

ACS FALL 2025 Sci-Mix Presentations

AUGUST 18, 2025, 8-10 PM EST

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Division of Agricultural and Food Chemistry (AGFD)

Evaluation of the chromium contamination level in human foodstuffs by newly developed Microextraction method

(4313055)

Division of Agricultural and Food Chemistry
Presenter(s): Jamshed Ali
Poster Board #: 100

Development of a rapid and minimally destructive method for the quantification of Arsenic in rice-based foods utilizing X-ray fluorescence spectroscopy

(4301303)

Division of Agricultural and Food Chemistry
Presenter(s): Murphy Carroll
Poster Board #: 101

Multiplex xMAP food allergen detection assay method: Is it ready for prime time?

(4317942)

Division of Agricultural and Food Chemistry
Presenter(s): Prasad Rallabhandi
Poster Board #: 120

Targeted proteomics method to assess allergen content of oil after roasting peanuts

(4313297)

Division of Agricultural and Food Chemistry
Presenter(s): Robert Beverly
Poster Board #: 121

Exploring the chemical profile of Mānuka honey mead

(4317067)

Division of Agricultural and Food Chemistry
Presenter(s): Claire Webster
Poster Board #: 122

Hop polyphenols: Investigations into their bioactive and sensory properties

(4304361)

Division of Agricultural and Food Chemistry
Presenter(s): Duncan Calvert
Digital Screen #: D02

Geographical, genetic, and environmental factors shape the volatile organic compounds that determine fruit quality and aroma

(4314246)

Division of Agricultural and Food Chemistry
Presenter(s): Bhimu Patil
Poster Board #: 124

Insight into dynamic volatile changes during solid state fermentation of oat: A comparison of *Rhizopus oligosporus* and their co-inoculation with *Lactiplantibacillus plantarum*

(4323048)

Division of Agricultural and Food Chemistry
Presenter(s): Stella Green
Poster Board #: 125

Chinese culinary herb *Houttuynia cordata*: Decoding the major odor-

active compounds of its fresh rhizomes and leaves

(4302401)

Division of Agricultural and Food Chemistry

Presenter(s): Zhenli Xu

Poster Board #: 126

Decoding peanut flavor: A metabolomics approach combined with machine learning modeling

(4312652)

Division of Agricultural and Food Chemistry

Presenter(s): Namhee Lee

Poster Board #: 127

Using a widely targeted GC-MS/MS approach to aid in the development of new, consumer preferred varieties of mango in Florida

(4320847)

Division of Agricultural and Food Chemistry

Presenter(s): Miguel Vasconez

Poster Board #: 128

Investigating physicochemical interactions of sensory stimuli with proteins

(4325697)

Division of Agricultural and Food Chemistry

Presenter(s): Yashmita Grover

Poster Board #: 129

Impact of kokumi active dietary γ -glutamyl valine (γ -EV) on gut microbiota and its potential to alleviate high-fat diet-induced atherosclerosis

(4318054)

Division of Agricultural and Food Chemistry

Presenter(s): Kaustav Majumder

Poster Board #: 130

Impact of plant vs. animal proteins on the gut microbiome

(4319334)

Division of Agricultural and Food Chemistry

Presenter(s): Lauri Byerley

Digital Screen #: D03

PFAS exposure alters the metabolism of rhizosphere microbiome bacteria

***Pseudomonas protegens* at environmentally relevant concentrations**

(4321814)

Division of Agricultural and Food Chemistry

Presenter(s): Amanda May

Poster Board #: 132

Advancing microbiome metabolomics: A comparative study of LC-MS techniques and lipid integration for enhanced profiling

(4328365)

Division of Agricultural and Food Chemistry

Presenter(s): Katarina Jones

Poster Board #: 133

Enhance functional properties and fermentability of brewer's spent grain derived insoluble dietary fiber via subcritical water treatment

(4320850)

Division of Agricultural and Food Chemistry
Presenter(s): Jung Mun Yang
Poster Board #: 134

Mulberry fruit derived anthocyanins alleviate type 2 diabetes in db/db mice through modulation of gut microbiota and metabolomic pathways

(4322339)

Division of Agricultural and Food Chemistry
Presenter(s): Bongki Park
Poster Board #: 165

Utilizing fish waste as a sustainable nitrogen source for enhancing growth and metabolism regulation in *Bifidobacterium animalis* ssp. *lactis* BB-12

(4325591)

Division of Agricultural and Food Chemistry
Presenter(s): Huijuan Zhang
Poster Board #: 166

Germination enhances oat phytochemicals and anti-inflammatory effects against gut inflammation

(4320475)

Division of Agricultural and Food Chemistry
Presenter(s): Pei-Sheng Lee
Digital Screen #: D01

Wheat bran feruloylated arabinoxylan regulate bile acid metabolism through gut microbiota

(4321353)

Division of Agricultural and Food Chemistry
Presenter(s): Xi Chen
Poster Board #: 168

Novel plant-based meat analogues: Amino acid profile and its potential contribution to acrylamide (AA) formation

(4311493)

Division of Agricultural and Food Chemistry
Presenter(s): Chinaza Arinzechukwu
Poster Board #: 169

Maple syrup adulteration: Combining fluorescence fingerprints and machine learning for enhanced detection

(4317081)

Division of Agricultural and Food Chemistry
Presenter(s): Maleeka Singh
Poster Board #: 170

Seed priming with iron (Fe) and zinc (Zn) nanoparticles enhances germination, yield, and potential health-promoting attributes in tomato fruit

(4323784)

Division of Agricultural and Food Chemistry
Presenter(s): Deepak Jha
Poster Board #: 171

Pilot-scale production and extraction of medium-chain-length polyhydroxyalkanoates from waste cooking oil

(4301632)

Division of Agricultural and Food Chemistry

Presenter(s): Fujunzhu Zhao
Poster Board #: 172

From cattle feed to functional food: exploring phenolics in almond hulls

(4318739)
Division of Agricultural and Food Chemistry
Presenter(s): Veronica Sanchez Gonzalez
Poster Board #: 173

Comparative analysis of antioxidant capacity in Peaberry and regular Kona coffee: Effects of roasting

(4320763)
Division of Agricultural and Food Chemistry
Presenter(s): Cindy Duong
Poster Board #: 174

Novel UHPLC-(+ ESI) MS/MS method for determining 4-methylimidazole, 2-methylimidazole, 2-acetyl-4-(1,2,3,4-tetrahydroxybutyl)imidazole, and 5-hydroxymethylfurfural in caramel colorant-containing foods and exposure assessment in the Korean population

(4323701)
Division of Agricultural and Food Chemistry
Presenter(s): Woojin Jang
Poster Board #: 175

Degradation of glyphosate by atmospheric cold plasma jet and

quantification of fragments in the water system

(4326266)
Division of Agricultural and Food Chemistry
Presenter(s): Muhammad Nazrul Islam
Poster Board #: 176

Screening azo dyes linked to allergic reactions in confectionary products using MALDI-8030 mass spectrometry

(4327632)
Division of Agricultural and Food Chemistry
Presenter(s): Dominika Gruszecka
Poster Board #: 177

PFAS risk from beverage packaging: A simple approach using HS-SPME GC/MS/MS for volatile contaminant analysis

(4327778)
Division of Agricultural and Food Chemistry
Presenter(s): Dominika Gruszecka
Poster Board #: 178

Development of biodegradable antimicrobial cellulose-based biopads for improving strawberry quality during simulated transportation and storage

(4278972)
Division of Agricultural and Food Chemistry
Presenter(s): Chieh-Yi Lin
Poster Board #: 179

In vitro and ex vivo methods for assessing the effect of agriceuticals on the gut microbiota

(4326209)

Division of Agricultural and Food Chemistry

Presenter(s): Lin Liu

Poster Board #: 180

**Small solutions to a huge problem:
The potential of cellulose
microfibers and nano zerovalent
iron to reduce heavy metal uptake
in food crops**

(4325621)

Division of Agricultural and Food Chemistry

Presenter(s): Sudhir Sharma

Poster Board #: 181

**Division of Agrochemicals
(AGRO)**

**Smart nano biopesticides:
Engineered diatom biogenic silica
with essential oils for Fusarium
disease control**

(4278563)

Division of Agrochemicals

Presenter(s): Sumit Dhali

Poster Board #: 182

**Adsorption behavior of pore-
expanded MCM-41 with
imidacloprid to reveal its potential
for controlled release**

(4300183)

Division of Agrochemicals

Presenter(s): Saifullah Omar Nasif

Poster Board #: 183

Revolutionizing soybean fungal

**disease management strategies
with enhanced efficacy of spray
induced gene silencing**

(4304588)

Division of Agrochemicals

Presenter(s): Sunira Marahatta

Poster Board #: 184

**Developing a mechanistic model to
predict the selection rate of
antifungal resistance in critically
important human fungal
pathogens**

(4312470)

Division of Agrochemicals

Presenter(s): Tharacad Ramanarayanan

Poster Board #: 185

**Effects of metallic oxide
nanoparticles on lettuce seedlings
in biochar-amended soil**

(4318396)

Division of Agrochemicals

Presenter(s): Ying Zhang

Poster Board #: 186

**Total organofluorine analysis of
surface water samples in an
agricultural watershed by NMR
and CIC**

(4327114)

Division of Agrochemicals

Presenter(s): Damalka Balasuriya

Poster Board #: 187

**Evaluation of models to assess
leachability of pesticides into
groundwater in Hawaii**

(4336828)

Division of Agrochemicals

Presenter(s): Kenneth Axelbank

Poster Board #: 189

Development of pesticide in water calculator Hawaiian scenario for pesticide leachability assessment

(4336836)

Division of Agrochemicals

Presenter(s): Zhang Hoi Lam

Poster Board #: 190

Evaluation of Anthonomus eugenii, pepper weevil, pheromone as potential field management strategy

(4300185)

Division of Agrochemicals

Presenter(s): Jessica Griesheimer

Poster Board #: 191

Soil legacy effects on plant defense chemistry

(4318035)

Division of Agrochemicals

Presenter(s): Sujay Paranjape

Poster Board #: 192

Combining single cell transcriptomics and proteomics to identify novel antifeedant targets in the southern green stink bug

(4326668)

Division of Agrochemicals

Presenter(s): Flinn OHara

Poster Board #: 193

Utilizing optogenetic technology to

characterize insect muscle physiology

(4327825)

Division of Agrochemicals

Presenter(s): Sarah McComic

Poster Board #: 194

Discovery of novel inward rectifier potassium channel inhibitors via in silico screening for antifeedant aphicides

(4328477)

Division of Agrochemicals

Presenter(s): Alexandra Cremades

Poster Board #: 195

FTIR Spectral Analysis of plant proteins and correlation with functional properties

(4305432)

Division of Agrochemicals

Presenter(s): Janvi Patel

Poster Board #: 196

Harnessing multiple-enzyme potential in mango peel-adapted microbial fermentation for sustainable glycosidase production

(4324886)

Division of Agrochemicals

Presenter(s): John Dzikunoo

Poster Board #: 243

Machine learning enabled microneedle-based colorimetric pH sensing patch for meat spoilage detection and wound health monitoring

(4300288)

Division of Agrochemicals
Presenter(s): Sachin Kadian
Poster Board #: 244

Effect of steel slag on plant growth parameters of field crop using artificial soil

(4322059)

Division of Agrochemicals
Presenter(s): Meenal Singh
Poster Board #: 245

Sustainable soil management: The role of biochar-manure blends in mitigating greenhouse gas emissions and enhancing soil fertility

(4324125)

Division of Agrochemicals
Presenter(s): DeZarae Guthrie
Poster Board #: 246

Assessing the toxicity and risk of newer synthetic pesticides and biopesticides on monarch butterflies (*Danaus plexippus*)

(4310691)

Division of Agrochemicals
Presenter(s): Michael Adu-Brew
Poster Board #: 247

Evaluating machine learning guided spray drone applications in different crop productions

(4323812)

Division of Agrochemicals
Presenter(s): Navjot Singh
Poster Board #: 248

Assessing selective inhibitors for methane mitigation in rice ecosystems

(4311448)

Division of Agrochemicals
Presenter(s): Alesha Maxwell
Poster Board #: 249

Division of Analytical Chemistry (ANYL)

Novel, autonomous sampling and wet-chemical analysis platform for at-site environmental, industrial process, and agricultural monitoring

(4325790)

Division of Analytical Chemistry
Presenter(s): Charles Patton
Poster Board #: 250

Chemistry-centered flexible sensing and actuation systems for advanced human-machine interfaces

(4310130)

Division of Analytical Chemistry
Presenter(s): Jinghua Li
Poster Board #: 251

Reduced back-exchange and carryover with subzero temperature chromatography system for HDX-MS

(4323209)

Division of Analytical Chemistry
Presenter(s): Kyle Anderson
Digital Screen #: D04

Enhanced identification of PFAS by GC/MS: Expansion of mass spectral libraries, derivatization and new mechanisms

(4319360)
Division of Analytical Chemistry
Presenter(s): Yufang Zheng
Poster Board #: 253

“Molecular management” technology and philosophy driving high-quality development in petroleum refining: a case study of vanadium porphyrin compound characterization by FT-ICR MS

(4326256)
Division of Analytical Chemistry
Presenter(s): Xu Zhao
Poster Board #: 254

Simultaneous targeted and non-targeted PFAS screening as part of the extractables screening for pharmaceutical packaging, manufacturing components and medical device materials by a LC-HRMS method

(4328573)
Division of Analytical Chemistry
Presenter(s): Dujuan Lu
Poster Board #: 255

Screening, in silico modeling, and method scaling: A rapid approach

to develop a QC-friendly, LC method for a sulfone intermediate

(4299598)
Division of Analytical Chemistry
Presenter(s): Robert Sondrica | Menger Goines
Poster Board #: 256

Advancing 19F NMR spectroscopy for protein Characterization in living cells

(4318934)
Division of Analytical Chemistry
Presenter(s): Conggang Li
Poster Board #: 257

Evaluating the potential replacement of the argon-based inductively coupled plasma with a microwave-sustained, nitrogen supported inductively coupled plasma for the determination of 10 nutrient elements in foods by optical emission spectrometry

(4279967)
Division of Analytical Chemistry
Presenter(s): Jake Carter
Poster Board #: 258

Tools to explore complex glycoproteomics data

(4308423)
Division of Analytical Chemistry
Presenter(s): Nicholas Riley
Poster Board #: 259

Single step uracil-mediated LAMP-CRISPR[CW1] system for the visual detection of nucleic acids

(4323560)
Division of Analytical Chemistry
Presenter(s): Cui Wu
Poster Board #: 260

Cannabis breathalyzer development: Utility of vapor pressure measurements in the design of breath tests for large molecules

(4326757)
Division of Analytical Chemistry
Presenter(s): Jason Widegren
Poster Board #: 261

From discovery to development: Enhancing biotherapeutic characterization with MALDI-MS

(4309611)
Division of Analytical Chemistry
Presenter(s): Gregory Pirrone
Poster Board #: 262

Combining mass spectrometry and in silico tools for metabolite identification in Agrisciences

(4326823)
Division of Analytical Chemistry
Presenter(s): Chris Brown
Poster Board #: 263

Non-enzymatic amperometric sensors for hydrogen peroxide determination in cassava's oxidative spoilage using chitosan-stabilized nanoparticles-graphene oxide-modified electrodes

(4320720)
Division of Analytical Chemistry

Presenter(s): Adetoun Akitoye
Poster Board #: 264

Intervalence charge transfer, and exothermic and isoenergetic symmetry breaking charge separation in far-red capturing zinc phthalocyanine dimers

(4312229)
Division of Analytical Chemistry
Presenter(s): Ram Ratan Ratan
Poster Board #: 265

Novel fast analytical method for the determination of N-nitroso vonoprazan in vonoprazan tablets and raw materials using LC-ESI-MS/MS

(4299018)
Division of Analytical Chemistry
Presenter(s): Mohammad Abuothman
Poster Board #: 266

Ten years of the distributed pharmaceutical analysis laboratory (DPAL)

(4327193)
Division of Analytical Chemistry
Presenter(s): Marya Lieberman
Poster Board #: 267

Two-step colorimetric method for the detection of alpha keto acids

(4327569)
Division of Analytical Chemistry
Presenter(s): Shannon Hilton
Poster Board #: 268

Rotating disk slurry

**electrodeposition of Pt-transition
metal high entropy alloy
nanoparticles for oxygen reduction
reaction and ammonia oxidation
reaction in alkaline medium**

(4315449)

Division of Analytical Chemistry
Presenter(s): Suzatra Chatterjee
Poster Board #: 269

**Sulfur chemistry in the DART-MS
gas stream: Implications for the
interpretation of the mass spectra
of organic disulfides**

(4309511)

Division of Analytical Chemistry
Presenter(s): Benedetta Garosi
Poster Board #: 270

**Detection and identification of the
pyrolysis products of a major
Cannabis-derived cannabinoid:
Implications for unintended
exposure to xenobiotics**

(4306630)

Division of Analytical Chemistry
Presenter(s): Niara Nichols
Poster Board #: 271

**Diffusion imaging by structured
illumination microscopy
fluorescence recovery after
photobleaching (SIM-FRAP)**

(4303539)

Division of Analytical Chemistry
Presenter(s): Maura Wimsatt
Poster Board #: 272

**Development of analytical
methods to address the challenge
of substandard asparaginase**

(4316779)

Division of Analytical Chemistry
Presenter(s): Miriam Mike
Poster Board #: 273

**Ultrasensitive detection of
Nitrosamine impurities using
chemiluminescence detection and
insights into denitrosation
chemistry**

(4325189)

Division of Analytical Chemistry
Presenter(s): Skylar Wappes
Poster Board #: 274

**Understanding the role of
lysosomal membrane protein
(LAMP) family glycosylation in the
tumor microenvironment**

(4300825)

Division of Analytical Chemistry
Presenter(s): Valentina Rangel-Angarita
Poster Board #: 275

**High-performance sensing analysis
based on nucleic acid-based
constitutional dynamic networks**

(4322420)

Division of Analytical Chemistry
Presenter(s): Nina Lin
Poster Board #: 276

**Insights on using plastic-based
nanosensors with in-plane
nanopores and nanoscale**

enzymatic reactors for differentiation, shape determinations and peptide fingerprinting of single protein molecules

(4328115)

Division of Analytical Chemistry

Presenter(s): Suresh Shivanka Patabendi

Hangilige

Poster Board #: 277

Parametric study of ethylene vinyl alcohol pyrolysis using comprehensive two-dimensional gas chromatography

(4326912)

Division of Analytical Chemistry

Presenter(s): Praneetha Buddha

Poster Board #: 278

Multiplexed RNA detection via rapid single-step electrochemical and colorimetric sensing

(4310977)

Division of Analytical Chemistry

Presenter(s): Rahul Pandit Kumarchinchole

Poster Board #: 279

Fentanyl-induced alterations in mesolimbic neurotransmission and neuronal activity: A preclinical study

(4318210)

Division of Analytical Chemistry

Presenter(s): Greatness Olaitan

Poster Board #: 280

Electrochemical probing of

viscoelastic properties in BSA amyloid structures

(4315063)

Division of Analytical Chemistry

Presenter(s): Lei Wu

Poster Board #: 327

Lectin based surface interrogation scanning electrochemical microscopy platform for glycoprotein recognition

(4319176)

Division of Analytical Chemistry

Presenter(s): Micah Robinson

Poster Board #: 328

Enzyme-based in-situ interference elimination for enhanced electroenzymatic sensing

(4328070)

Division of Analytical Chemistry

Presenter(s): Kaiji Zhang

Poster Board #: 329

¹H-NMR spectroscopy-based metabolomics of Cinnamon tamala: Quantification and chemometrics analysis of volatiles

(4314307)

Division of Analytical Chemistry

Presenter(s): Ankur Kumar Tanwar

Poster Board #: 330

Design, model, manufacture, and validate water filtration and reclamation systems using substrates and nanostructured materials for Raman analysis

(4296079)
Division of Analytical Chemistry
Presenter(s): Carolay Sotomayor Martinez
Poster Board #: 331

Multiplexing fast-scan cyclic voltammetry and fluorescence microscopy to simultaneously detect dopamine and glutamate in the mouse nucleus accumbens

(4316394)
Division of Analytical Chemistry
Presenter(s): Eric Donarski
Poster Board #: 332

Fabrication of complex plasmonic hot nanocavities: Vertically stacked au quintuple nanorings for strongly enhanced near-field confinement

(4324311)
Division of Analytical Chemistry
Presenter(s): Hyunji Kim
Poster Board #: 333

Characterizing cisplatin-DNA interactions using HPLC-MS and guanine monophosphate models

(4324972)
Division of Analytical Chemistry
Presenter(s): Melanie Rodriguez
Poster Board #: 334

Analysis of renyi entropies and mean energies of donor impurity states in GaAs quantum dots using diverse computational methods

