polymer Chemistry

Presenter(s): Haley Beech

Poster Board #: 1233

**Recycling frontally polymerized thermosets and composites via**

**direct ink writing 3D printing**

(4197633)

Division of Polymer Chemistry

Presenter(s): Edgar B Mejia

Poster Board #: 1234

**Tuning the dissolution and UV mutagenesis of bacterial nanocellulose using facile techniques**

(4173750)

Division of Polymer Chemistry

Presenter(s): Aurelio Cultivo Cabo

Poster Board #: 1235

**Division of Small Chemical Businesses (SCHB)**

**Investing in chemistry with the chemical Angels**

(4177350)

Division of Small Chemical Businesses

Presenter(s): Ryan Smith

Poster Board #: 1258

**Startup journey: Design and development of a novel real-time chemical tracking system**

(4192195)

Division of Small Chemical Businesses

Presenter(s): Kyle L Kimmel

Poster Board #: 1259

**Small chemical business targeting critical minerals Our story**

(4179689)

Division of Small Chemical Businesses

Presenter(s): Maoqi Feng

Poster Board #: 1260

**Raman spatial heterodyne  
spectroscopy and the SBIR  
program: From breadboard to  
prototype**

(4182380)

Division of Small Chemical Businesses

Presenter(s): Katharine Lunny

Poster Board #: 1261

**From water to hydrogen:  
advancing solar-driven metal oxide  
catalysts for sustainable energy  
solutions**

(4195460)

Division of Small Chemical Businesses

Presenter(s): Sajid Bashir | Jingbo Louise Liu

Poster Board #: 1262

**Novel development of  
nanomaterials for a low parts-per-  
billion formaldehyde sensor**

(4199304)

Division of Small Chemical Businesses

Presenter(s): Michael Brian Frank

Poster Board #: 1263