(4279918)
Division of Analytical Chemistry

Presenter(s): Blessed Akpan
Poster Board #: 335

Catch-and-display immunoassay (CAD-IA) for point-of-care diagnostics of traumatic brain injury

(4300131)
Division of Analytical Chemistry
Presenter(s): Yuxuan Liu
Poster Board #: 336

DNA nanopore sensor with adjustable ATP detection range by applied potential

(4319955)
Division of Analytical Chemistry
Presenter(s): Hiromu Akai
Poster Board #: 337

HPLC method development for the separation of N2'-Amide and N2'-Dithiocarbamate derivatives of emetine

(4326523)
Division of Analytical Chemistry
Presenter(s): Weldejeworgis Gebrehiwot
Poster Board #: 338

Application of fourier- transform infrared spectroscopy (FTIR) to fibre evidences in academic and legal case studies. A comparative study

(4300394)
Division of Analytical Chemistry
Presenter(s): Rafat Arotayo
Poster Board #: 339

Nonlinear multi-photon laser wave mixing spectroscopy for detecting S100B and CCL11 proteins in neurological disorders

(4302233)

Division of Analytical Chemistry

Presenter(s): Nino Shatirishvili

Poster Board #: 340

Rapid and sensitive detection of glyphosate in real-world environmental matrices using matrix-assisted laser desorption/ionization-time of flight mass spectrometry (MALDI-TOF MS)

(4303659)

Division of Analytical Chemistry

Presenter(s): Yanli Li

Poster Board #: 341

Single-molecule aptameric detection of foodborne pathogen *Staphylococcus aureus*

(4316685)

Division of Analytical Chemistry

Presenter(s): Chamika Algama

Poster Board #: 342

Division of Biological Chemistry (BIOL)

Detection of complement C3 activation using a fluorogenic convertase probe

(4326219)

Division of Biological Chemistry (BIOL)

Division of Biological Chemistry

Presenter(s): Maddelyn Hoehn

Poster Board #: 343

Chemical proteomics discovers new acetylation substrates in T-cell activation utilizing FSeDR

(4312542)

Division of Biological Chemistry

Presenter(s): Parmila Kafley

Poster Board #: 344

In-cell assembly of stapled peptides for targeting protein-protein interactions

(4321433)

Division of Biological Chemistry

Presenter(s): Michelle Hendricks

Poster Board #: 345

Enabling the synthesis of homogenous multi-drug loaded antibody-drug conjugates through the use of Pyridazinediones, anilines and click chemistry

(4324469)

Division of Biological Chemistry

Presenter(s): Clíona McMahon

Poster Board #: 346

Computational investigation of the binding of the pan-amyloid binding peptide p5+14 to a human λ 1 light chain amyloid fibril

(4303970)

Division of Biological Chemistry

Presenter(s): Cora Bishop

Poster Board #: 347

Semi-synthetic K-Ras4B protein via expressed protein ligation: A versatile platform for modifying Ras protein and investigating its biological behavior

(4319614)

Division of Biological Chemistry

Presenter(s): Jiayue HU

Poster Board #: 348

Investigating new methods for changing oncogene expression: An extensive analysis employing CRISPR/DCAs and G-quadruplexes terrace

(4326812)

Division of Biological Chemistry

Presenter(s): Mohammad Lutful Kabir

Poster Board #: 349

2D IR spectroscopy detects substrate analog interactions and dynamics in the SET7/9 methyltransferase active site

(4327391)

Division of Biological Chemistry

Presenter(s): Zafeiria Nektaria Nikolaidi

Poster Board #: 350

Utilizing phage display with genetic code expansion to discover peptide-based inhibitors of epigenetic reader proteins YEATS2

(4328187)

Division of Biological Chemistry

Presenter(s): Shivangi Sharma

Poster Board #: 351

Riboglow-FLIM: A quantitative tool to visualize RNA processes in live mammalian cells

(4302710)

Division of Biological Chemistry

Presenter(s): Bindu Modi

Poster Board #: 352

Understanding copper export pathways: From known pumps to emerging transporters

(4318121)

Division of Biological Chemistry

Presenter(s): Fernando Montalvillo

Poster Board #: 353

Structural Dynamics of HIV RNA Elements: Probing Dynamics with Isotopes and NMR

(4320878)

Division of Biological Chemistry

Presenter(s): Rokeebah Oguntoye

Poster Board #: 354

Visualization of Mph1- and Top3-Rmi-mediated Holliday junction dissolution in homologous recombination repair by atomic force microscopy

(4309987)

Division of Biological Chemistry

Presenter(s): Grace Waterman

Poster Board #: 355

Genetically encoded unnatural amino acids expand the capabilities of bacteria-displayed peptide libraries

(4315401)

Division of Biological Chemistry
Presenter(s): Olabode Dawodu
Poster Board #: 356

**DNAzyme-mediated DNA
assembly for rapid and scalable
DNA data writing**

(4310797)

Division of Biological Chemistry
Presenter(s): Mengdi Bao
Poster Board #: 357

**De novo discovery of a Mucin-1
inhibitor via machine learning**

(4323709)

Division of Biological Chemistry
Presenter(s): Lucas Wu
Poster Board #: 358

**Electrophilic tuning of cysteine-
targeted reversible α -
cyanoacrylamide warheads
overcomes the hydrolytic
susceptibility of their peptide-
warhead drug conjugates**

(4303032)

Division of Biological Chemistry
Presenter(s): Monesha Nambiar
Poster Board #: 359

**Unraveling PFAS–protein binding:
Fatty acid binding protein 4
(FABP4) and new perspectives on
lipid transfer proteins**

(4303562)

Division of Biological Chemistry
Presenter(s): Aaron Birchfield
Poster Board #: 360

**Covalent peptide binders as a
chemical tool to study proximity
induced labeling of protein**

(4306212)

Division of Biological Chemistry
Presenter(s): Swarnali Roy
Poster Board #: 361

**Emergence of catalysis from a
designed generalist binding
protein**

(4308207)

Division of Biological Chemistry
Presenter(s): Sagar Bhattacharya
Poster Board #: 362

**Real-time monitoring of
mitochondrial pH in HeLa cells,
drosophila melanogaster, and
zebrafish larvae using BODIPY-
based ratiometric fluorescent
probes**

(4310818)

Division of Biological Chemistry
Presenter(s): Ishana Kathuria
Poster Board #: 363

**Multi-modality biosensing
platform for rapid and sensitive
detection of multidrug-resistant
KPN strain of E. coli**

(4311036)

Division of Biological Chemistry
Presenter(s): Hemalatha Kanniyappan
Poster Board #: 364

ERK allosteric activation:

Unraveling the structural role of two phosphorylation events

(4319129)

Division of Biological Chemistry

Presenter(s): Regev Clil

Poster Board #: 411

Insights into bacterial microcompartment shell interactions with abiotic photosensitizers using molecular dynamics simulations

(4319299)

Division of Biological Chemistry

Presenter(s): Neetu Yadav

Poster Board #: 412

New-to-nature hydrogenases for the asymmetric reduction of unactivated olefins

(4322706)

Division of Biological Chemistry

Presenter(s): Jaicy Vallapurackal

Poster Board #: 413

Preparation of a Co(TAML)-based artificial metalloenzyme for asymmetric radical-type oxygen atom transfer catalysis

(4324459)

Division of Biological Chemistry

Presenter(s): Eva J. Meeus

Poster Board #: 415

Addressing the challenges of multi-scale imaging of biofilms

(4325044)

Division of Biological Chemistry

Presenter(s): Spenser Brown

Poster Board #: 416

Comprehensive QSAR Modeling, docking, molecular dynamics, and ADMET analysis for enhancing SARS-CoV 3CLpro peptidomimetic inhibitors

(4325134)

Division of Biological Chemistry

Presenter(s): Hatim Soufi

Poster Board #: 417

Development of nanobody-based bioconjugates as novel HIV inhibitors

(4325943)

Division of Biological Chemistry

Presenter(s): Shubhra Saha

Poster Board #: 418

Modblox: Modular Microautomation for integrating analytical and biological data acquisition in lab processes

(4326567)

Division of Biological Chemistry

Presenter(s): Michael Judge

Poster Board #: 419

Systematic assessment of backbone N-methylation on peptide permeation across the mycomembrane in live mycobacteria

(4328332)

Division of Biological Chemistry

Presenter(s): Zichen Liu

Poster Board #: 421

**Biochemical proximity-based assay
profiling to evaluate
reproducibility in identifying high-
throughput screening hits**

(4314870)

Division of Biological Chemistry

Presenter(s): Tanishka Saraf

Poster Board #: 422

**Catch-and-release radiolabeling: A
novel strategy for PET tracer
development**

(4320513)

Division of Biological Chemistry

Presenter(s): Jaclyn Mauro

Poster Board #: 423

**Survey of protein expression
changes when Clostridium
Sporogenes is cultured with the
rare earth elements europium or
samarium**

(4319118)

Division of Biological Chemistry

Presenter(s): Jeremy Sabo

Poster Board #: 424

**Characterization of thermostable
enzymes from Alicyclobacillus for
biomass degradation and
cardboard recycling**

(4320908)

Division of Biological Chemistry

Presenter(s): Jeremy Sabo

Poster Board #: 425

**Covalent reactivity triggered by
tissue penetrative irradiation**

(4326494)

Division of Biological Chemistry

Presenter(s): Ying Xiong

Poster Board #: 426

**Synthetic mRNAs with streamlined
manufacturing and attenuated
immune response**

(4326973)

Division of Biological Chemistry

Presenter(s): Thu Chu

Poster Board #: 427

**Backbone-modified proteins as
functional biomaterials**

(4339520)

Division of Biological Chemistry

Presenter(s): Preeta Pratakshya

Poster Board #: 428

**Exploiting a fluorogenic reaction to
profile the reactivity of
electrophilic fragment libraries**

(4339537)

Division of Biological Chemistry

Presenter(s): Minervo Perez

Poster Board #: 429

**Indigofera hirsuta down regulates
gene expression of NF- κ B, TGF-
and IL-6 during fibrogenesis in rats**

(4309876)

Division of Biological Chemistry

Presenter(s): Bawa Muhammad

Poster Board #: 430

**Green nanotechnology approach
to combination cancer treatment
using Honeybush derived gold**

nanoparticles and chemotherapy

(4301582)

Division of Biological Chemistry

Presenter(s): Miche Meyer

Poster Board #: 431

Predicting and validating protein structure using AlphaFold: Implications for drug discovery

(4322916)

Division of Biological Chemistry

Presenter(s): Rhea Bachani

Poster Board #: 432

Kinetic investigation of resistance to Islatravir conferred by mutations in HIV-1 reverse transcriptase

(4294339)

Division of Biological Chemistry

Presenter(s): David Suo

Poster Board #: 433

Differential scanning fluorimetry screen to identify small molecules that induce a conformational switch in the *P. aeruginosa* quorum-sensing protein, PqsE

(4318982)

Division of Biological Chemistry

Presenter(s): Margaret O'Hara

Poster Board #: 434

Experimental PKA determination of morphine-like molecules (tertiary amines) using NMR

(4326714)

Division of Biological Chemistry

Presenter(s): Annaliese Bradley | Cuzick

Sonnichsen | Karishma Sharma

Poster Board #: 436

Microfluidic culture system to model nanoparticle uptake in neurovascular and blood-brain barrier cells

(4300775)

Division of Biological Chemistry

Presenter(s): Sydney Floryanzia

Poster Board #: 438

Division of Carbohydrate Chemistry (CARB)

Fe(OTf)₃ or Photosensitizer-free blue light-activated diazo-thioglycoside donors for Iterative and stereoselective glycosylations

(4314257)

Division of Carbohydrate Chemistry

Presenter(s): Surya Singh

Poster Board #: 439

Investigation of glycosidic linkages in O-antigen repeating units from *Shigella* and *Salmonella* pathogens: an NMR and MD simulation study using the additive and Drude polarizable force fields

(4320880)

Division of Carbohydrate Chemistry

Presenter(s): Anastasia Croitoru

Poster Board #: 440

Low-cost production and surface

modification of bacterial cellulose for enhanced copper adsorption

(4324631)

Division of Carbohydrate Chemistry

Presenter(s): Mohammad Sadegh Jafari

Poster Board #: 441

Synthesis and testing of novel carbasugars as covalent inhibitors of glycoside hydrolase

(4317080)

Division of Carbohydrate Chemistry

Presenter(s): Himani Sethi

Poster Board #: 442

Engineering human glycosyltransferases expressed in Escherichia coli for efficient N-glycan remodeling of therapeutic proteins

(4317270)

Division of Carbohydrate Chemistry

Presenter(s): Jingxin Fu

Poster Board #: 443

Orthogonal-group-controlled site-selective I-branching of poly-N-acetyllactosamine chains reveals unique binding specificities of proteins towards I-antigens

(4317852)

Division of Carbohydrate Chemistry

Presenter(s): Tangliang Shen

Poster Board #: 444

Modulating antibody activity through Fc glycan cross-linking and stapling

(4319139)

Division of Carbohydrate Chemistry

Presenter(s): Nikolai Tolstoy

Poster Board #: 445

Increasing the scale and scope of the chemoenzymatic synthesis of trehalose using mCherry-tagged trehalose synthase variants

(4324863)

Division of Carbohydrate Chemistry

Presenter(s): Melanie Hall

Poster Board #: 446

Development of an efficient chemoenzymatic strategy for synthesizing homogeneous O-glycosylated glycopeptides

(4326791)

Division of Carbohydrate Chemistry

Presenter(s): Hanzhang Jin

Poster Board #: 447

Automated multigram-scale synthesis of human milk oligosaccharides (HMOs)

(4326817)

Division of Carbohydrate Chemistry

Presenter(s): Shuhei Kiyozumi

Poster Board #: 448

Directed evolution of a multifunctional enzyme for broad-spectrum chemoenzymatic synthesis of nucleotide sugars

(4327235)

Division of Carbohydrate Chemistry

Presenter(s): Lijian Su

Poster Board #: 495

Stereochemistry driven biological interaction of carbohydrate-polymer conjugates (CPCs)

(4328350)

Division of Carbohydrate Chemistry
Presenter(s): Muhammad Waqas Ishaq
Poster Board #: 496

Synthesis and characterizations on carbohydrate prodrug based hydrogelators

(4326171)

Division of Carbohydrate Chemistry
Presenter(s): Logan Baker
Poster Board #: 497

Division of Catalysis Science and Technology (CATL)

Modeling bi-metallic system under CO₂ electroreduction operating conditions: A DFT-based study on alloying, corrosion, and their impacts on catalytic activity

(4321585)

Division of Catalysis Science and Technology
Presenter(s): Richard Kang
Poster Board #: 498

Unraveling the role of strongly adsorbed water in hydrogen spillover: Thermodynamic and kinetic insightson Au/TiO₂ catalysts

(4324989)

Division of Catalysis Science and Technology
Presenter(s): Tae Yong Yun
Poster Board #: 499

High entropy alloy catalysts for ammonia oxidation

(4325447)

Division of Catalysis Science and Technology
Presenter(s): Fan Bu
Poster Board #: 500

Engineering N-Ru-S cross-interfacial single atoms electron centers in covalent organic frameworks for high-performance alkaline hydrogen evolution electrocatalysts

(4279320)

Division of Catalysis Science and Technology
Presenter(s): Yifan Xu
Poster Board #: 501

Catalytic oxidative cracking of butenes to lower olefins: Insights from thermodynamic and experimental studies

(4281463)

Division of Catalysis Science and Technology
Presenter(s): Gazali Tanimu
Poster Board #: 502

Electro-activated indigos intensify ampere-level CO₂ reduction to CO on silver catalysts

(4284119)

Division of Catalysis Science and Technology
Presenter(s): Zhengyuan Li
Poster Board #: 503

Enhancing activity and stability of NiFe LDH with Ce cations for high current density oxygen evolution reaction in alkaline water via a one-step hydrothermal method

(4296438)

Division of Catalysis Science and Technology

Presenter(s): Paul Byaruhanga

Poster Board #: 504

Zeolite-framework-anchored carbon-doped white graphene as anti-poisoning cathode materials for proton-exchange-membrane fuel cells

(4301630)

Division of Catalysis Science and Technology

Presenter(s): Rupali Mane

Poster Board #: 505

Utilizing the NIST mass spectral libraries for catalytic depolymerization studies: The catalytic pyrolysis of PET

(4311932)

Division of Catalysis Science and Technology

Presenter(s): Adam Zuber

Poster Board #: 506

Oxygen vacancy-rich PbMoO₄ for improved electrocatalytic N₂ reduction to ammonia

(4313686)

Division of Catalysis Science and Technology

Presenter(s): Namodhi Wijerathne

Poster Board #: 507

New insights into visible-light driven photocatalysis for environmental applications

(4313809)

Division of Catalysis Science and Technology

Presenter(s): Jingjing Zhang

Poster Board #: 508

Zeolites and its active cations for direct air capture of CO₂

(4318713)

Division of Catalysis Science and Technology

Presenter(s): Do Yeong Kim

Poster Board #: 509

Optimization of cactus-extract-mediated TiO₂ nanoparticles for enhanced photocatalytic degradation of organic pollutants

(4321365)

Division of Catalysis Science and Technology

Presenter(s): Khuloud Alrashdi

Poster Board #: 511

Enhanced photo-Fenton degradation of iron-doped carbon dots with boosted Fe (III)/Fe (II) circulation and extended pH range

(4321680)

Division of Catalysis Science and Technology

Presenter(s): Liu Yang

Poster Board #: 512

Theoretical-guided discovery and experimental validation of atomically dispersed niobium catalysts for enhanced sulfide redox kinetics in lithium–sulfur

batteries

(4323021)

Division of Catalysis Science and Technology

Presenter(s): Xueyan Lin

Poster Board #: 513

CuAlS₂/ZnS quantum dots for photoredox catalysis: optimizing synthesis and ligand exchange for Green Chemistry

(4323022)

Division of Catalysis Science and Technology

Presenter(s): Fay Harris

Poster Board #: 514

Single-Atom Cu-embedded Mo₂CTx MXene for selective reduction of CO₂ to methane

(4326058)

Division of Catalysis Science and Technology

Presenter(s): Dinushika Kotudura Arachchige

Poster Board #: 515

Electrochemical ammonia oxidation on PT and IR clusters supported on CeO₂

(4278573)

Division of Catalysis Science and Technology

Presenter(s): Sung Gu Kang

Poster Board #: 516

Carbonic anhydrase as a sustainable corrosion inhibitor for concrete

(4291409)

Division of Catalysis Science and Technology

Presenter(s): Sara Heidarneszhad

Poster Board #: 517

Theoretical study on A-site defect in Perovskite for enhanced Ru exsolution in Photothermal Reforming of CH₄ and CO₂

(4301717)

Division of Catalysis Science and Technology

Presenter(s): Chihun Lee

Poster Board #: 518

Controllable synthesis of intermetallic CuPd nanocrystals for electrocatalytic nitrate reduction

(4313349)

Division of Catalysis Science and Technology

Presenter(s): Zhanrong Guo

Poster Board #: 519

High entropy alloys in sustainable aviation fuel production

(4319730)

Division of Catalysis Science and Technology

Presenter(s): Mahlet JeongGil | Nigus Seo

Poster Board #: 521

Assessment of structure-property-catalytic activity relationships in photocatalyst-bound cotton for driving organic reactions under light

(4320979)

Division of Catalysis Science and Technology

Presenter(s): Isabella Genevieve | Goveia Huynh
| Verona Peterman

Poster Board #: 522

Impact of copper speciation in Cu/SSZ-13 on oxidation reactions

(4323337)

Division of Catalysis Science and Technology

Presenter(s): Kanika Meena
Poster Board #: 523

Rational design of quantum confined one-dimensional lepidocrocite Titania catalyst for superior electrocatalytic oxygen evolution performance

(4325220)
Division of Catalysis Science and Technology
Presenter(s): Devraj Singh
Poster Board #: 524

Impact of NO₂ on sulfur poisoning and sulfur on NO₂ reactions on Cu-SSZ-13 catalysts

(4325453)
Division of Catalysis Science and Technology
Presenter(s): Afrina Zaman Shoronika
Poster Board #: 525

“Fingerprint”: A method for quick quality control of catalysts for heterogeneous hydrogenation

(4325494)
Division of Catalysis Science and Technology
Presenter(s): Dmytro Volochnyuk
Poster Board #: 526

Optimizing CO₂ electrolysis product distribution in a zero-gap membrane electrode assembly for a two-step solar-driven electrochemical and photothermocatalytic process for ethylene hydroformylation

(4325682)
Division of Catalysis Science and Technology

Presenter(s): Katherine Yan
Poster Board #: 527

Identification of active sites in Mo single-atom-doped NiO for enhanced alkaline hydrogen evolution reaction

(4327772)
Division of Catalysis Science and Technology
Presenter(s): Yuanqi Liu
Poster Board #: 528

Conversion of waste polyolefins to light olefins using supported catalysts

(4328111)
Division of Catalysis Science and Technology
Presenter(s): Jules Stahler
Poster Board #: 529

Division of Cellulose and Renewable Materials (CELL)

Nonthermal hydrogen plasma-enabled ambient, fast lignin hydrogenolysis to valuable chemicals and bio-oils

(4303308)
Division of Cellulose and Renewable Materials
Presenter(s): Parsa Pishva
Poster Board #: 530

Multiscale Interface Engineering enables strong and water-resistant wood bonding

(4308365)
Division of Cellulose and Renewable Materials
Presenter(s): Shiyang Zhang
Poster Board #: 531

Thermal behavior of thermoplastic starches produced via short-time extrusion using deep eutectic solvents

(4320446)
Division of Cellulose and Renewable Materials
Presenter(s): Alfonso Dominguez
Poster Board #: 579

Influence of reactive chlorine species (RCS) on electrochemical hydrolysis of Kenaf to glucose using IrO₂/Ta₂O₅-TiO₂ electrodes

(4322524)
Division of Cellulose and Renewable Materials
Presenter(s): Jiyeon JinHyung | Park Lee
Poster Board #: 580

Production of a sustainable biomass-derived monomer using porous-organic frameworks

(4326609)
Division of Cellulose and Renewable Materials
Presenter(s): Emma Blanco
Poster Board #: 581

From waste to valuables: In-house fabrication of date palm biomass-derived cellulose-incorporated Nafion membranes for polysulfide shuttling mitigation in redox flow batteries

(4326656)
Division of Cellulose and Renewable Materials

Presenter(s): Muhammad Mansha
Poster Board #: 582

Electrochemical insights into bipyridine-functionalized polymers for energy storage in redox flow batteries

(4324467)
Division of Cellulose and Renewable Materials
Presenter(s): Muhammad Mansha
Poster Board #: 583

Environmentally friendly sustainable thermoset vitrimer-containing polyrotaxane

(4328362)
Division of Cellulose and Renewable Materials
Presenter(s): Shota Ando
Poster Board #: 584

Sustainable cotton fabric finishing: epoxidized cottonseed oil as a bio-based alternative to formaldehyde-based treatments

(4297062)
Division of Cellulose and Renewable Materials
Presenter(s): Taylor Kanipe
Poster Board #: 585

Enhancing the decolorization of raw cane sugar syrup with activated carbon derived from sugarcane bagasse

(4300739)
Division of Cellulose and Renewable Materials
Presenter(s): Beteley Tekola Wondmagegne | Meshesha Whibesilassie
Digital Screen #: D23

From lab to pilot scale processing of bioenergy crops: A resource-efficient circular economy approach for recovering high-value biobased products

(4307965)

Division of Cellulose and Renewable Materials
Presenter(s): Shivali Banerjee
Digital Screen #: D26

Design and synthesis of novel cellulose ether derivatives for Amorphous Solid Dispersion drug delivery systems

(4326095)

Division of Cellulose and Renewable Materials
Presenter(s): Sara Yazdi
Poster Board #: 588

Aerobic interface dependence of bacterial cellulose growth and suggested improvements in BC yield reporting

(4326357)

Division of Cellulose and Renewable Materials
Presenter(s): Rutujaa Kulkarni
Poster Board #: 589

Sustainable bacterial cellulose from grass biomass: Enhanced yield, structure, and cost efficiency compared to Hestrin-Schramm and kombucha media

(4327195)

Division of Cellulose and Renewable Materials
Presenter(s): Rutujaa Kulkarni
Poster Board #: 590

Ratio-based optimization of a novel polymer blend reinforced with a nanoclay for biodegradable mulch films with potential for pesticide integration

(4304268)

Division of Cellulose and Renewable Materials
Presenter(s): Chijioke Emenike
Poster Board #: 591

Structurally stable cellulose aerogels-based phase change composites for superior thermal energy storage and management

(4321539)

Division of Cellulose and Renewable Materials
Presenter(s): Shakshi Bhardwaj
Poster Board #: 592

Development and characterization of bioplastic film using calcium carbonate-reinforced cornstarch nanocomposites to optimize the properties for packaging applications

(4322511)

Division of Cellulose and Renewable Materials
Presenter(s): Malika Dissanayaka
Digital Screen #: D24

Novel ecofriendly cellulose nanocrystal from sugarcane Peel for complete removal of Pb²⁺ from its aqueous solution

(4298695)

Division of Cellulose and Renewable Materials
Presenter(s): Chioma Abiaziem
Poster Board #: 594

Sustainable mitigation of coastal erosion using cellulose-based biogels

(4318327)

Division of Cellulose and Renewable Materials

Presenter(s): Kaushanie Gunarathne

Poster Board #: 595

Division of Chemistry and the Law (CHAL)

Chocolate: Food of the Gods

(4358537)

Division of Chemistry and the Law

Presenter(s): Howard Peters

Poster Board #: 596

Division of Chemical Health and Safety (CHAS)

Periodic table of the elements of safety: Reintroducing an interesting and engaging safety resource

(4315107)

Division of Chemical Health and Safety

Presenter(s): Robin Izzo

Poster Board #: 597

Division of Chemical Education (CHED)

Supporting STEM students: A case

study of retention efforts in chemistry at the University of Puerto Rico

(4282960)

Division of Chemical Education

Presenter(s): Kariluz Davila-Diaz

Poster Board #: 108

Integrating clinical case studies with chemical analysis: A semester-long laboratory course in diagnostic chemistry

(4295998)

Division of Chemical Education

Presenter(s): Krysta Riel Maas

Poster Board #: 109

Shaping the future of STEM: The role of the LS-PAC MODELS BFFS program in faculty preparation

(4298412)

Division of Chemical Education

Presenter(s): Kristen Tyrslai | Williams Williams

Poster Board #: 110

Incorporation of DNA computation into classroom and laboratory teaching of undergraduate biochemistry

(4302241)

Division of Chemical Education

Presenter(s): Jinglin Fu

Poster Board #: 111

Azo dye synthesis and bioactivity: A laboratory experiment connecting organic chemistry and Biochemistry

(4303182)
Division of Chemical Education
Presenter(s): Raul Rodriguez Berrios
Poster Board #: 112

Pedagogical tools in three formats: Physical, virtual and mobile application

(4306109)
Division of Chemical Education
Presenter(s): Deana Jaber
Poster Board #: 113

Increasing the perceived value of lab skills via lab practical exams

(4306823)
Division of Chemical Education
Presenter(s): Sharon Strickland
Poster Board #: 141

Exploring undergraduate students' perception of general and organic chemistry labs

(4309419)
Division of Chemical Education
Presenter(s): Oluwaseun Agunbiade
Poster Board #: 142

Simplifying organic chemistry using concept maps

(4309553)
Division of Chemical Education
Presenter(s): Mohammad Alam
Poster Board #: 143

Integrating programming, data science, and artificial intelligence into the undergraduate chemistry curriculum

(4313640)

Division of Chemical Education
Presenter(s): Chun-I Wang
Poster Board #: 144

Chemistry assistance for targeted active learning using scaffolded teaching (CATALYST)

(4314712)
Division of Chemical Education
Presenter(s): Estelle Lebeau
Poster Board #: 145

FLASCS: Developing early undergraduate research experiences for community college students

(4314794)
Division of Chemical Education
Presenter(s): Chris Russell
Poster Board #: 146

Enhancing student learning through AI-designed chemistry lab experiments

(4315057)
Division of Chemical Education
Presenter(s): Amany Saleh
Digital Screen #: D10

Determination of lead concentration in soil using atomic absorption spectroscopy in a forensic chemistry course

(4315083)
Division of Chemical Education
Presenter(s): Anna Fedor
Poster Board #: 148

NASA's student Airborne Research

Program: An experiential summer chemistry-using program for rising college seniors

(4316818)
Division of Chemical Education
Presenter(s): Jack Kaye
Poster Board #: 149

STEM moments within outdoor adventure education: Instructional insight for promoting awareness and literacy

(4317104)
Division of Chemical Education
Presenter(s): Kim Weaver
Poster Board #: 150

Unlocking potential: Piloting assets-based group coaching as a catalyst for neurodivergent undergraduate STEM student self-determination

(4317794)
Division of Chemical Education
Presenter(s): Stephen Podowitz-Thomas
Poster Board #: 151

Impact of team formation on student outcomes in a general chemistry II team-based learning and flipped classroom

(4318904)
Division of Chemical Education
Presenter(s): Meghan McGreal
Poster Board #: 152

AI experiment for Biochemistry undergrads: Making them the

experts

(4320339)
Division of Chemical Education
Presenter(s): Kelly Theisen
Poster Board #: 153

StressCURE, a course-based undergraduate research experience (CURE) using the C. elegans model system

(4321652)
Division of Chemical Education
Presenter(s): Jessica Hartman
Poster Board #: 154

Chemistry Learning Laboratory: A peer-assisted approach to supporting undergraduate introductory chemistry

(4321801)
Division of Chemical Education
Presenter(s): Catherine Alicia | Serrano Altemose
Poster Board #: 155

Sensors-based project in the chemical principles laboratory

(4323085)
Division of Chemical Education
Presenter(s): Nicola Edwards
Poster Board #: 156

Integration of AI tools to enhance undergraduate biochemistry research

(4323748)
Division of Chemical Education
Presenter(s): Bonnie Hall
Poster Board #: 157

Iterative learning with iterative software: Harnessing free and open-source software to integrate human and machine learning

(4324851)

Division of Chemical Education

Presenter(s): David Ramirez

Digital Screen #: D12

Enriching the general chemistry laboratory sequence through computational chemistry and real-world-based integrated projects

(4325031)

Division of Chemical Education

Presenter(s): Kevin Braun

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STEM-to-public communications for undergraduate STEM students

(4325637)

Division of Chemical Education

Presenter(s): Amanda Koh

Poster Board #: 208

Python-powered physical chemistry: Computational tools for modern learning

(4325694)

Division of Chemical Education

Presenter(s): Timothy Brewer

Poster Board #: 209

Assessing the affective domain: Utility of the achievement emotions questionnaire-Short for organic chemistry (AEQ-S4OC) Instrument for measuring

undergraduate organic chemistry students' achievement emotions

(4326447)

Division of Chemical Education

Presenter(s): Krystal Grieger

Poster Board #: 210

Igniting curiosity: A model for hands-on chemistry outreach for students in rural Appalachia

(4326648)

Division of Chemical Education

Presenter(s): Bradley Kelly | Baker Vaughan

Poster Board #: 211

Integrating AI into chemistry education: Practical insights and challenges from a wolfram LLM integration

(4326687)

Division of Chemical Education

Presenter(s): Ukasha Hamazi

Poster Board #: 212

Identifying best practices for writing multiple choice exams: Design and testing of various question language constructs

(4327470)

Division of Chemical Education

Presenter(s): Stephanie Taylor

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Division of Chemical
Information (CINF)

Research fronts in chemistry

(4320039)
Division of Chemical Information
Presenter(s): Wenyue Bian
Poster Board #: 598

**MOZAIC: Molecule optimization
using in Silico reaction, AutoDock
Vina, and global optimization**

(4323408)
Division of Chemical Information
Presenter(s): Woong-Hee Shin
Poster Board #: 599

**Natural products magnetic
resonance database (NP-MRD):
Enabling structure determination,
validation, dereplication, and
characterization of mixtures for
natural products and specialized
metabolites**

(4327494)
Division of Chemical Information
Presenter(s): John Cort
Poster Board #: 600

**Bridging computer vision and
chemical experimentation for
automated observation**

(4323363)
Division of Chemical Information
Presenter(s): Rama El-Khawaldeh
Poster Board #: 601

**Design and characterization of
nucleic acid biomolecular
condensates using molecular
modeling and machine learning
approaches**

(4323604)
Division of Chemical Information
Presenter(s): Christina Bayard
Poster Board #: 602

**KnowLedger for chemical research
data management**

(4325286)
Division of Chemical Information
Presenter(s): Stuart Chalk
Poster Board #: 603

**Large language model-based
pipeline for the computational
study of the Chorismate mutase
enzymatic reaction**

(4325753)
Division of Chemical Information
Presenter(s): Saghar Gomrok
Poster Board #: 604

**Advanced chemical querying:
Generic structural searches from
IUPAC nomenclature**

(4327082)
Division of Chemical Information
Presenter(s): Michael Blakey
Poster Board #: 605

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

**Synthesis and pH-responsive
properties of bacteria mimicking
hydrogel capsules**

(4318167)
Division of Colloid and Surface Chemistry
Presenter(s): Nash Robinson

Poster Board #: 102

Active and thermally stable plasmonic nanoparticles for enhanced sensing and anticounterfeiting technologies

(4322973)

Division of Colloid and Surface Chemistry
Presenter(s): Aditi Aggarwal
Poster Board #: 103

Precision synthesis of II-VI and IV-VI semiconductor nanoclusters via cation exchange

(4337126)

Division of Colloid and Surface Chemistry
Presenter(s): Fuyan Ma
Poster Board #: 104

Quantum confined iron pyrite (FeS₂) for low-cost photovoltaics

(4327583)

Division of Colloid and Surface Chemistry
Presenter(s): Stephanie Tenney
Poster Board #: 105

Growth of high optical quality large-area WX₂ (X=S, Se) films through controlled reduction of WO₃

(4326010)

Division of Colloid and Surface Chemistry
Presenter(s): Paul Hanrahan
Poster Board #: 106

Thermodynamic and rheological properties of glassy polymers at 2D air-water interface

(4325230)

Division of Colloid and Surface Chemistry

Presenter(s): Kiet Pham

Digital Screen #: D14

Investigating the self-assembly of pH-sensitive switchable diamine surfactant using sum frequency generation spectroscopy and molecular dynamics simulations

(4310668)

Division of Colloid and Surface Chemistry
Presenter(s): Danielle John Garza
Poster Board #: 114

Effect of bio-based polymer-surfactant interactions on rheological response in a sulfate-free micellar system

(4320091)

Division of Colloid and Surface Chemistry
Presenter(s): Foluso Adeosun
Poster Board #: 115

Scalable synthesis of ss-DNA functionalized gold and iron nanoparticles via RHEBM for targeted biosensing of Escherichia coli K-12

(4326337)

Division of Colloid and Surface Chemistry
Presenter(s): Alejandro Rodriguez
Poster Board #: 116

Quantifying the activity of interfacial esterases towards water-soluble and self-assembled substrates for drug delivery

(4327161)

Division of Colloid and Surface Chemistry
Presenter(s): Tashnuva Rifat
Poster Board #: 117

Molecular modeling and molecular dynamics simulation of a packed bacterial microcompartment

(4319364)
Division of Colloid and Surface Chemistry
Presenter(s): Saad Raza
Digital Screen #: D13

Self-assembled thiol monolayers as functional coatings for electrodes in stimulus-responsive neurotransmitter delivery

(4322732)
Division of Colloid and Surface Chemistry
Presenter(s): Taral Patel
Poster Board #: 119

Biofunctionalization of zwitterionic anti-fouling polymers robustly attached to passivated porous silicon for specific optical detection of biomarkers

(4303618)
Division of Colloid and Surface Chemistry
Presenter(s): Soren Smail
Poster Board #: 135

Role of poly-arginine tails in the interactions of antimicrobial peptides with lipid membranes

(4328167)
Division of Colloid and Surface Chemistry
Presenter(s): Navleen Kaur
Poster Board #: 136

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(4326751)
Division of Colloid and Surface Chemistry
Presenter(s): Malachi Witherwax
Poster Board #: 137

Towards the preparation of MXene-based electrochemical sensors: Influence of the delamination method on the electrochemical performance of glassy carbon electrodes modified with Ti₃C₂T_x particles

(4312226)
Division of Colloid and Surface Chemistry
Presenter(s): Mateo Ballesteros
Poster Board #: 138

Nacre-like MXene/polyacrylic acid layer-by-layer films as hydrogen gas barriers

(4307535)
Division of Colloid and Surface Chemistry
Presenter(s): Yang Hyun Auh
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Investigating the impact of algae on the structural and functional properties of MXene nanomaterials

(4324514)
Division of Colloid and Surface Chemistry
Presenter(s): Durga Devkota
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Synthesis of hybrid organic–inorganic MXenes: Mechanistic insights into halide-to-organic transformations

(4327734)

Division of Colloid and Surface Chemistry

Presenter(s): Young-Hwan Kim

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Computational evaluation of structural and chemical possibilities exposed by Ti₂CTx nanoribbons and nanoparticles

(4301157)

Division of Colloid and Surface Chemistry

Presenter(s): Yamilee Morency

Poster Board #: 160

Compositionally engineered pure blue-emitting perovskites with improved stability for light-emitting diodes

(4301479)

Division of Colloid and Surface Chemistry

Presenter(s): Sandeep Gundam

Digital Screen #: D15

Tailoring high-entropy Cu-Sb-Bi-Ag-Zn-S colloidal nanocrystals via cation exchange for electrochemical applications

(4318859)

Division of Colloid and Surface Chemistry

Presenter(s): Ankita Bora

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ensemble and single-particle level

(4327352)

Division of Colloid and Surface Chemistry

Presenter(s): Harneet Kaur

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(4312503)

Division of Colloid and Surface Chemistry

Presenter(s): Camryn Gloor

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(4327946)

Division of Colloid and Surface Chemistry

Presenter(s): Chineme Onukwughara

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(4320778)

Division of Colloid and Surface Chemistry

Presenter(s): Nicholas Reilly

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Emulsions stabilized by nanoclays and polymers: Behavior of Pickering emulsions in the presence of polymers

(4321197)

Division of Colloid and Surface Chemistry

Presenter(s): Harshika Disanyaka

Poster Board #: 199

Surface functionalization of gold nanospheres in biologically relevant solutions with diversely functionalized peptoids

(4325369)

Division of Colloid and Surface Chemistry
Presenter(s): Isabella Matusich
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(4324403)

Division of Colloid and Surface Chemistry
Presenter(s): Md Tarikul Islam
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Colloidal bismuth nanoparticles as diagnostic imaging agents

(4315348)

Division of Colloid and Surface Chemistry
Presenter(s): Antonio Martino
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Quantum-defect engineered fluorescent nanosensors: Unlocking ratiometric sensing for continuous insulin monitoring

(4326571)

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(4316916)

Division of Colloid and Surface Chemistry
Presenter(s): Nicole Gonzalez
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Adsorption equilibrium and kinetics at colloidal oil-water interface: Effect of charge and aromatic surfactants

(4316804)

Division of Colloid and Surface Chemistry
Presenter(s): Lilly Lewison
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Understanding the impact of polyol stereochemistry on chitosan film morphologies using scanning electron microscopy

(4326422)

Division of Colloid and Surface Chemistry
Presenter(s): Nathan Morris
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Leveraging plasmon rulers: High-throughput anti-icing screening with gold nanoparticles

(4302614)

Division of Colloid and Surface Chemistry
Presenter(s): Popular Pandey
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Electrospun ceramic nanofibers for lighter and stronger polymer nanocomposite materials

(4321424)

Division of Colloid and Surface Chemistry
Presenter(s): Lifeng Zhang
Poster Board #: 234

Highly luminescent two-dimensional silicon nanosheets

(4326344)

Division of Colloid and Surface Chemistry

Presenter(s): Jeremy Essner

Poster Board #: 235

Chiral two-dimensional perovskite with giant chiroptical activity enabled by axially chiral organic cation

(4321415)

Division of Colloid and Surface Chemistry

Presenter(s): Mingyue Zhang

Poster Board #: 236

Engineering human carbonic anhydrase II and ultrasmall gold nanoparticles into enzyme-functionalized nanocarriers: For drug delivery applications

(4327084)

Division of Colloid and Surface Chemistry

Presenter(s): Mathias Sanchez Machado

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(4300608)

Division of Colloid and Surface Chemistry

Presenter(s): Md Nayeem Hasan Kashem

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Thermally responsive composites for dynamic fouling control

(4314858)

Division of Colloid and Surface Chemistry

Presenter(s): Gregory Parisi

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(4314014)

Division of Colloid and Surface Chemistry

Presenter(s): Jesse Brown

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Hydride and hydrogen atom transfer reactivity of silicon nanoparticles: Stoichiometry, kinetics, and thermodynamics

(4320860)

Division of Colloid and Surface Chemistry

Presenter(s): Alexa Williams

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(4290789)

Division of Colloid and Surface Chemistry

Presenter(s): Omar Saleem | Saleh Rao | Khan Alam

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(4327217)

Division of Colloid and Surface Chemistry

Presenter(s): Sourabh Kumar
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(4316707)
Division of Computers in Chemistry
Presenter(s): Debasis Saha
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Molecular insights into *Zymomonas mobilis* membrane interactions with lignocellulosic inhibitors

(4317837)
Division of Computers in Chemistry
Presenter(s): Nitin Singh
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Machine learning-guided discovery of electron donor-acceptor complex reactions

(4318093)
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Presenter(s): Paul Tütscher
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(4319462)
Division of Computers in Chemistry

Presenter(s): Saad Raza
Poster Board #: 285

AiPP: Proteome-wide mapping of covalently ligandable cysteines

(4322405)
Division of Computers in Chemistry
Presenter(s): Guy Dayhoff
Poster Board #: 286

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(4325714)
Division of Computers in Chemistry
Presenter(s): Ya Johannes | Chen Kirchmair
Poster Board #: 287

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(4326032)
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Presenter(s): Bengi Ruken Yavuz
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(4326733)
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Presenter(s): Getaneh Berie Tarekegn
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(4327978)

Division of Computers in Chemistry

Presenter(s): Yeonjun Jeong

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Allostery inhibition of BACE1 in Alzheimer's disease therapy

(4278709)

Division of Computers in Chemistry

Presenter(s): Samuel Chima Ugbaja

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Constrained charge equilibration: Non-adiabatic effects from charge-aware force fields

(4285426)

Division of Computers in Chemistry

Presenter(s): Sohang Kundu

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BenchQC: A benchmarking toolkit for quantum computation

(4290987)

Division of Computers in Chemistry

Presenter(s): Nia Pollard

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Efficient and accurate computational modeling of PROTAC ternary complexes using SILCS

(4304531)

Division of Computers in Chemistry

Presenter(s): Erik Nordquist

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Lessons learned from predicting drug permeability by bridging

physics and machine learning using the SILCS methodology

(4309518)

Division of Computers in Chemistry

Presenter(s): Ashlin James Poruthoor

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Structural insights and druggability analysis of HBV surface antigen (HBsAg) in the context of subviral particles

(4316341)

Division of Computers in Chemistry

Presenter(s): Gideon Tolufashe

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Advancement in forecasting liver cytosol stability: A comprehensive update on predictive models

(4316571)

Division of Computers in Chemistry

Presenter(s): Gyutae Lim

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AI-driven pilot study of FLT3 inhibition: Evaluating the chemical space of midostaurin and staurosporine

(4321639)

Division of Computers in Chemistry

Presenter(s): Eric Marsan

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Improving Martini 3 coarse-grained models for ionizable lipids in LNP simulations

(4325308)

Division of Computers in Chemistry

Presenter(s): Peter Park

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Computational insights into water-mediated RNA stability of the HIV Rev responsive element

(4325543)

Division of Computers in Chemistry

Presenter(s): Arghya Ghosh

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Automated construction of enzyme active site cluster models from molecular dynamics snapshots with the RINRUS toolkit

(4326355)

Division of Computers in Chemistry

Presenter(s): Dominique Wappett

Poster Board #: 366

Dynamic pockets, adaptive ligands: Iterative molecular generation guided by IFPS and conformational sampling

(4278348)

Division of Computers in Chemistry

Presenter(s): Feng Zhou

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Quantitative analysis of AI integration in neuroscience

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Presenter(s): Alex Zhang

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Breaking barriers in FEP benchmarking: A large-scale dataset reflecting real-world drug discovery challenges

(4322570)

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Presenter(s): Rongfeng Zou

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SCINet: GPU-accelerated physics-informed modeling of molecular interactions to predict nanofluid heat capacity

(4324175)

Division of Computers in Chemistry

Presenter(s): Sharv Murgai

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Exploring viral RNA proofreading by the SARS-CoV-2 ExoN through evolutionary coupling and molecular dynamics simulations

(4320882)

Division of Computers in Chemistry

Presenter(s): Eleonora Gianti

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Constrained peptide modeling, conformational analysis and property predictions

(4321054)

Division of Computers in Chemistry

Presenter(s): Alain Lázaro | Ajamian Castanedo

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

(4321110)

Division of Computers in Chemistry

Presenter(s): Philippe Archambault

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Benchmarking molecular generation tools for enhanced lead optimization in drug discovery

(4343165)

Division of Computers in Chemistry

Presenter(s): Dan Seith

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Efficient ligand unbinding kinetics prediction using a combined physics and machine learning based approach

(4311322)

Division of Computers in Chemistry

Presenter(s): Wenbo Yu

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Investigating errors in alchemical free energy predictions using random forest models and GaMD

(4322921)

Division of Computers in Chemistry

Presenter(s): Skanda Sastry

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Optimizing virtual screening: Tailored target scoring with PADIF toolkit

(4311823)

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Presenter(s): Felipe Victoria

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(4313444)

Division of Computers in Chemistry

Presenter(s): Julia Roma

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From activity to structure: Training AI to design a drug - an ecdysteroids-based case study

(4324896)

Division of Computers in Chemistry

Presenter(s): Durbek Usmanov

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Improving CHARMM36 force field for lipid interactions with calcium and beryllium using free energy perturbation

(4294474)

Division of Computers in Chemistry

Presenter(s): Jessica Bodosa

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Spectra to molecule: A multimodal multitasking transformer model for automated structure elucidation

(4324513)

Division of Computers in Chemistry

Presenter(s): Marvin Alberts

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Noncovalent interactions in mutated Schiff base myoglobin proteins revealed through local vibrational mode theory

(4302790)

Division of Computers in Chemistry

Presenter(s): Juliana Antonio

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EnzyExtract: AI-powered extraction and validation of experimental enzymology data for enhanced predictive modeling

(4312341)

Division of Computers in Chemistry
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Identification of HIV-1 TAR RNA small-molecule binding sites via molecular dynamics simulations with enhanced sampling and the Drude polarizable force field

(4313158)

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Presenter(s): Jihyeon Lee
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(4314784)

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Presenter(s): Sanchay Agarwal
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Improving the force field performance of ionic species within the OpenFF workflow

(4315131)

Division of Computers in Chemistry
Presenter(s): Barbara Morales
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Unravelling efficacy from affinity: A novel QSAR approach for predicting ligand function at the μ -

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(4322592)

Division of Computers in Chemistry
Presenter(s): Margaret Jane Robinson
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Division of Computers in Chemistry
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(4327077)

Division of Computers in Chemistry
Presenter(s): Joshua Almonte
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Untargeted pan-repository analysis and quantification of metabolites

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Division of Computers in Chemistry
Presenter(s): Michael Strobel
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Flowmol3: Flow matching for de novo molecule generation

(4327105)

Division of Computers in Chemistry
Presenter(s): Ian Dunn
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Bridging quantum mechanics and machine learning for accelerated

molecular design: From solar energy materials to open-source computational frameworks

(4309626)

Division of Computers in Chemistry
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Nonequilibrium relaxation exponentially delays the onset of quantum diffusion

(4310331)

Division of Computers in Chemistry
Presenter(s): Andres Montoya Castillo
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Machine learning force field for AI-driven protein molecular dynamics simulation

(4304221)

Division of Computers in Chemistry
Presenter(s): Tong Wang
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(4313214)

Division of Computers in Chemistry
Presenter(s): Xiaojing Teng
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Unleashing Innovation: Empowering medicinal chemists with a cutting-edge generative modelling interface

(4305857)

Division of Energy and Fuels (ENFL)

Division of Computers in Chemistry
Presenter(s): Udo Lange
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(4319130)

Division of Computers in Chemistry
Presenter(s): Daniel Lambrecht
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CmDock open-source molecular docking software with GPU ChemPLP scoring and polyphenolic compound pose assessment protocol

(4321589)

Division of Computers in Chemistry
Presenter(s): Marko Jukic
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Efficient Grand Canonical Monte Carlo with smooth particle mesh Ewald for Drude polarizable simulations on GPUs

(4320784)

Division of Computers in Chemistry
Presenter(s): Mingtian Zhao
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Division of Energy and Fuels (ENFL)

Computational modelling of

**chalcogen based layered anode
and formation of electrode-
electrolyte interphase**

(4292868)

Division of Energy and Fuels

Presenter(s): Amreen Bano

Poster Board #: 490

**Li₄abo₆ as an emerging cathode
material: Correlating structural
features with dielectric and ionic
transport properties in solid-state
batteries**

(4302457)

Division of Energy and Fuels

Presenter(s): Doha Doughri

Poster Board #: 491

**Colossal capacity loss during
calendar aging of Zn battery
chemistries**

(4313782)

Division of Energy and Fuels

Presenter(s): Bo Liu

Poster Board #: 492

**Degradation mapping of
commercial(55A) pouch cells for
ESS: Stack and electrode-position-
dependent analysis and
implications for electrolyte
management**

(4318805)

Division of Energy and Fuels

Presenter(s): Chanjoo Park

Poster Board #: 493

Decoupling voltage enhancement

**and structural stability in
LiMnFePO₄ cathodes through role-
differentiated doping in Li-ion
batteries**

(4319060)

Division of Energy and Fuels

Presenter(s): Youbean Lee

Poster Board #: 494

**Conformal graphene
encapsulation for enhanced
stability and performance of Li-ion
cathode materials**

(4320861)

Division of Energy and Fuels

Presenter(s): Jonathan Pistorino

Poster Board #: 533

**Enhancing Gr/NMC811 cell
longevity under fast charging
through optimization of
application-specific operational
conditions**

(4321135)

Division of Energy and Fuels

Presenter(s): Saiful Islam

Poster Board #: 534

**Polarization-induced breaching of
liquid/liquid interface formed with
water-in-salt electrolytes**

(4325177)

Division of Energy and Fuels

Presenter(s): Lihao Feng

Poster Board #: 535

**Novel additive for stable cycling of
5.3V cathode**

(4326695)
Division of Energy and Fuels
Presenter(s): Saurabh Pethe
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Predictive modeling and reactive force field simulations for enhanced longevity of lithium manganese oxide batteries in medical implants

(4326825)
Division of Energy and Fuels
Presenter(s): Matthew Tal
Poster Board #: 537

Understanding the fluorination of disordered rocksalt cathodes

(4299967)
Division of Energy and Fuels
Presenter(s): Shiyu Yuan
Poster Board #: 538

Silicate organic framework as an advanced artificial solid electrolyte interphase for lithium-metal batteries

(4303418)
Division of Energy and Fuels
Presenter(s): Mi Zhang
Poster Board #: 539

All-aqueous biphasic membrane-free redox flow battery with high energy density

(4307872)
Division of Energy and Fuels
Presenter(s): Rabin Siwakoti
Poster Board #: 540

Oxide coating approach for enhancing air and thermal stability in sodium-ion cathodes

(4313425)
Division of Energy and Fuels
Presenter(s): Trapa Banik
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Tailoring Co/N/P-doped porous carbon with embedded CoxP nanostructures for efficient potassium-ion storage

(4314591)
Division of Energy and Fuels
Presenter(s): Jeehoon Yu
Poster Board #: 542

Redox-active Iso-reticular covalent organic frameworks for efficient sulfur host in lithium-sulfur battery

(4317720)
Division of Energy and Fuels
Presenter(s): Shiraj Pokhrel
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Study of sodium-ion batteries electrolytes: From properties to solvation structure

(4318477)
Division of Energy and Fuels
Presenter(s): Jiyu Su
Poster Board #: 570

Making batteries sweet - novel, fluorine-free synthetic sweeteners as electrolyte additives for Li-Ion batteries

(4318913)

Division of Energy and Fuels
Presenter(s): Natalia Izdebska
Poster Board #: 571

Sustainable electricity production from seawater using *Spirulina platensis* microbial fuel cell catalyzed by silver nanoparticles-activated carbon composite prepared by a new modified photolysis method

(4284041)
Division of Energy and Fuels
Presenter(s): Eman Sallam
Poster Board #: 572

Rare earth elements: Enabling decarbonization through innovation in energy and technology

(4293783)
Division of Energy and Fuels
Presenter(s): Mpila Nkiawete
Poster Board #: 573

Glycerol-free biodiesel synthesis using in-situ tri-coupling transesterification reaction

(4319846)
Division of Energy and Fuels
Presenter(s): Shashi Sourav Sumit
Poster Board #: 574

Catalytic pyrolysis of e – waste and use of pyrolysis oil-gasoline blends in IC engines

(4322244)
Division of Energy and Fuels
Presenter(s): Mohnish Borker

Poster Board #: 575

Understanding technetium in nuclear fuel processing

(4327688)
Division of Energy and Fuels
Presenter(s): Isabella Diaz
Poster Board #: 576

Elucidating the influence of solvent structure on regeneration mechanisms via carbon mineralization

(4304533)
Division of Energy and Fuels
Presenter(s): Porus Sunil Jadhav
Poster Board #: 577

Catalytic graphitization of fuel-grade petroleum coke to produce battery-grade graphite

(4319627)
Division of Energy and Fuels
Presenter(s): Ramu Banavath
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Upcycling polystyrene to graphite: A novel graphene oxide templating approach

(4322964)
Division of Energy and Fuels
Presenter(s): Shakshi Sekar
Poster Board #: 617

Single-step activated biocarbon from agricultural waste: Application in room-temperature hydrogen storage

(4328045)

Division of Energy and Fuels
Presenter(s): Saikat Kumar Animesh | Kuila
Dutta
Poster Board #: 618

**Sustainable flexible supercapacitor
based on lignin-derived carbon
electrodes and biofilm electrolyte:
fabrication, performance, and life
cycle assessment**

(4324574)
Division of Energy and Fuels
Presenter(s): Ridwan Ayinla
Digital Screen #: D19

**Elucidating Si Q structure and
mineralogy changes in Mg-silicate
and Ca-rich industrial by-products
using waste heat**

(4325084)
Division of Energy and Fuels
Presenter(s): Soyoung Choi
Poster Board #: 620

**Shaping tomorrow's energy:
Breakthrough gas hydrate
technologies for a sustainable and
clean future**

(4325571)
Division of Energy and Fuels
Presenter(s): Gaurav NadezhdaSergeevna |
Pandey Molokitina
Poster Board #: 621

**Using aqueous waste streams as
alternate moisture source during
hydrothermal carbonization:
Evaluating the degree of**

**coalification and environmental
performance**

(4326001)
Division of Energy and Fuels
Presenter(s): Rajarshi Bhar
Poster Board #: 622

**Sustainable conductive concrete
supercapacitors: Leveraging
biowaste material for low-cost
energy storage**

(4327148)
Division of Energy and Fuels
Presenter(s): Mobin Vandadi
Poster Board #: 623

**Integrated strategy for CO₂
sequestration, value-added
product recovery, and critical
metal extraction using industrial
wastes**

(4335637)
Division of Energy and Fuels
Presenter(s): Md Sariful Sheikh
Digital Screen #: D20

**One-step selective ammonia
synthesis from various nitrogen
sources and water**

(4280161)
Division of Energy and Fuels
Presenter(s): Shihui Chen
Poster Board #: 625

**Exploring oxygen carrier
performance for chemical looping
processes: A DFT investigation of
CO adsorption on Sr-doped**

LaFeO₃

(4300929)

Division of Energy and Fuels

Presenter(s): Temitayo Ikuerowo

Poster Board #: 626

Sustainable decarbonization of natural gas through TCD for hydrogen and solid carbon production

(4301075)

Division of Energy and Fuels

Presenter(s): Mpila Nkiawete

Poster Board #: 653

Graphitic material production from commercial-ready pyrolysis bio-oil via catalytic graphitization

(4311725)

Division of Energy and Fuels

Presenter(s): Yanghao Jin

Poster Board #: 654

Microwave-assisted delignification for improved cellulose production

(4318980)

Division of Energy and Fuels

Presenter(s): Fan Shi

Poster Board #: 655

Facile 2D In₂Se₃ protection for enhanced BiVO₄ stability in highly alkaline photoelectrochemical water splitting

(4295712)

Division of Energy and Fuels

Presenter(s): Neway Belachew Tadesse

Poster Board #: 656

4-Fluoro benzyl ammonium iodide and 4-Chloro Phenethyl ammonium iodide passivated perovskite films for efficient perovskite solar cells

(4324640)

Division of Energy and Fuels

Presenter(s): Adel Najar

Poster Board #: 657

Tuning spin-dependent photophysics in earth-abundant manganese-oxo complexes for solar fuel applications

(4326296)

Division of Energy and Fuels

Presenter(s): Damilola Akintayo

Digital Screen #: D21

Highly active and stable solar urea oxidation on bifacial microstructured-black photoanodes

(4327828)

Division of Energy and Fuels

Presenter(s): Fei Xiang

Poster Board #: 659

Enhancing the efficiency and stability of tin-based perovskite solar cells via nickel (II) porphyrin complex addition

(4308319)

Division of Energy and Fuels

Presenter(s): Tewodros Abebe

Poster Board #: 660

Non-aqueous

**photoelectrochemical CO₂
reduction on shape-controlled
Cu/Cu₂O catalysts in hydrophobic
[BMIM][NTf₂] under simulated
sunlight irradiation**

(4317446)

Division of Energy and Fuels

Presenter(s): Keigo Roji

Poster Board #: 661

**High catalytic Ni-MoSe₂/rGO
counter electrodes for solar energy
harvesting using dye-sensitized
solar cells**

(4321761)

Division of Energy and Fuels

Presenter(s): Md Kabir

Poster Board #: 662

**Photocatalytic ammonia synthesis
via metal-organic framework-
encapsulated Ru nanoparticles**

(4322585)

Division of Energy and Fuels

Presenter(s): Minhazur Rahman Shawon

Poster Board #: 701

**Unassisted photoelectrochemical
hydrogen peroxide production
coupled with glycerol oxidation
using α -Fe₂O₃ photoanode**

(4327740)

Division of Energy and Fuels

Presenter(s): Sarang Kim

Poster Board #: 702

**Effect of cobalt site density on
oxygen reduction reaction**

pathways in Co-N/C catalysts

(4312331)

Division of Energy and Fuels

Presenter(s): Nayoung Ahn

Poster Board #: 703

**PSA free continuous gas-to-liquid
conversion system for carbon-
efficient electroreduction of CO₂**

(4325408)

Division of Energy and Fuels

Presenter(s): Chengao Zhou

Poster Board #: 704

**Engineering water hydrogen bond
networks within aprotic solvents
for selective electrochemical CO₂
reduction**

(4308466)

Division of Energy and Fuels

Presenter(s): Reginaldo Gomes

Poster Board #: 705

**Binder-free electrode prepared by
customized functional groups on
MoS₂ for high performance
flexible supercapacitors**

(4299733)

Division of Energy and Fuels

Presenter(s): Haobin Zeng

Poster Board #: 706

**Investigation of graphite material
under "dry" and "wet" circuit
conditions**

(4319140)

Division of Energy and Fuels

Presenter(s): Daniela Alarcon

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Division of Energy and Fuels

Presenter(s): Jaehyeon Kim

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Improving charge transfer in zirconium MOF films for electrochemical water oxidation

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Presenter(s): Claudio Amaya-Santos

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(4311768)

Division of Energy and Fuels

Presenter(s): Ryan Klein

Poster Board #: 710

Increased gas uptake of type 2 porous liquids through scrambling core functionalities

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Presenter(s): Jessica Rimsza

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Presenter(s): Dennis Robinson Brown

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Division of Energy and Fuels

Presenter(s): Chiara Corsini

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On-site Hydrogen production from waste: Path to sustainable green hydrogen future

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Division of Energy and Fuels

Presenter(s): Ejikeme Nwosu

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Presenter(s): Mpila Nkiawete

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(4326138)

Division of Energy and Fuels

Presenter(s): Rashmi Charde

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Cross-scale catalyst modeling applied to H₂ storage and release via formic acid

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Presenter(s): Shyam Deo
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Presenter(s): Meltem Urgun-Demirtas
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Electroreductive synthesis of long chain fatty alcohols from CO₂

(4300029)
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Presenter(s): Jiachen Li
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Sustainable energy solutions: Optimizing biodiesel production through heterogeneous catalysis using ZnO/SiO₂ from agricultural waste

(4294188)
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Presenter(s): Abd. Marlan
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Applicability of bacteria-biochar immobilized in alginate hydrogel beads for removal of microcystins in drinking water

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Presenter(s): Jacquelyn Nguyen
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Thermodynamic DFT investigation of iodine-bearing apatites as potential hosts for I-129 radioisotope

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Presenter(s): Bartosz Puzio
Poster Board #: 664

Passive spatial sorting of organic dyes beyond membrane technology

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Presenter(s): Renz Marion Garcia
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Efficient capture of emerging mycotoxins – alternariol, enniatin B1, and beauvericin – using smectite-derived materials with modified surface chemistry

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(4322375)
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Presenter(s): Duwage Perera
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**Inactivated Fusarium sp.
biosorption capacity for removal of
mixed heavy metals from mining-
influenced water**

(4326644)

Division of Environmental Chemistry

Presenter(s): Macy Winn

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**Novel development of Zinc oxide
coated Carbon nanoparticles from
Pineapples leaves using sol gel
method for optimal adsorption of
Cu 2+ and reuse in latent
fingerprint**

(4290837)

Division of Environmental Chemistry

Presenter(s): Bienvenu Gael Mbanga

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**Anions, metals, and other
potentially hazardous materials
present in lithium-ion battery fire
suppression waters**

(4320827)

Division of Environmental Chemistry

Presenter(s): Andrew Maizel

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**Process analysis of recycling
strategies for lithium iron
phosphate batteries**

(4325207)

Division of Environmental Chemistry

Presenter(s): Sweta Balchandani

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fractionation for broad-spectrum
removal of DBP precursors in
chlorinated drinking water**

(4279613)

Division of Environmental Chemistry

Presenter(s): Lakshmi Agrawal

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**Green chemistry approach to azo
dye synthesis: Alginic acid-
mediated diazotization**

(4311453)

Division of Environmental Chemistry

Presenter(s): Krusha Patel

Poster Board #: 673

**Low-energy water desalination
using carbon electrodes in a redox-
driven electrochemical system**

(4314998)

Division of Environmental Chemistry

Presenter(s): Mohammad Pishnamazi

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**Forward osmosis followed by
reverse osmosis for the removal of
contaminants of emerging concern
using a CO₂-responsive draw agent**

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Division of Environmental Chemistry

Presenter(s): Rachel Korchinsky

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**Air-water interfacial area: A key
factor in PFAS transport and fate**

(4304408)

Division of Environmental Chemistry

Presenter(s): Shalini Kadinappulige

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Division of Environmental Chemistry

Presenter(s): Nafees Iqbal

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Division of Environmental Chemistry

Presenter(s): Andrew Huang

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Investigating the effects of PFOS on living cell membrane structure and fluidity: A liposome-based approach to membrane interaction and transport

(4326652)

Division of Environmental Chemistry

Presenter(s): Tutun Graham | Aka Dobereiner |

Stephanie Wunder

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(4326697)

Division of Environmental Chemistry

Presenter(s): Indira Kafle

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Total organofluorine analysis via reductive defluorination of PFAS with sodium biphenyl complex

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Division of Environmental Chemistry

Presenter(s): Seth McCoy

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(4308756)

Division of Environmental Chemistry

Presenter(s): Siyum Shewakena Beshahwored

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Division of Environmental Chemistry

Presenter(s): Vikram Kumar

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Division of Environmental Chemistry

Presenter(s): Aravind Baby

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for sustainable wastewater
treatment**

(4327051)

Division of Environmental Chemistry
Presenter(s): Raghav Dosi
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bifurcation by mediating flavin-
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A novel role of pyrogenic carbon in
dark fermentation for hydrogen
production**

(4312864)

Division of Environmental Chemistry
Presenter(s): Wenjing Tian
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Division of Environmental Chemistry
Presenter(s): Judith Venegas Flores
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**Iminopyridines as novel CO₂
capture agents**

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Division of Environmental Chemistry
Presenter(s): Ashton Havens
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Presenter(s): Debojyoti Chakraborty
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compositions in epiphytic moss
growing near the Hillsboro
Airport, Hillsboro, Oregon**

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Division of Environmental Chemistry
Presenter(s): Oluwaseyi Aderinboye
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Division of Environmental Chemistry
Presenter(s): Bianca Aridjis-Olivos
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(DOM) and heavy metals (HM) in
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Orleans**

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Division of Environmental Chemistry
Presenter(s): Hanieh AghaieRanjbar
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products (PPCPs) in freshwater in
Northern Virginia, United States**

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Division of Environmental Chemistry
Presenter(s): Baibai Kamara
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Division of Environmental Chemistry

Presenter(s): Stephanie Jaskiewicz

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Division of Environmental Chemistry

Presenter(s): Md. Redowan Rashid

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Presenter(s): Suhyun Lee

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Presenter(s): Tiberias Okanga

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Division of Environmental Chemistry

Presenter(s): Zala Štukovnik

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Division of Environmental Chemistry

Presenter(s): Ashley Apodaca-Sparks

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Division of Environmental Chemistry

Presenter(s): Mahsa Zarei

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Decay dynamics and persistence of hepatitis C virus RNA: Applications in wastewater-based epidemiology

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Division of Environmental Chemistry

Presenter(s): Rakshya Baral

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Yields and characterization of microplastic-derived dissolved organic matter from different polymers under varying leaching

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Division of Environmental Chemistry

Presenter(s): Shimaa Kteeba

Poster Board #: 749

Analysis and testing of a microplastic detection technique in a Scottish river

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Division of Environmental Chemistry

Presenter(s): Burhan Ishaque

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Division of Environmental Chemistry

Presenter(s): Amrit Ojha

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Division of Environmental Chemistry

Presenter(s): Milton Chandra Das

Poster Board #: 752

Microplastics in municipal solid waste landfill leachate and their removal in treatment units: A perspective of controlled and uncontrolled landfills

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Division of Environmental Chemistry

Presenter(s): Ayan Lodh

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(4323088)

Division of Environmental Chemistry

Presenter(s): Bosirul Hoque

Poster Board #: 754

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Division of Environmental Chemistry

Presenter(s): Renz Marion Garcia

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Division of Environmental Chemistry

Presenter(s): Md Sazzadul Haque

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PLA/TiO2 composite microparticles for integrated adsorptive-photocatalytic removal of rifampicin from water

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Division of Environmental Chemistry

Presenter(s): Aliaksandr Kraskouski

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Division of Environmental Chemistry
Presenter(s): Eshita Jhahan
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Aquifer sediment color tool for targeting arsenic safe groundwater: Observations from different parts of the Gangetic basin, India

(4320426)

Division of Environmental Chemistry
Presenter(s): Tridip Bhowmik
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Division of Environmental Chemistry
Presenter(s): Kunlong Huang
Poster Board #: 760

Advances in the oxidation of catechol at the air-water interface

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Division of Environmental Chemistry
Presenter(s): Deborah Adeyemi-Alabi

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Long-term electrocatalytic activity study for nitrate removal in an ion exchange waste brine

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Division of Environmental Chemistry
Presenter(s): Kuan-Lin Lee
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Enhancing activated carbon filter (ACF) for effective lead capture in water

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Division of Environmental Chemistry
Presenter(s): Vikrant Jandev
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Enhancing water quality monitoring in resource-limited settings: A user-friendly approach for contaminant detection

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Division of Environmental Chemistry
Presenter(s): Prakash Aryal
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Division of Environmental Chemistry
Presenter(s): Ritu Rani
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Turn-off optical ICT-based probe for the selective detection of cyanide ion in real samples

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Division of Environmental Chemistry
Presenter(s): Sisay Uota
Poster Board #: 766

**Reusability of 96-well plates and
Pipette Tips in the Bradford
protein assay to reduce laboratory
plastic waste**

(4321829)
Division of Environmental Chemistry
Presenter(s): Walter Henne
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**How do fecal viral shedding
trajectories affect wastewater-
based epidemiological model
findings in low-population
communities?**

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Presenter(s): Aiswarya Rani Pappu
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**PFAS discharged at rest areas along
the interstate highways**

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Presenter(s): Ramesh Sapkota
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**Highly selective recovery of
phosphorus in steelmaking slag by
chlorination and carbon reduction**

(4321531)
Division of Environmental Chemistry
Presenter(s): Naoto Tsubouchi
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**Thermal decomposition of
metacinnabar (β -HgS) during
monoethylene glycol regeneration
in natural gas processing**

(4304331)
Division of Environmental Chemistry
Presenter(s): Chengyi Hong
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**Phase behaviour of sustainable
aqueous biphasic systems based
on bio-renewable solvents and
choline salts**

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Division of Environmental Chemistry
Presenter(s): Marion Engole
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**Aggregation of ultrashort-chain
PFAS for target treatment via
Donnan dialysis process**

(4326155)
Division of Environmental Chemistry
Presenter(s): Callie Luke | Muska Campbell |
Emma Foley
Poster Board #: 773

**Division of Geochemistry
(GEOC)**

**Dissolution of ion-substituted
amorphous calcium phosphate
nanoparticles: Role of cation and
anion doping**

(4299854)
Division of Geochemistry
Presenter(s): Pavlo Ivanchenko

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**Bacterial phosphorus metabolism:
From fundamental understanding
to biotechnological applications for
a sustainable future**

(4301023)

Division of Geochemistry
Presenter(s): Ryuichi Hirota
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**Probing temperature-dependent
and ion-specific interfacial
electrostatics at silica/water
interfaces by phase-resolved
nonlinear optics**

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Division of Geochemistry
Presenter(s): Nicole Gonzalez
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**Exploring carbon mineralization
potential of Tamarack peridotite
and insights into Mg-silicate rock-
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(4327771)

Division of Geochemistry
Presenter(s): Soyoung Choi
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**Oxidative reactivity of iron oxides
in Ce adsorption**

(4311385)

Division of Geochemistry
Presenter(s): Yanyi Yang
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**Feature-based molecular
networking for identifying**

**unknown compounds in
Greenland sediments: Advancing
climate and environmental
reconstructions**

(4327329)

Division of Geochemistry
Presenter(s): John Michael Aguilar
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**Assessment of carbonated-water
flooding for enhanced oil recovery
and CO₂ sequestration in
sandstone reservoirs**

(4328378)

Division of Geochemistry
Presenter(s): Sushobhan Pradhan
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**Quantitative analysis and
predictive modeling of
geopolymer degradation in mining
environments: Evaluating acidic
and alkaline solution effects at
elevated temperatures**

(4292635)

Division of Geochemistry
Presenter(s): SAKV Miyurudarshi Piyathilake
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Understanding of PFAS
Interactions on Ferrihydrite Using
Flow-through ATR-FTIR**

(4325021)

Division of Geochemistry
Presenter(s): Gourav Shil
Poster Board #: 782

Preliminary investigation of environmental controls on trace element incorporation into Potomac River and Chesapeake Bay benthic foraminifera

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Division of Geochemistry
Presenter(s): Allison Burgess
Poster Board #: 783

Characterizing the variability of physicochemical properties of natural crystalline graphite

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Presenter(s): Martha Stokes
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Speciation of rare earth sulfates at elevated temperatures

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Presenter(s): Marie Mortensen
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Nonclassical mechanisms mobilized by current antimalarials to inhibit hematin crystallization

(4313590)
Division of Geochemistry
Presenter(s): Peter Vekilov
Poster Board #: 786

Evolution of enamel nanocrystal misorientation before and after diet changes

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Division of Geochemistry
Presenter(s): Pupa Gilbert

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Electrochemically-stimulated mineralization of mining waste: waste to value

(4325174)
Division of Geochemistry
Presenter(s): Ivy Wu
Poster Board #: 788

Enhancement of 5-fluorocytosine monohydrate stability through doping

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Division of Geochemistry
Presenter(s): Lindsey Foote
Poster Board #: 789

Tuning the moisture sorption properties of cytosine

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Division of Geochemistry
Presenter(s): Elena Marchetti
Poster Board #: 790

Recovery of uranium from seawater using pyridyl ligands: A study of log K values at high ionic strength

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Division of Geochemistry
Presenter(s): Larry Marshall
Poster Board #: 791

Redox-active ligand mediated electrochemical recovery of e-waste metals: A preliminary investigation using azothioformamides

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Division of Geochemistry
Presenter(s): Caleb Zando
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Glue and adhesives: A chemical history

(4316595)
Division of the History of Chemistry
Presenter(s): Graeme Wyllie
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Domestic science and materials. The case of Agnes Pockels and surface chemistry

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Presenter(s): Brigitte Van Tiggelen
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Ozone hole: Discovery and impact

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Presenter(s): Carmen Giunta
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Lazar Solomonovich Polyakov's contributions to science and technology

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Presenter(s): Milana Lisunova
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How new chemical detection methods led to the discovery of

acetaminophen as a useful drug

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Presenter(s): Alice Haddy
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Shielding through time: Exploring the history and teaching of Slater's Rules

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Presenter(s): Grace Lee
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History and philosophy of calories and respiration

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Presenter(s): Auston Cherbonneau
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From glass to plastic: The past and future of cell culturing glassware

(4328072)
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Presenter(s): Rachael Orkin
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From clay to gold: Recreating ancient alchemical techniques

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Looking back to Bohr's model of bonding

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Presenter(s): Thibault Terencio

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Quantum dots in science and engineering: The beginning and the future

(4327495)

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Presenter(s): Nelly Mateeva

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Life and quantum science of Arno Rudolf Bohm

(4336829)

Division of the History of Chemistry

Presenter(s): Rudolf Bohm

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Anomalous ionic current in charged boron-nitride nanotubes

(4319521)

Division of Industrial and Engineering Chemistry

Presenter(s): Pavel Rehak

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ECCSELLENT Project towards Net-Zero emission: UniBo is tackling material challenges for a sustainable future

(4313036)

Division of Industrial and Engineering Chemistry

Presenter(s): Virginia Signorini

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Targeted two-step hydrolysis of orange peel waste for efficient production of C5 and C6 sugars

(4322298)

Division of Industrial and Engineering Chemistry

Presenter(s): Giulia Brufani

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Biochemical conversions with a triple-scale MATLAB model from biogas to methanol

(4326060)

Division of Industrial and Engineering Chemistry

Presenter(s): Cristiano Reis

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Refractive index measurements of binary solutions of aliphatic and cyclic compounds

(4327279)

Division of Industrial and Engineering Chemistry

Presenter(s): Madi Karla | Cha Vargas

Poster Board #: 610

Plasma treatment of fine aggregate for stronger cement mortar: Towards a high-strength, low-carbon concrete with reduced Portland cement content

(4327378)

Division of Industrial and Engineering Chemistry

Presenter(s): Dalton Vassallo

Poster Board #: 611

N₂O catalytic decomposition over polymer-assisted Co₃O₄-spinel catalyst in O₂-rich atmospheric

condition

(4334827)

Division of Industrial and Engineering Chemistry

Presenter(s): Nahea Kim

Poster Board #: 612

Molten magnesium compression strategy to compress boron nitride for enhanced stability in propane oxidative dehydrogenation

(4305019)

Division of Industrial and Engineering Chemistry

Presenter(s): Yanan Huang

Poster Board #: 613

Sustainable mitigation of chloride attack in self-healing concrete using carbonic anhydrase

(4308835)

Division of Industrial and Engineering Chemistry

Presenter(s): Pardis Nima | Pourhaji Rahbar

Poster Board #: 614

Optimizing carbon mineralization of coal fly ash: Converting industrial waste to high-value precipitated calcium carbonate

(4319297)

Division of Industrial and Engineering Chemistry

Presenter(s): Aline Uwase

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Division of Inorganic Chemistry (INOR)

Conversion chemistry: Opportunities beyond the rocking

chair for future sustainable electrochemical energy storage systems

(4327411)

Division of Inorganic Chemistry

Presenter(s): Kenneth Takeuchi

Poster Board #: 472

Confining cations for calorics

(4325549)

Division of Inorganic Chemistry

Presenter(s): Daniel Laorenza

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Simple approach for minimizing back pressure in breakthrough measurements of metal-organic frameworks

(4318999)

Division of Inorganic Chemistry

Presenter(s): Daniel Corbin

Poster Board #: 474

Dissecting CthEgtB catalysis: How pH, temperature, O₂ levels, and affinity tags shape sulfoxide synthase activity

(4327427)

Division of Inorganic Chemistry

Presenter(s): Cassidy Rodriguez

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Whole-cell Mössbauer spectroscopy of the ferric uptake regulator: features, successes, and limitations of the technique

(4336937)

Division of Inorganic Chemistry

Presenter(s): Codrina Popescu

Poster Board #: 476

Tuning of beta-Lactoglobulin and ligand scaffold structure towards an artificial model of metallocofactor dynamics

(4304474)

Division of Inorganic Chemistry

Presenter(s): Emily Stumbo

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Designing innovative bimetallic and trimetallic complexes inspired by metalloenzymes for hydrogen activation and molecular electronics

(4325295)

Division of Inorganic Chemistry

Presenter(s): Akhil Singh

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Detailed potentiometry, ^1H -NMR, and UV-Vis of ascorbic acid with Al^{3+} in aqueous solutions

(4291050)

Division of Inorganic Chemistry

Presenter(s): Yahia Hamada

Poster Board #: 479

Zinc(II)-1,1'-cycloalkyldicarboxylate luminescent coordination polymers bearing 4,4'-trimethylenebipyridine: synthesis, crystal structures, solid-state CPMAAS ^{13}C NMR correlation and luminescence properties

(4321727)

Division of Inorganic Chemistry

Presenter(s): Jonathan Jaramillo-García

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Differences in the cation effect on the redox properties of single-atom bridged polyphosphotungstates

(4325763)

Division of Inorganic Chemistry

Presenter(s): James Kirby

Poster Board #: 481

Assessing structure, dynamics, and reactivity of iron complexes supported by Tris(amidate)amine ligands

(4300840)

Division of Inorganic Chemistry

Presenter(s): Lucy Huffman

Poster Board #: 482

Molecular and ionic isomers in heterotrimetallic Cr-Na-Fe system

(4306740)

Division of Inorganic Chemistry

Presenter(s): Joyce Chang

Poster Board #: 483

Probing transition metal sites in heterotri- and -tetrametallic complexes: Identity, occupancy, and oxidation states

(4307398)

Division of Inorganic Chemistry

Presenter(s): Zheng Wei

Poster Board #: 484

Reactivity of Isocyanides with a sterically encumbered $[\text{Fe}_2(\mu-$

H) 2] 2^{+} complex

(4308673)

Division of Inorganic Chemistry

Presenter(s): Titto John

Poster Board #: 543

Synthesis and photophysical properties of dinuclear Cu(I) complexes with metal–metal bonds

(4315101)

Division of Inorganic Chemistry

Presenter(s): Rishi Ranjan

Poster Board #: 544

Synthesis and reactivity of organometallic complexes bearing protic pincer ligands

(4318924)

Division of Inorganic Chemistry

Presenter(s): Yotam Ardon

Poster Board #: 545

Functional nickel pincer nucleotide (NPN) models for lactate racemase featuring unsymmetrical SCS' ligands

(4321023)

Division of Inorganic Chemistry

Presenter(s): Hannah Gennaro

Poster Board #: 546

Investigating the electrochemistry of some hexarhenium(III) cluster complexes

(4325829)

Division of Inorganic Chemistry

Presenter(s): Lisa Szczepura

Poster Board #: 547

Growth of an undecanuclear iron(III) cluster as a model of superparamagnetic iron oxide nanoparticle formation

(4278646)

Division of Inorganic Chemistry

Presenter(s): William Kerber

Poster Board #: 548

Photoactivated metal–organic frameworks: A next-generation approach for dual-mode chemotherapy

(4318993)

Division of Inorganic Chemistry

Presenter(s): Sreenivasulu Chinnabattigalla

Poster Board #: 549

Improved photostability of organic dyes housed in metal organic frameworks

(4327889)

Division of Inorganic Chemistry

Presenter(s): Christopher Breshike

Poster Board #: 550

Correlative microscopy to facilitate functional nanomaterial semiconductor devices

(4316395)

Division of Inorganic Chemistry

Presenter(s): Thomas Kolibaba

Poster Board #: 551

Characterizing liquid:liquid interfaces in metal-organic frameworks

(4325570)

Division of Inorganic Chemistry

Presenter(s): Lamisa Rahman

Poster Board #: 552

Colloidal synthesis of GeSn alloy nanocrystals and their solution-processed thin films with high electrical conductivity and tunable optical properties

(4327278)

Division of Inorganic Chemistry

Presenter(s): Indika Arachchige

Poster Board #: 554

1,4-Diazine–Lithium complexes as structural models for organic Li-ion battery cathodes

(4325623)

Division of Inorganic Chemistry

Presenter(s): George Tisdale

Poster Board #: 555

Electrochemical and photochemical polymerization of Ru (ii) 5-crotonamido-1,10-phenanthroline complexes: Understanding the mechanism and copolymerization with acrylamide

(4320482)

Division of Inorganic Chemistry

Presenter(s): Ezazul Russell | Khan Schmehl

Poster Board #: 556

High-valent iridium(III) complexes for n-alkane and polyolefin dehydrogenation

(4327854)

Division of Inorganic Chemistry

Presenter(s): Maura Gibbs

Poster Board #: 557

Computational study of ligand electronic effects in thermodynamics of oxidative addition to platinum-group metals

(4299718)

Division of Inorganic Chemistry

Presenter(s): Ethan Song

Poster Board #: 558

Synthesis, characterization and biological applications of novel organometallic complexes

(4318773)

Division of Inorganic Chemistry

Presenter(s): Jamil Khan

Poster Board #: 559

Organometallic nickel-pincer complex models lactate racemase activity in water

(4321005)

Division of Inorganic Chemistry

Presenter(s): Thomas Dow

Poster Board #: 560

Accessing small molecule activations via appended borane Lewis acids

(4326445)

Division of Inorganic Chemistry

Presenter(s): Shuhan He

Poster Board #: 561

Electron density redistribution and

**atypical structural behavior in
gold(III) phosphine complexes:
Rethinking the structural rigidity of
d8 metal centers**

(4322835)
Division of Inorganic Chemistry
Presenter(s): Jong Hyun Kim
Poster Board #: 562

**Heavier alkali metal
carbonphosphonitride thermosets
and ternary alkali cyanides and
dicyanamides as solid-state
electrolytes**

(4278175)
Division of Inorganic Chemistry
Presenter(s): Andrew Purdy
Poster Board #: 563

**Development of solid state glass
and Polymer-Sulfide complex
electrolyte for Lithium batteries**

(4322591)
Division of Inorganic Chemistry
Presenter(s): Sneha Perikkathra
Poster Board #: 564

**Synthesis and characterization of a
series of new alkali metal rare
earth bismuth chalcogenides**

(4298649)
Division of Inorganic Chemistry
Presenter(s): Pedro Trinidad-Perez
Poster Board #: 565

**Chemical and magnetic
modification of Mn-rich complex
intermetallics**

(4316301)
Division of Inorganic Chemistry
Presenter(s): Zachary Messegee
Poster Board #: 566

**Crystal structure and physical
properties of non-
centrosymmetric hyperkagome
magnets**

(4316800)
Division of Inorganic Chemistry
Presenter(s): Esther Udoh
Poster Board #: 567

**Expansion of quantum confined
one dimensional lepidocrocite
Titania via alternative synthesis
pathways**

(4326593)
Division of Inorganic Chemistry
Presenter(s): Aidan McMoil
Poster Board #: 568

**Hydrothermal synthesis and
magnetic characterization of a
novel chained transition metal
vanadate family, $\text{CsM}(\text{VO}_3)_2\text{Cl}$ (M
= Mn, Fe, Co, Ni, Cu)**

(4328032)
Division of Inorganic Chemistry
Presenter(s): Mahsa Foroughian
Poster Board #: 627

**Magnetic-field assisted
electrodeposition of MnO_2
cathodes for aqueous zinc-ion
batteries**

(4319131)
Division of Inorganic Chemistry

Presenter(s): Kaylie McCracken
Poster Board #: 628

Optimizing the photophysical properties of tin- and germanium-based perovskite based on lone pair expression

(4315927)
Division of Inorganic Chemistry
Presenter(s): Xinyu Li
Poster Board #: 629

Development of transition metal (Fe, Co, Ni) doped self-supported Cu(S/Se)/CuO NanoArrays on Cu foam for oxygen evolution reaction

(4320941)
Division of Inorganic Chemistry
Presenter(s): Ranjana Burman
Poster Board #: 630

Production of MoO_x and its use in the removal of methylene blue dye

(4327222)
Division of Inorganic Chemistry
Presenter(s): Nishamini Ruwanthika Jayasekara
Poster Board #: 631

Division of Medicinal Chemistry (MEDI)

Synthesis of 1,2, 3-triazole-based HDAC/BRD4 inhibitors for neuropathic pain

(4295534)
Division of Medicinal Chemistry

Presenter(s): Tomas Sepulveda
Poster Board #: 632

Triple negative breast cancer: Novel abietane derivatives as potential therapeutic agents

(4320945)
Division of Medicinal Chemistry
Presenter(s): Sydney Lawson
Poster Board #: 633

Salinomycin conjugates as potential anti-cancer agents

(4322941)
Division of Medicinal Chemistry
Presenter(s): Mason James | Shute Haugh
Poster Board #: 634

Synthesis of novel antimalarials to improve aqueous solubility

(4312796)
Division of Medicinal Chemistry
Presenter(s): Caroline Lynch
Poster Board #: 635

Synthesis of novel boronates as building blocks of potential aspartic protease enzyme inhibitors

(4327037)
Division of Medicinal Chemistry
Presenter(s): Kayden Stiner
Poster Board #: 636

Targeting RAD51-BRCA2 protein-protein interaction to exploit synthetic lethality as a paradigm for drug combination in pancreatic cancer

(4312469)
Division of Medicinal Chemistry
Presenter(s): Greta Bagnolini
Digital Screen #: D27

**Improving the efficiency of
secondary metabolite extraction in
microbes that produce antibiosis**

(4320490)
Division of Medicinal Chemistry
Presenter(s): Sophie Perruffel
Poster Board #: 638

**Verteporfin-derived nanoparticles
for targeted photodynamic
therapy of ovarian cancer**

(4314696)
Division of Medicinal Chemistry
Presenter(s): Carla Arnau del Valle
Poster Board #: 639

**Integrated pharmacological
strategy for metabolic syndrome
(MetS): Dual CB1R and iNOS
inhibition synergy**

(4319694)
Division of Medicinal Chemistry
Presenter(s): Pinaki Bhattacharjee
Poster Board #: 640

**Synthesis of a novel photoaffinity
probe for analysing the
phosphatidylinositol 5-phosphate
interactome**

(4318161)
Division of Medicinal Chemistry
Presenter(s): Glen Brodie
Poster Board #: 641

**CADA compound downmodulates
OXTR and Cx43 in human
myometrial tissue: Novel approach
to preventing preterm birth**

(4323095)
Division of Medicinal Chemistry
Presenter(s): Thomas Bell
Poster Board #: 642

**Selective and highly druglike
inhibitors of PIKfyve kinase:
Targeting autophagy-reliant
tumors**

(4320823)
Division of Medicinal Chemistry
Presenter(s): Thomas Bannister
Poster Board #: 643

**Local anti-inflammatory effect in a
psoriasis model using a
photoswitchable drug, A3
adenosine receptor agonist
MRS7787**

(4312510)
Division of Medicinal Chemistry
Presenter(s): Kenneth Jacobson
Poster Board #: 644

New workflow to purify peptides

(4314662)
Division of Medicinal Chemistry
Presenter(s): Jack Silver
Poster Board #: 645

**Engineering selective PDE4 isoform
degradation: The design and
function of KTX207 PROTAC**

(4328028)

Division of Medicinal Chemistry
Presenter(s): Eduardo Torres
Poster Board #: 646

Identifying ligands for undruggable targets via on-DNA peptide synthesis

(4298542)
Division of Medicinal Chemistry
Presenter(s): Farjana Afroj
Poster Board #: 647

Targeting TSSK1/2 for non-hormonal male contraception: Development of first-generation degraders and discovery of potent scaffolds through DNA-encoded library screening

(4312620)
Division of Medicinal Chemistry
Presenter(s): Jerrett Holdaway
Poster Board #: 648

Cooler sterol: Design and synthesis of tail-modified sterols to enhance endosomal escape and mRNA delivery via lipid nanoparticles

(4322501)
Division of Medicinal Chemistry
Presenter(s): Daniel Harrison
Poster Board #: 649

Design, synthesis, and evaluation of a DYRK1A degrading PROTAC scaffold using known small molecule inhibitors

(4327318)
Division of Medicinal Chemistry
Presenter(s): Sean Ginn

Poster Board #: 650

Development of a novel GSDMD inhibitor for the treatment of acetaminophen-induced liver injury

(4291556)
Division of Medicinal Chemistry
Presenter(s): Jannatun Nayem Namme
Poster Board #: 651

Azoreductase-triggered hydropersulfide donors

(4299688)
Division of Medicinal Chemistry
Presenter(s): Andrew Thampoe
Poster Board #: 652

Fine-tuning the self-assembly modulating motif for the development of paclitaxel-peptide prodrug Hydrogelator

(4312626)
Division of Medicinal Chemistry
Presenter(s): Ziqi Chen
Poster Board #: 711

Targeting the mRNA thiamine pyrophosphate riboswitch with small molecules

(4314932)
Division of Medicinal Chemistry
Presenter(s): Abigale Wood
Poster Board #: 712

Design and synthesis of small molecule HIV-1 envelope glycoproteins inhibitors

(4315821)

Division of Medicinal Chemistry
Presenter(s): Ta-Jung Chiu
Poster Board #: 713

**Toward a small molecule
therapeutic for Angelman
syndrome: structure activity
relationship studies of paternal
Ube3a unsilencer (S)-PHA533533**

(4319047)
Division of Medicinal Chemistry
Presenter(s): Anna Welton-Arndt
Poster Board #: 714

**Discovering Isocitrate
Dehydrogenase 1 (IDH1) inhibitors
using a covalent fragment
approach**

(4323014)
Division of Medicinal Chemistry
Presenter(s): Charles Brownn
Poster Board #: 715

**Synthesis and functionalization of
Sulfoximine-Bicyclo[1.1.0]butanes:
Functionalizable, tuneable and
cysteine-selective chiral warheads**

(4318985)
Division of Medicinal Chemistry
Presenter(s): Tsz Kan Ma
Poster Board #: 716

**Development of allosteric non-
covalent KRAS inhibitors targeting
effector binding disruption**

(4323310)
Division of Medicinal Chemistry
Presenter(s): Rashini Ama Shakya Kohomban
Gamage

Poster Board #: 717

**Identification of EphB1/2 tyrosine
kinase inhibitors for
chemotherapy-induced peripheral
neuropathic pain**

(4321878)
Division of Medicinal Chemistry
Presenter(s): Harrison Benson
Poster Board #: 718

**Structure-activity relationship of
thienylidene substituted
dihydrobenzofuran derivatives as
poly (ADP-ribose) polymerase
inhibitors**

(4327344)
Division of Medicinal Chemistry
Presenter(s): Abosede Salami
Poster Board #: 719

**Laying foundation for a potential
novel Sideromycin through the
siderophore Catenulobactin B and
its analogs**

(4316698)
Division of Medicinal Chemistry
Presenter(s): Prathibha Desman Patel
Poster Board #: 720

**Synthesis of fluorescence peptide
macrocycle for targeted near-
infrared fluorescence imaging of
fibrin**

(4326099)
Division of Medicinal Chemistry
Presenter(s): Maddelyn Hoehn
Poster Board #: 721

**Trisubstituted pyrazole derivatives
as potent ant-MRSA agents in In
vivo models**

(4311006)
Division of Medicinal Chemistry
Presenter(s): Mohammad Alam
Poster Board #: 722

**Average electron density tool: A
quantum method to evaluate
bioisosterism in drug design**

(4339137)
Division of Medicinal Chemistry
Presenter(s): Alya Arabi
Poster Board #: 723

**Reversible covalent bonding for
peptide conformational control to
facilitate the development of
p53/MDM2 protein-protein
interaction inhibitors**

(4313568)
Division of Medicinal Chemistry
Presenter(s): Naoki Umezawa
Poster Board #: 724

**Division of Organic
Chemistry (ORGN)**

**2-Azaallyl anions and radicals in
the synthesis of amines**

(4323317)
Division of Organic Chemistry
Presenter(s): Patrick Walsh
Poster Board #: 800

Optimizing the asymmetric

**hydrogenation of Δ^8 -
tetrahydrocannabinol**

(4310877)
Division of Organic Chemistry
Presenter(s): Justin Barrett
Poster Board #: 801

**Experimental and computational
analysis of HFIP solvent effects on
enantioselectivity of dirhodium
tetracarboxylate-catalyzed
cyclopropanation**

(4301341)
Division of Organic Chemistry
Presenter(s): Kristin Shimabukuro
Poster Board #: 802

**Towards new routes for P-
chirogenic compounds:
Asymmetric oxidation of
phosphines**

(4320197)
Division of Organic Chemistry
Presenter(s): Kana Yamamoto
Poster Board #: 803

**Biocatalytic strategy for the highly
stereoselective synthesis of
fluorinated cyclopropanes**

(4291476)
Division of Organic Chemistry
Presenter(s): Juan Villada
Poster Board #: 804

**Biocatalytic synthesis of 1,2, 4-
thiadiazoles enabled by enzymatic
halide recycling with vanadium
haloperoxidases**

(4322720)
Division of Organic Chemistry
Presenter(s): Manik Sharma
Poster Board #: 805

Biocatalytic oxidation of indoles enabled by enzymatic halide recycling with vanadium-dependent haloperoxidases

(4318353)
Division of Organic Chemistry
Presenter(s): Hyung Ji Lee
Poster Board #: 831

Aqueous S_NAr reactions without surfactant: A scalable method that uses only water from start to finish

(4306758)
Division of Organic Chemistry
Presenter(s): Elizabeth Larson
Poster Board #: 832

Chemoenzymatic synthesis of tetrahydroquinolines using whole cells expressing engineered transaminases

(4325112)
Division of Organic Chemistry
Presenter(s): Chloe Wendy | Wang Xu | Hanna Key
Poster Board #: 833

Readily accessible, versatile, and adaptive biaxially chiral chromophores

(4313296)
Division of Organic Chemistry
Presenter(s): Jiaoyan Zhao
Poster Board #: 834

Total synthesis of indole alkaloids

(4309297)
Division of Organic Chemistry
Presenter(s): Peter Wipf
Poster Board #: 835

Synthesis of a variety of pyridine-2-boronic esters and pyridine-3-boronic esters through air-stable palladium catalysts

(4300280)
Division of Organic Chemistry
Presenter(s): Richard Carson | Da Yu | Justin Yuan | Arik Zhang | Ryan Zhu | George Li
Poster Board #: 836

Chan-Evans-Lam oxidative alkylation

(4321889)
Division of Organic Chemistry
Presenter(s): Nitya Sharma
Poster Board #: 837

gem-Difluorinated saturated O- and N-heterocycles - the new tools for fine tuning of physicochemical properties

(4302051)
Division of Organic Chemistry
Presenter(s): Oleksandr Liashuk
Poster Board #: 838

Harnessing sulfur synergy with carbenes and nitrenes for late-stage functionalizations of aromatic heterocycles

(4327595)
Division of Organic Chemistry
Presenter(s): Indrajeet Sharma

Poster Board #: 839

Novel anticancer compounds based on five member ring nitrogen containing heterocycles

(4302102)

Division of Organic Chemistry

Presenter(s): Liliya Frolova

Poster Board #: 840

In vitro antioxidant activity and toxicity assessment of flavonoids and coumarins from Landolphia violaceae (Apocynaceae): potential for pharmaceutical applications

(4317631)

Division of Organic Chemistry

Presenter(s): Gwladys DominiqueSerge | Djikam

Sime Ngonobikobo

Poster Board #: 841

Modular narrow bandgap donor-acceptor biradicaloids based on a strongly electron-deficient acceptor

(4322439)

Division of Organic Chemistry

Presenter(s): Tanner Smith

Poster Board #: 842

One-Pot Three-Component Synthesis of Novel p-[(Benzothiazolylamino)(aryl/heteroaryl)methyl]phenols under Catalyst- and Solvent-Free Conditions

(4281432)

Division of Organic Chemistry

Presenter(s): Mohammed Hawsawi

Poster Board #: 892

Synthesis, characterization and computational study of hydroxybenzamide derivatives of bile acid inhibitors of Clostridioides difficile spore germination

(4308919)

Division of Organic Chemistry

Presenter(s): Cristian Suárez

Poster Board #: 893

Digital absorption spectral database of pyrimidine nucleobases and nucleoside analogues

(4318942)

Division of Organic Chemistry

Presenter(s): Masahiko Taniguchi

Poster Board #: 894

Phenolic phytochemicals: A digital database of absorption spectra

(4320418)

Division of Organic Chemistry

Presenter(s): Phuong Ly

Poster Board #: 895

Isolation and synthesis of natural compounds and derivatives

(4324942)

Division of Organic Chemistry

Presenter(s): Mamoalosi Selepe

Poster Board #: 896

Versatile strategy for synthesis of mushroom-inspired chromophores

(4327576)

Division of Organic Chemistry

Presenter(s): Lilly Springer

Poster Board #: 897

**Combining process chemistry and engineering to develop intensified and automated continuous manufacturing process:
Application to apremilast synthesis**

(4322895)

Division of Organic Chemistry

Presenter(s): Hsiao-Wu Hsieh

Poster Board #: 898

Iridium catalyzed reductive coupling of 1o amides to prepare 2o amides

(4316540)

Division of Organic Chemistry

Presenter(s): Trandon Bender

Poster Board #: 899

Synthesis and reactivity of Lewis acidic pyridine Di(imine) bismuth mono- and dications

(4326501)

Division of Organic Chemistry

Presenter(s): Anthony Alfaro

Poster Board #: 900

CoIII-catalyzed sequential C–H bond addition to dienes and one-carbon electrophiles: Syntheses of α -Quaternary aldehydes and amides

(4318473)

Division of Organic Chemistry

Presenter(s): Jihyeon Yeo

Poster Board #: 901

Copper-catalyzed C(sp³)-H Functionalization with CH-acids

(4326241)

Division of Organic Chemistry

Presenter(s): Milad Pedarpour Vajargahy

Poster Board #: 902

Aromatic azaboronate ring-expansion by C(sp²) 1,2-metallate migration

(4335138)

Division of Organic Chemistry

Presenter(s): Braden Mediavilla

Poster Board #: 903

Detecting dissolved organic phosphorus with macrocycle-polymer based phosphate sensors

(4321181)

Division of Organic Chemistry

Presenter(s): Debapriya Gupta

Poster Board #: 904

Rapid sonosynthesis of sp²-carbon conjugated covalent organic frameworks

(4328520)

Division of Organic Chemistry

Presenter(s): Chelsea Harrod

Digital Screen #: D28

Polymer salts as potential halogen bond acceptors

(4320690)

Division of Organic Chemistry

Presenter(s): Abena Adjei

Poster Board #: 907

**Strain-driven functionalization:
Unlocking the reactivity of small
carbocycles**

(4320233)

Division of Organic Chemistry
Presenter(s): AYAN DASGUPTA
Poster Board #: 908

**Versatile tools for remodeling
molecular scaffolds: The carbon
edit**

(4320082)

Division of Organic Chemistry
Presenter(s): Karen de la Vega Hernández
Poster Board #: 909

**Cascade synthesis of 2H-azepine-2-
ones**

(4325659)

Division of Organic Chemistry
Presenter(s): Alexander Kornienko
Poster Board #: 910

**Catalyst-controlled chemoselective
 γ -C(sp³)-H lactonization of
carboxylic acid: Methyl versus
methylene**

(4303222)

Division of Organic Chemistry
Presenter(s): Jie-Lun Yan
Poster Board #: 911

**Deoxyfluorinative approach
towards fluorine-substituted
organoboronates**

(4310888)

Division of Organic Chemistry
Presenter(s): Oleksandr Liashuk
Poster Board #: 912

**One pot synthesis of acetals from
esters: Access to naturally
occurring fragrances**

(4317537)

Division of Organic Chemistry
Presenter(s): Rebeka Lo?mele
Poster Board #: 913

**Exploiting enzymes as “reporters”
to assist in reaction discovery and
optimization: The In Situ Enzymatic
Screening (ISES) approach**

(4323297)

Division of Organic Chemistry
Presenter(s): Aina Nandkishor | Antony Khot |
Jonathan Baine | Jared Hass | Chathurika
Usliyanage | Ayodele Anjorin
Poster Board #: 914

**Synthetic optimization and
aqueous stability of highly
selective opioid antagonist**

(4326827)

Division of Organic Chemistry
Presenter(s): Sage Cordsen
Poster Board #: 915

**Chasing an elusive 1,5-oxazocane
motif: A simple multigram
approach to a rare chemotype**

(4327770)

Division of Organic Chemistry
Presenter(s): Dmytro Volochnyuk
Poster Board #: 916

**One-step scalable access to benzo-
fused imidazoles and oxazoles: A
cost-effective and eco-friendly**

approach

(4328057)

Division of Organic Chemistry

Presenter(s): Serhiy Ryabukhin

Poster Board #: 917

Selectively cleavable CRISPR guide RNAs for safe therapeutic gene editing

(4300138)

Division of Organic Chemistry

Presenter(s): Minghong Zhong

Poster Board #: 918

Synthesis of mono-substituted enterobactin siderophores

(4324386)

Division of Organic Chemistry

Presenter(s): Xinyi Zhang

Poster Board #: 919

Engineering cyclopropanol-derivatized sphingosines: Synthesis, metabolic incorporation and proteomic analysis

(4310082)

Division of Organic Chemistry

Presenter(s): Akshani Anjula Wijesooriya

Poster Board #: 920

Synthesis of peptide conjugates via the thiol-maleimide reaction

(4325852)

Division of Organic Chemistry

Presenter(s): Maddelyn Hoehn

Poster Board #: 921

[2+2] photocycloadditions of conformationally constrained

styrenes enabled by triplet lifetime extension

(4301395)

Division of Organic Chemistry

Presenter(s): Christina Cong

Poster Board #: 922

Imaging nuclear dynamics in photoexcited bromoform using ultrafast hard X-ray scattering

(4306667)

Division of Organic Chemistry

Presenter(s): Xinxin Cheng

Poster Board #: 923

Electrochemically promoted ring-opening reaction of cyclopropanol derivatives for organic synthesis and bioconjugation

(4312316)

Division of Organic Chemistry

Presenter(s): Jinnawat Jongkhumkrong

Poster Board #: 925

Photoactivated photo protecting groups (PPGs) for Si-O bond formation in surface modification

(4317995)

Division of Organic Chemistry

Presenter(s): Rashmita Dulal

Poster Board #: 926

Rational design of novel near infrared fluorogenic probes for early diagnosis of Alzheimer's disease

(4321850)

Division of Organic Chemistry

Presenter(s): Sodiq Nafiu

Poster Board #: 927

**Fluorous phase photocatalysis:
Toggling reactivity and improving
catalyst recovery**

(4326160)

Division of Organic Chemistry

Presenter(s): Sundar Bashyal

Poster Board #: 928

**Theoretical predictions for
experimental measurement of
pancake bond strength using
atomic force microscopy**

(4282518)

Division of Organic Chemistry

Presenter(s): Adam Matej

Poster Board #: 929

**Computational insights into
solvent effects on stereoselectivity
in Wittig reactions with non-
stabilized ylides**

(4322760)

Division of Organic Chemistry

Presenter(s): Hengye Xiang

Digital Screen #: D29

**ACS Petroleum Research Fund
(ACS PRF): Impact on organic
structures, dynamics, and
mechanisms**

(4313242)

Division of Organic Chemistry

Presenter(s): William Aumiller

Poster Board #: 931

**Synthesis and applications of 1,2,4-
trisubstituted cubanes**

(4303040)

Division of Organic Chemistry

Presenter(s): Megan Field

Poster Board #: 932

**Acyl migration strategy for
ansamycin construction: Efforts
towards the total synthesis of the
neoansamycins**

(4326487)

Division of Organic Chemistry

Presenter(s): Ian Merski

Poster Board #: 933

**Domino electrophilic cyclization of
2-isoprenyl-2H-pyrans: Synthesis
of iso-THC analogues**

(4278810)

Division of Organic Chemistry

Presenter(s): Tonino Adessi Cofré

Poster Board #: 934

**Enantiopure piperidines via
stereoselective Ireland–Claisen
rearrangement: total synthesis of
(+)-sitsirikine, (+)-dihydrositsirikine
and meroquinene**

(4317768)

Division of Organic Chemistry

Presenter(s): Niklavs Udris

Poster Board #: 935

**Total synthesis of neuroactive
alkaloids**

(4324931)

Division of Organic Chemistry

Presenter(s): Daniel Zuschlag

Poster Board #: 936

Efforts toward the total synthesis of monoterpenoid quinoline alkaloid natural products

(4328476)

Division of Organic Chemistry
Presenter(s): Shayne Weierbach
Poster Board #: 937

Thinking outside the reaction mixture: Sulfur (VI) fluoride exchange (SuFEx) via glass-assisted organocatalysis

(4322131)

Division of Organic Chemistry
Presenter(s): Ghayoor Chotana
Poster Board #: 938

2H-thiopyran-2-thione sulfine and its analogues: Unique compounds for converting H₂S to HSOH/H₂S₂

(4312312)

Division of Organic Chemistry
Presenter(s): Meg Shieh
Digital Screen #: D06

Manganese-catalyzed nucleophilic addition of aldehydes to carbonyl compounds via hydrazone umpolung on water

(4317878)

Division of Organic Chemistry
Presenter(s): Jan Michael Salgado
Poster Board #: 940

Design of next-generation trisaminocyclopropenium (TAC) ion electrophotocatalysts

(4320504)

Division of Organic Chemistry
Presenter(s): Leslie Trigoura
Digital Screen #: D07

Mechanistic targeting of UNC5B-SHP2 pathway using a small molecule peptidomimetic (SGA-01)

(4323372)

Division of Organic Chemistry
Presenter(s): Jovita Ogechi Daraezinwa
Digital Screen #: D05

Development of a ketoreductase-mediated kinetic dynamic resolution for the generation of a key intermediate in the synthesis of ABBV-576

(4318284)

Division of Organic Chemistry
Presenter(s): Ryan Phelan
Poster Board #: 943

Leveraging folic acid subunits for protein phosphatase 5 inhibition

(4306844)

Division of Organic Chemistry
Presenter(s): Lucy Orr
Poster Board #: 944

Synthesis of diverse heteropolycyclic cores via tungsten-mediated dearomatization

(4315414)

Division of Organic Chemistry
Presenter(s): Matthew McGraw
Poster Board #: 945

**Reductive addition of
trifluoromethyl λ 6-
tetrafluorosulfanyl chloride to a
series of unsaturated compounds**

(4321323)

Division of Organic Chemistry
Presenter(s): Eleanor van der Riet
Poster Board #: 946

**Triggered release and degradation
in supramolecular peptide-boronic
acid gels**

(4323028)

Division of Organic Chemistry
Presenter(s): Anna Grove
Poster Board #: 947

**Emerging uses of bench-stable
pyridinium ketene hemiaminals in
organic synthesis**

(4325607)

Division of Organic Chemistry
Presenter(s): Sudchananya Max | Udomphan
Majireck
Poster Board #: 948

**Aggregated induced emission of
quinazoline derivatives in the
presence of glucosamine and
chitosan**

(4326700)

Division of Organic Chemistry
Presenter(s): Caitlin Gutierrez
Poster Board #: 949

**Rhodium-catalyzed regioselective
[2+2+2] cyclotrimerization of
tethered 1,6-diynes**

(4328174)

Division of Organic Chemistry
Presenter(s): Olivia Madison | Kennedy Looker
Poster Board #: 950

**Division of Physical
Chemistry (PHYS)**

**Anisotropy and transport of
coherent phonon in hybrid two-
dimensional lead organic
chalcogenides**

(4280757)

Division of Physical Chemistry
Presenter(s): Hanjun Yang
Poster Board #: 951

**Investigation of the conductance
isotope effect that increases
molecular resistance 20-fold in
isotopically labeled
oligophenylene imine molecular
wires**

(4285377)

Division of Physical Chemistry
Presenter(s): Man Hong Andy Cheung
Poster Board #: 952

**Unveiling the optical properties of
anisotropic 2D materials**

(4301574)

Division of Physical Chemistry
Presenter(s): Pritam Das
Poster Board #: 953

**In-situ probe of molecule
adsorption and dielectric dynamics**

at electrochemical interfaces

(4304334)

Division of Physical Chemistry

Presenter(s): Hui Fang

Poster Board #: 954

Enabling ambient stability and quantum integration of organometallic magnonic ferrimagnets via atomic layer encapsulation

(4306270)

Division of Physical Chemistry

Presenter(s): Iqbal Utama

Poster Board #: 955

Spectroscopic photoacoustic-ultrasound imaging of biomarkers to assess dynamic changes in cardiac tissue

(4306692)

Division of Physical Chemistry

Presenter(s): Antonio Martino

Poster Board #: 956

Constrained CASSCF(2,2) approach to study electron transfer between a molecule and metal cluster

(4306816)

Division of Physical Chemistry

Presenter(s): Xinchun Wu

Poster Board #: 957

Characterizing spatiotemporal inhomogeneities of multi-layered MoSe₂ in hyper-temporal transient nanoscopy

(4306930)

Division of Physical Chemistry

Presenter(s): Hwi Je Woo

Poster Board #: 958

Probing temperature-dependent vibrational dynamics of 2-trifluoromethylbenzimidazole (TFMBI)

(4306967)

Division of Physical Chemistry

Presenter(s): Mariyas Mahipala Mudalige

Poster Board #: 959

Characterization of intrinsically disordered protein-polymer interactions with fluorescence polarization

(4313232)

Division of Physical Chemistry

Presenter(s): Wesley Leung

Poster Board #: 960

Charge transfer with a spin: A generalized CASSCF framework for investigating charge transfer in presence of spin-orbit coupling

(4313389)

Division of Physical Chemistry

Presenter(s): Alok Kumar

Poster Board #: 961

Delocalization enhances exciton transport in DNA-based molecular photonic wires

(4317803)

Division of Physical Chemistry

Presenter(s): Madelyn Scott

Poster Board #: 962

Exploring the lattice response to photoexcitation in 2D lead Halide Perovskites

(4318022)

Division of Physical Chemistry

Presenter(s): AYUSHI SHUKLA

Poster Board #: 963

Harnessing vibronic coherence for efficient energy transfer in DNA–chromophore assemblies

(4318498)

Division of Physical Chemistry

Presenter(s): Yi Ji

Poster Board #: 964

Metal insulator transition in neuromorphic ϵ -Cu_{0.9}V₂O₅ single crystal probed by soft X-Ray spectroscopy

(4321026)

Division of Physical Chemistry

Presenter(s): Jialu Li

Poster Board #: 965

Theoretical-computational protocol for unveiling spectroscopic signatures of conical intersections in two-dimensional spectra for red-absorbing dyes

(4321700)

Division of Physical Chemistry

Presenter(s): Edoardo Buttarazzi

Poster Board #: 966

Band structure mapping of pseudo-perovskites by spectroelectrochemical and optical

techniques

(4321903)

Division of Physical Chemistry

Presenter(s): Cintia Hajdu

Poster Board #: 967

Elucidating the oxidation mechanisms in Cr₂AlB₂ using density functional theory and thermodynamic modeling

(4323080)

Division of Physical Chemistry

Presenter(s): Ushan Adhikarige

Poster Board #: 968

Understanding atomically resolved dissolution of iridium oxide nanocrystals

(4324713)

Division of Physical Chemistry

Presenter(s): Rachel Thatcher

Poster Board #: 969

Nonlinear infrared signal enhancement in weakly-coupled molecular systems

(4325083)

Division of Physical Chemistry

Presenter(s): Ashley Fidler

Poster Board #: 970

Probing the dynamics of phonon polariton active tuning

(4325181)

Division of Physical Chemistry

Presenter(s): Sarah Sutton

Poster Board #: 971

Engineering semiconductor

materials toward noble-metal-comparable SERS sensitivity

(4325429)

Division of Physical Chemistry

Presenter(s): Xingce Fan

Poster Board #: 972

Minimally empirical, interpretable interatomic potentials for atomistic simulations of rare-earth electroseparations

(4326301)

Division of Physical Chemistry

Presenter(s): Ankit Kumar Gautam

Poster Board #: 973

Low voltage electron microscopy for the morphological characterization and elemental analysis of gold nanoparticle-DNA origami hybrids

(4326425)

Division of Physical Chemistry

Presenter(s): Emad Shahnam

Poster Board #: 974

Photophysics and fluorescence of a DNA-protein photo-crosslinking model: An innovative combined theoretical and experimental study

(4326556)

Division of Physical Chemistry

Presenter(s): Gabriele Iuzzolino

Poster Board #: 975

Steering relaxation pathways in supramolecular pentacene assemblies

(4326626)

Division of Physical Chemistry

Presenter(s): David Bain

Poster Board #: 976

Transmissive and reflective 2DIR to characterize ultrafast vibrational dynamics of Lehn's catalyst porous silicon

(4327101)

Division of Physical Chemistry

Presenter(s): Rebecca Hopkins

Poster Board #: 977

Tale of two metal electrodes: Fundamental insights on electrodisolution from a density functional theory's point of view

(4327219)

Division of Physical Chemistry

Presenter(s): Richard Kang

Poster Board #: 978

Dynamic probe of aqueous CO₂ dissolving using micro-IR spectroscopy for CO₂ storage and conversion

(4328496)

Division of Physical Chemistry

Presenter(s): Jiachen Li

Poster Board #: 979

Migdal-Eliashberg calculations on carbon doped supercells of 1m-3m H₃S

(4328526)

Division of Physical Chemistry

Presenter(s): Anmol Lamichhane

Poster Board #: 980

Time-resolved photoluminescence (TR-PL) spectroscopy for surface characterization of modified metal oxides

(4295115)

Division of Physical Chemistry

Presenter(s): Michael Uzu

Poster Board #: 981

From nanospheres to layered structures: Innovative photocatalysts for efficient methylene blue degradation

(4296781)

Division of Physical Chemistry

Presenter(s): Samia Arain

Poster Board #: 982

Revealing nanoscale molecular signatures of colorectal cancer cell-derived exosomes via photo-induced force microscopy

(4298211)

Division of Physical Chemistry

Presenter(s): Mingu Kang

Poster Board #: 983

Deposition of graphene thin films using DC magnetron sputtering method

(4305651)

Division of Physical Chemistry

Presenter(s): Suheyon Nam

Poster Board #: 984

Mitigating memory effect in lithium iron phosphate

(4305775)

Division of Physical Chemistry

Presenter(s): Doo Seok Kwon

Poster Board #: 985

Solvent-mediated control of ceiling temperature for developing chemically recyclable polyesters using thermodynamics

(4310664)

Division of Physical Chemistry

Presenter(s): Ramasinghe Lumbini

Ramasinghe

Poster Board #: 986

Prediction of pKa for Light-Harvesting Complexes (LHCs) residues in the presence of LHCs-protein and LHCs-pigment, lipid interactions

(4312514)

Division of Physical Chemistry

Presenter(s): Valentin Gradisteanu

Poster Board #: 987

Bridging wavefunctions and density functionals: Unlocking accurate data for functional development

(4312723)

Division of Physical Chemistry

Presenter(s): Vaibhav Khanna

Poster Board #: 988

Investigating the intermolecular forces that drive magic number clustering

(4314895)

Division of Physical Chemistry

Presenter(s): Alexandra Walter
Poster Board #: 989

Investigating the mechanical response of epidermal growth factor receptor extracellular domain dimers and monomers under a compressive force using single molecule force spectroscopy measurements

(4315300)
Division of Physical Chemistry
Presenter(s): Dedunu Senarathne
Poster Board #: 990

Binding free energy and orientationally geometry of intermediates as full descriptors for the electrochemical CO₂ reduction at Au surfaces by electrochemical vibrational sum frequency generation spectroscopy (EC-SFG)

(4317789)
Division of Physical Chemistry
Presenter(s): Haley Fisher
Poster Board #: 991

Bimolecular quenching rate of electron transfer reactions from aromatic amines to coumarin dyes: A conceptual density functional theory-based approach

(4318893)
Division of Physical Chemistry
Presenter(s): Meenu Ganwall
Poster Board #: 992

Quantum sensing in the fractional Fourier domain

(4319676)
Division of Physical Chemistry
Presenter(s): Swastik Hegde
Poster Board #: 993

Comparison of plasmonic enhanced photoluminescence of upconversion nanoparticles

(4320625)
Division of Physical Chemistry
Presenter(s): Caroline Friedersdorf
Poster Board #: 994

Characterizing 6-mercaptopurine hydrates with terahertz spectroscopy and crystal structure prediction simulations

(4320744)
Division of Physical Chemistry
Presenter(s): Temitope Akinode
Poster Board #: 995

Organic color centers formation in carbon nanotubes through direct coupling of native DNA bases

(4320804)
Division of Physical Chemistry
Presenter(s): Abhindev Kizhakke Veetil
Poster Board #: 996

Probing the effect of osmolytes on water dynamics through activation energies

(4321075)
Division of Physical Chemistry
Presenter(s): Anjali Radhakrishnan

Poster Board #: 997

Brightening of triplet pair states through electronic coupling with WS₂

(4322626)
Division of Physical Chemistry
Presenter(s): Qiushi Ma
Poster Board #: 998

Precision synthesis of gold nano bipyramids with tunable plasmon resonances by optimizing surfactant ratio in seeds formation stage

(4323559)
Division of Physical Chemistry
Presenter(s): Au Lac Nguyen
Poster Board #: 999

Predicting eutectic points of high-temperature molten salt mixtures via molecular dynamics simulations

(4325511)
Division of Physical Chemistry
Presenter(s): Nastaran Saadati
Poster Board #: 1000

Study of formation of halogen bonded complexes using refractive index and NMR

(4325942)
Division of Physical Chemistry
Presenter(s): Kristen Gilmore
Poster Board #: 1001

Quantitative signal analysis of sum-frequency scattering

Division of Physical Chemistry (PHYS)

experiments from aerosol surfaces

(4326002)
Division of Physical Chemistry
Presenter(s): Jesse Brown
Poster Board #: 1002

Terahertz spectroscopy and quantum mechanical simulations of aluminum hydroxide crystal polymorphs

(4326435)
Division of Physical Chemistry
Presenter(s): Adler Cary
Poster Board #: 1003

Investigation of lamotrigine crystal polymorphs using crystal structure prediction and terahertz spectroscopy

(4326719)
Division of Physical Chemistry
Presenter(s): Salvatore Zarrella
Poster Board #: 1004

Peculiar thermodynamic behavior of deeply supercooled equimolar binary mixture of water and ethylene glycol: DSc, density, viscosity, and Raman spectroscopy study

(4327264)
Division of Physical Chemistry
Presenter(s): Matthew Leonard
Poster Board #: 1005

Quantum simulations reveal pathways to enhance AR-3 fluorescence

(4327810)

Division of Physical Chemistry
Presenter(s): Danushka Walisinghe
Poster Board #: 1006

Exploring ligand-to-metal charge transfer interactions using X-ray transient absorption spectroscopy

(4327999)

Division of Physical Chemistry
Presenter(s): Miquela Premanath
Poster Board #: 1007

Liquid–liquid phase separation of charged proteins mediated by small charged biomolecules

(4335989)

Division of Physical Chemistry
Presenter(s): Minchae Kang
Poster Board #: 1008

Stimulated emission from plasmonic nanoparticles via transient absorption spectroscopy

(4335991)

Division of Physical Chemistry
Presenter(s): Angela Castillo
Poster Board #: 1009

**Division of Polymeric
Materials Science and
Engineering (PMSE)**

Correlating fluorescence lifetimes to material properties in polymer compounds

(4307158)

Division of Polymeric Materials Science and Engineering
Presenter(s): Sebastian Engmann
Poster Board #: 1010

De novo designed proteins as mechanoresponsive elements in 3D printed polymer networks

(4309065)

Division of Polymeric Materials Science and Engineering
Presenter(s): Siwei Yu
Poster Board #: 1011

Biaxial stretching of PLA/PBAT blends for customizable mechanical properties

(4312706)

Division of Polymeric Materials Science and Engineering
Presenter(s): Nikki Rodriguez
Poster Board #: 1012

Structural relaxation and anisotropic elasticity of ordered block copolymer melts

(4322910)

Division of Polymeric Materials Science and Engineering
Presenter(s): Krista Schoonover
Poster Board #: 1013

Quantifying hydrophilicity in polyelectrolytes and polyzwitterions

(4304904)

Division of Polymeric Materials Science and Engineering

Presenter(s): Nagham Joseph | Abou Hamad Schlenoff
Poster Board #: 1014

Small angle x-ray scattering (SAXS) analysis of modified PNA for antisense

(4336777)
Division of Polymeric Materials Science and Engineering
Presenter(s): Muhammad Faheem Hassan
Poster Board #: 1015

FLIM-FRAPP: Near-simultaneous characterization of multi-scale polymer dynamics via fluorescence microscopy

(4326045)
Division of Polymeric Materials Science and Engineering
Presenter(s): Mary Jutze
Poster Board #: 1016

Chemically recyclable and functional Polyheptenamers enable a circular economy of polymer materials

(4298522)
Division of Polymeric Materials Science and Engineering
Presenter(s): Tarek Ibrahim
Poster Board #: 1017

De novo-engineered living materials from bacteria

(4310905)
Division of Polymeric Materials Science and Engineering
Presenter(s): Sara Molinari

Poster Board #: 1018

Functional biocomposites with exceptional thermal conductivity based on synergistic microbial biosynthesis

(4313972)
Division of Polymeric Materials Science and Engineering
Presenter(s): Weinan Xu
Poster Board #: 1020

Designing synthetic block copolypeptides for solvent-free thermal induction and tunable β -sheet nanocrystals

(4305412)
Division of Polymeric Materials Science and Engineering
Presenter(s): Abrar Ali Sitab
Poster Board #: 1021

Joule heating and synthesis of transesterification vitrimer and epoxy system

(4323277)
Division of Polymeric Materials Science and Engineering
Presenter(s): Smita Shivraj Dasari
Poster Board #: 1022

Controlled ruthenium initiator quenching for material property control in frontally reactive systems

(4326090)
Division of Polymeric Materials Science and Engineering

Presenter(s): Anna Cramblitt
Poster Board #: 1023

Mechanically triggered synthesis and adaptivity of Polythiourethane

(4326125)
Division of Polymeric Materials Science and Engineering
Presenter(s): Yixiao Dong
Poster Board #: 1024

Exploring Janus layered nanofibrous aerogel architecture with switchable wettability for environmental remediation

(4326317)
Division of Polymeric Materials Science and Engineering
Presenter(s): Muhammed Ziauddin Ahmad Ebrahim
Poster Board #: 1025

Little things make a big difference: Novel preparation of polymeric porous membranes with high porosity by nanobubble water-assisted NIPS

(4299716)
Division of Polymeric Materials Science and Engineering
Presenter(s): Minhao Xiao
Poster Board #: 1026

Digital Light Processing of multi-materials with extreme stiffness contrast

(4317032)

Division of Polymeric Materials Science and Engineering
Presenter(s): Divya Iyer
Poster Board #: 1027

Supramolecular bottlebrush polyethylene glycol hydrogels

(4318361)
Division of Polymeric Materials Science and Engineering
Presenter(s): Xiaoxiao Ma
Poster Board #: 1028

Development of PFAS-free non-ionic photoacid generators for poly(phthalaldehyde)-based photoresists

(4323642)
Division of Polymeric Materials Science and Engineering
Presenter(s): Madan Biradar
Poster Board #: 1029

Designing glycopolymers as tools for bacterial identification

(4317600)
Division of Polymeric Materials Science and Engineering
Presenter(s): Callum Johnson
Poster Board #: 1030

Benign fabrication of monolithic aerogels from waste polyethylene terephthalate water bottles

(4325113)
Division of Polymeric Materials Science and Engineering
Presenter(s): Kira Baugh
Poster Board #: 1031

Polymerization induced condensation (PICON)

(4320855)

Division of Polymeric Materials Science and Engineering

Presenter(s): Riya Singh

Poster Board #: 1032

Exploring structural regulation of three-dimensional covalent organic frameworks for selective bromine capture

(4326274)

Division of Polymeric Materials Science and Engineering

Presenter(s): Harsh Vardhan

Poster Board #: 1034

Benzopyrylium polymer platforms for dynamic nanoparticles with near-IR two-photon detection of peroxy nitrite

(4279558)

Division of Polymeric Materials Science and Engineering

Presenter(s): Emile Morin

Poster Board #: 1035

Engineering multi-responsive smart nanocomposites for precision-controlled actuation in 4D bioprinting

(4297305)

Division of Polymeric Materials Science and Engineering

Presenter(s): Shengbo Guo

Poster Board #: 1036

Bottlebrush polymer-based platform for mimicking physicochemical properties of mucus

(4322836)

Division of Polymeric Materials Science and Engineering

Presenter(s): Nadia Zaragoza

Poster Board #: 1037

Investigation of aromatic foldamer as molecular spring in self-healing polymer networks

(4309525)

Division of Polymeric Materials Science and Engineering

Presenter(s): Ibrahim Oladayo Raji

Poster Board #: 1038

Tunable porous crosslinked polyethyleneimine networks for selective and fast gold adsorption from electronic waste

(4325581)

Division of Polymeric Materials Science and Engineering

Presenter(s): Syfur Tushar

Poster Board #: 1039

Site specific conjugation of antibody fragments to molecular brush polymers for drug delivery

(4285252)

Division of Polymeric Materials Science and Engineering

Presenter(s): Samantha Clouthier

Poster Board #: 1040

Antibody–Bottlebrush Conjugated Degraders (ABCDs): A novel construct for targeted protein degradation therapy

(4315750)

Division of Polymeric Materials Science and Engineering

Presenter(s): Aiden Wang

Poster Board #: 1041

Polysaccharide-based hydrogel encapsulating nanogel particles for thrombolytic drug delivery

(4320507)

Division of Polymeric Materials Science and Engineering

Presenter(s): Carolynne Brustolin Braga

Poster Board #: 1042

Polyhalodydrins: Investigating vicinal functionalities by ring-opening of epoxides on polyolefins

(4324988)

Division of Polymeric Materials Science and Engineering

Presenter(s): Hoda Shokrollahzadeh Behbahani

Poster Board #: 1043

Electrospun polymer-quaternary ammonium compound nanofibers for dynamic disinfection of bacteria

(4322711)

Division of Polymeric Materials Science and Engineering

Presenter(s): Rans Miguel Nunag Lintag

Poster Board #: 1044

Making and unmaking polymers via ATRP principles

(4323389)

Division of Polymeric Materials Science and Engineering

Presenter(s): Kostas Parkatzidis

Poster Board #: 1045

From through-space interactions of electrons to nonconjugated polymers with clusteroluminescence

(4281523)

Division of Polymeric Materials Science and Engineering

Presenter(s): Jianyu Zhang

Poster Board #: 1046

Sol-gel derived polymer precursors for stereolithography of ZrC

(4294569)

Division of Polymeric Materials Science and Engineering

Presenter(s): Charles Rafalko

Poster Board #: 1047

ACS Petroleum Research Fund (ACS PRF): Impact on the field of materials science

(4313725)

Division of Polymeric Materials Science and Engineering

Presenter(s): Laura Fernandez

Poster Board #: 1048

Investigation of diluent effect on sorption behavior of polypropylene towards polar and

nonpolar recycling contaminant surrogates

(4326130)
Division of Polymeric Materials Science and
Engineering
Presenter(s): Yoon Song
Poster Board #: 1049

3D Printable, biocompatible, and bioderived polycarbonate/hydroxyapatite composite scaffolds for bone tissue engineering

(4323002)
Division of Polymeric Materials Science and
Engineering
Presenter(s): Chia-Min Hsieh
Poster Board #: 1050

Degradability of phenyl vinyl ketone nanoparticles under light

(4300658)
Division of Polymeric Materials Science and
Engineering
Presenter(s): M.A. Sachini N. Weerasinghe
Poster Board #: 1051

Programmable 4D bioprinting: Stiffness-gradient constructs for reversible deformation

(4304582)
Division of Polymeric Materials Science and
Engineering
Presenter(s): Shuaiqi Song
Poster Board #: 1052

Radical-based dynamic bond exchange monitored by

fluorescence lifetime microscopy

(4306739)
Division of Polymeric Materials Science and
Engineering
Presenter(s): Mary Jutze
Poster Board #: 1053

Utilizing click chemistry to enhance synthetic protein nanoparticle crosslinking

(4308436)
Division of Polymeric Materials Science and
Engineering
Presenter(s): Kate Kaplin
Poster Board #: 1054

Enhancing degradation in Spiro- polyacetals through incorporating a linear acetal unit

(4320371)
Division of Polymeric Materials Science and
Engineering
Presenter(s): Elvis Enebeli
Poster Board #: 1055

Strain-dependent evolution of the rigid amorphous fraction of low- density polyethylene under deformation

(4322409)
Division of Polymeric Materials Science and
Engineering
Presenter(s): Chengyan Li
Poster Board #: 1056

Design of supramolecular peptide amphiphiles for enhanced drug loading and sustained therapeutic

release

(4324778)

Division of Polymeric Materials Science and Engineering

Presenter(s): Katrina Schwensen

Poster Board #: 1057

Modified thermal percolation model with applied excluded volume effect to interpret the thermal conductivity behavior of boron nitride segregated composites

(4324940)

Division of Polymeric Materials Science and Engineering

Presenter(s): GyunYoung Yoo

Poster Board #: 1058

Optimizing high Tg vitrimer system by machine learning feedback loop

(4326334)

Division of Polymeric Materials Science and Engineering

Presenter(s): James Brueggemann

Poster Board #: 1059

Constructing resilient elastomeric materials using materials binding peptides

(4327786)

Division of Polymeric Materials Science and Engineering

Presenter(s): Sradha Mariya Thomas

Poster Board #: 1060

Controlled high-throughput synthesis of ABA triblock

copolymers using RAFT polymerization

(4309721)

Division of Polymeric Materials Science and Engineering

Presenter(s): Prabhleen Kaur

Poster Board #: 1061

Analysis of how crosslinking agents affect the surface interactions of chitosan with bacteria

(4314034)

Division of Polymeric Materials Science and Engineering

Presenter(s): Kayley Winata

Poster Board #: 1062

Fabrication of superhydrophobic/superoleophilic sponges for oil spill cleanup

(4323506)

Division of Polymeric Materials Science and Engineering

Presenter(s): Monika Umma | Chhetri Rumi | Joy Guirguis

Poster Board #: 1063

Harnessing nature's design: Investigation of proteins as sustainable build materials

(4326288)

Division of Polymeric Materials Science and Engineering

Presenter(s): Daria Rudykh

Poster Board #: 1064

Self-healing supramolecular polymers as sprayable scaffolds to promote tissue regeneration

(4327163)

Division of Polymeric Materials Science and Engineering

Presenter(s): Jessica Shrestha

Poster Board #: 1065

Mechanics of the reinforcement of polymer nanocomposites by 2D materials

(4306628)

Division of Polymeric Materials Science and Engineering

Presenter(s): Robert Young

Poster Board #: 1066

Mechanically trainable structures enabled by soft-hard materials integration

(4314719)

Division of Polymeric Materials Science and Engineering

Presenter(s): Baoxing Xu

Poster Board #: 1067

Single-crystal covalent organic frameworks as electrodes for next-generation lithium-ion batteries

(4325767)

Division of Polymeric Materials Science and Engineering

Presenter(s): Ani Davis

Poster Board #: 1068

Metal-organic framework polymer composites for low coefficient of thermal expansion applications

(4327417)

Division of Polymeric Materials Science and Engineering

Presenter(s): Carly Dolgos

Division of Polymeric Materials Science and Engineering (PMSE)

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RECYCLED polyethylene terephthalate (PET) added with barite (BaSO₄) and metal oxides microparticles as sustainable X-ray and neutron shielding materials

(4323460)

Division of Polymeric Materials Science and Engineering

Presenter(s): Stephanie Reyes

Poster Board #: 1070

Foam for thought: New design approaches for 3D printable polymer foams powered by dynamic covalent chemistry

(4319035)

Division of Polymeric Materials Science and Engineering

Presenter(s): Rebecca Johnson

Poster Board #: 1071

Mechanical buckling of elastomers: traversing micro- to macroscale wrinkles

(4279577)

Division of Polymeric Materials Science and Engineering

Presenter(s): Elif Sila Akbulut

Poster Board #: 1072

Integration of nanostructured thermoplastic elastomers and low melting point alloys for 3D printable multifunctional composites

(4324604)

Division of Polymeric Materials Science and Engineering
Presenter(s): Weinan Xu
Poster Board #: 1073

**Quantifying the effects of UV
Exposure on the fast polymer
dynamics of azobenzene
functionalized cross-linked epoxy
networks**

(4327744)
Division of Polymeric Materials Science and Engineering
Presenter(s): Christian Yoon
Poster Board #: 1074

**Division of Polymer
Chemistry (POLY)**

**Modulation of π -conjugated
polymer-acceptor interactions by
incorporating a mixture of
strapped and non-strapped
monomer units**

(4317082)
Division of Polymer Chemistry
Presenter(s): Charles Ochonma
Poster Board #: 1076

**Overcoming synthetic challenges
in pyrazinacene-conjugated
polymers: A breakthrough in n-
type polymer materials**

(4325247)
Division of Polymer Chemistry
Presenter(s): Sayan Kumar Biswas
Poster Board #: 1077

**Vinylether based aliphatic polymer
system to study membrane
proteins**

(4285057)
Division of Polymer Chemistry
Presenter(s): Muhammad Zeeshan Shah
Poster Board #: 1078

**Silicone/fumed silica composites
with superior properties**

(4307279)
Division of Polymer Chemistry
Presenter(s): Shiqi Liu
Poster Board #: 1079

**Synthesis and applications of
biocompatible aromatic block
copolypeptides as high-
performance adsorbent materials**

(4318175)
Division of Polymer Chemistry
Presenter(s): Hunter Wood
Poster Board #: 1080

**Selective demicellization via
controlled micelle formation of
self-immolative poly(benzyl ether)
amphiphiles**

(4323333)
Division of Polymer Chemistry
Presenter(s): Ji Woo Kim
Poster Board #: 1081

**Divergent synthetic route to
functional copolymer libraries via
modular polymers**

(4326770)
Division of Polymer Chemistry
Presenter(s): Connor Gallagher

Poster Board #: 1082

Degradable and recyclable polymers via ring-opening metathesis polymerization from low-strained cyclic monomers

(4298781)

Division of Polymer Chemistry

Presenter(s): Dayong Song

Poster Board #: 1083

New class of polyphosphorodiamidates for sustainable applications

(4301457)

Division of Polymer Chemistry

Presenter(s): Nantawat Kaekratoke

Poster Board #: 1084

Water stable perovskite nanocrystals to overcome photocatalysis-stability trade-off in aqueous photo-RAFT polymerization

(4314544)

Division of Polymer Chemistry

Presenter(s): Chengli Wang

Poster Board #: 1085

Harnessing supramolecular polymers to engineer tunable targeted protein degraders

(4320798)

Division of Polymer Chemistry

Presenter(s): Windfield Swetman

Poster Board #: 1086

Self-healing and reprocessable epoxy vitrimer from epoxidized

hemp seed oil and dynamic imine bonds

(4322742)

Division of Polymer Chemistry

Presenter(s): Varshikkumar Chandan | Patel

Bodhak

Poster Board #: 1087

Influence of diamine cross-linker on the curing dynamics of eugenol-based epoxy thermosets

(4322874)

Division of Polymer Chemistry

Presenter(s): Himanshu Patel

Poster Board #: 1088

Block oligoacrylates with affinity for green fluorescent protein

(4323515)

Division of Polymer Chemistry

Presenter(s): Mikayla Smith

Poster Board #: 1089

PANI-based electrodes for water desalination via capacitive deionization

(4324017)

Division of Polymer Chemistry

Presenter(s): Sagydat Duisenbekov

Poster Board #: 1090

Inhibiting viral infections with glycopolymers: Accessing non-linear antiviral polymers through reversible addition–fragmentation chain-transfer polymerizations

(4325081)

Division of Polymer Chemistry

Presenter(s): Jonathan Mase

Poster Board #: 1091

Influence of Laponite loading on the performance of polyacrylate terpolymer nanocomposites

(4326173)

Division of Polymer Chemistry

Presenter(s): Measho Gebreyohans

Poster Board #: 1092

Harnessing vibrational mode shapes for spatially patterned material curing

(4326995)

Division of Polymer Chemistry

Presenter(s): Nicolas Herard

Poster Board #: 1093

Redesign of soil-release polymers for synthetic fabric surface modification

(4281545)

Division of Polymer Chemistry

Presenter(s): Emanuella Fiandra

Poster Board #: 1094

Thermoplastic non-isocyanate polyurethanes from bio-sourced monomers: A structure-property relationship study

(4314829)

Division of Polymer Chemistry

Presenter(s): Pooja Y

Poster Board #: 1096

Integrating redox-reformable bonds into unsaturated polyolefins

(4320514)

Division of Polymer Chemistry

Presenter(s): Kyoungwon Lee

Poster Board #: 1097

Development of polyurethane films from renewable materials and investigation of their mechanical properties using IPDI and CHDI

(4321380)

Division of Polymer Chemistry

Presenter(s): Sauravkumar Patel

Poster Board #: 1098

Synthesis and characterization of cellulose-benzoxazine biocomposites materials with tosyl cellulose

(4323787)

Division of Polymer Chemistry

Presenter(s): Charles Garzon

Poster Board #: 1099

Extraction of cellulose from paper towels for sustainable bio-based polyurethane adhesives

(4325186)

Division of Polymer Chemistry

Presenter(s): Yashkumar Rutu | Patel Patel

Poster Board #: 1100

Development of bio-based polyurethane coatings: Improving strength and water resistance

(4325216)

Division of Polymer Chemistry

Presenter(s): Kinal Rutu | Chaudhari Patel

Poster Board #: 1101

Enhancing the thermal,

mechanical, and chemical properties of bio-based polyurethane adhesives: Influence of pentaerythritol crosslinking in castor and soybean oil polyols

(4325349)

Division of Polymer Chemistry

Presenter(s): Pradipsinh Mayankkumar | Dodiya Chaudhary

Poster Board #: 1102

Defined ultra-long supersoft bottlebrush polymers via metal-free synthesis

(4327639)

Division of Polymer Chemistry

Presenter(s): Gunzaya Otgonjargal

Poster Board #: 1103

Enhancing bio-based content in non-isocyanate polyurethane adhesives derived from soybean oil for sustainable bonding applications

(4335089)

Division of Polymer Chemistry

Presenter(s): Sauravkumar Patel

Poster Board #: 1104

Rapid microwave-assisted chemical recycling of poly(p-phenylene terephthalamide)

(4301766)

Division of Polymer Chemistry

Presenter(s): Joël Benninga

Poster Board #: 1105

Poly (ester acetal)s as degradable

alternatives for commodity plastics

(4310879)

Division of Polymer Chemistry

Presenter(s): Roberto Venta

Poster Board #: 1106

Deconstructable thermosets derived from bicyclic orthoesters

(4326538)

Division of Polymer Chemistry

Presenter(s): Christina Brancel

Poster Board #: 1107

Exploration of cyclic manufacturing of single-use bioplastic straws as an alternative to petroleum-based textile dyes

(4313224)

Division of Polymer Chemistry

Presenter(s): Janelle Leija

Poster Board #: 1108

Development of degradable polystyrene derivatives for sustainable polymer applications

(4319386)

Division of Polymer Chemistry

Presenter(s): Ana Valencia

Poster Board #: 1109

Reactive compatibilization of poly(ethylene terephthalate) / high density polyethylene (PET/HDPE) blends with ester-functionalized HDPE

(4322744)

Division of Polymer Chemistry

Presenter(s): Susan Kenny

Poster Board #: 1110

Particle-directed ionic transport in poly(Ionic Liquid)-b-Poly(methyl methacrylate) copolymer grafts in solution

(4321313)

Division of Polymer Chemistry

Presenter(s): Ruhao Li

Poster Board #: 1111

Nucleic acid delivery for environmentally friendly agricultural pest control via polymers with arginine mimetic guanidinium groups

(4323477)

Division of Polymer Chemistry

Presenter(s): Burcu Balaban

Poster Board #: 1112

Poly cannabinoids: biodegradable coatings for fruit preservation

(4326276)

Division of Polymer Chemistry

Presenter(s): Vishwa Suthar

Poster Board #: 1113

Oxidative direct arylation polycondensation: a powerful tool for the synthesis of bithiazole-based conjugated polymers

(4313903)

Division of Polymer Chemistry

Presenter(s): Yibo Shi

Poster Board #: 1114

Photoactivation of a CO₂/butadiene derived delta-

lactone for ring opening polymerization

(4319091)

Division of Polymer Chemistry

Presenter(s): Arron Deacy

Poster Board #: 1115

Strain-induced crystallization and phase separation of supramolecular elastomer constructed by hyperbranched topological structure

(4314648)

Division of Polymer Chemistry

Presenter(s): Yanliang Meng

Poster Board #: 1116

Development and characterization of two novel composite materials based on chitosan and methacrylic acid: Evaluation of terephthalaldehyde and oxalic acid as crosslinking agents

(4323715)

Division of Polymer Chemistry

Presenter(s): Emerson Byron | Pérez Lopez

Poster Board #: 1117

Division of Chemical
Toxicology (TOXI)

Novel techniques of in vitro analysis for the degradation and effect of rosmarinic and carnosic acid in granules, cookies, and cocoa beverages

(4326305)
Division of Chemical Toxicology
Presenter(s): Salako Olatunji
Poster Board #: 725

Spermine catalyzes isomerization of the sugar-phosphate backbone to a non-canonical DNA backbone at an apurinic/apyrimidinic site in duplex DNA

(4311581)
Division of Chemical Toxicology
Presenter(s): Md Selim Mahbub
Poster Board #: 727

New substrates and comprehensive kinetic studies of the α -ketoglutarate/Fe(II)-dependent dioxygenase, AlkB

(4321202)
Division of Chemical Toxicology
Presenter(s): Evans Boateng-Boakye
Poster Board #: 728

Photo-activated anthracene derivatives for selective DNA cross-linking agents: mechanistic and toxicological insights into targeted cancer therapy

(4322884)
Division of Chemical Toxicology
Presenter(s): Muhammad Asad Uz Zaman
Poster Board #: 729

Decoding secondhand vaping emissions to unravel the chemical signatures of ENDS usage

(4325794)
Division of Chemical Toxicology

Presenter(s): Joseph Hess
Poster Board #: 730

Endogenous role of cytochrome P450 2E1 in maintaining liver health

(4326040)
Division of Chemical Toxicology
Presenter(s): Jessica Hartman
Poster Board #: 731

Investigation of glyoxal-induced DNA-protein crosslinks

(4326787)
Division of Chemical Toxicology
Presenter(s): Krishna Gurajala
Poster Board #: 732

Predictive toxicology challenge on precisionFDA

(4326908)
Division of Chemical Toxicology
Presenter(s): Yulia Borodina
Poster Board #: 733

Novel approach for detecting drugs of abuse from spiked drink residues

(4327498)
Division of Chemical Toxicology
Presenter(s): Mya Hopkins
Poster Board #: 734

Chemical clustering and the potential for read-across in natural complex substance (NCS) safety assessments

(4328296)
Division of Chemical Toxicology
Presenter(s): Holger Moustakas

Poster Board #: 735

Formation of covalent adducts at abasic sites in DNA via reaction with hydrazine derivatives

(4303117)

Division of Chemical Toxicology

Presenter(s): Don Pivithuru Liyanarachchi

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Living cells employ ubiquitin-proteasomal and nucleotide-excision repair pathways to remove reactive oxygen species-derived DNA-protein crosslinks (ROS-DPCs)

(4320870)

Division of Chemical Toxicology

Presenter(s): Cesar Iturerere Cyuzuzo

Poster Board #: 793

Cytotoxicity and cytokine response to respirable mine dust exposure in human lung cells

(4324870)

Division of Chemical Toxicology

Presenter(s): Rifat Khan

Poster Board #: 794

Dose-dependent hepatotoxic effects of PFOA on liver function and lipid metabolism in zebrafish: Gender-specific responses and molecular mechanisms

(4326121)

Division of Chemical Toxicology

Presenter(s): Yun Runwei | Ma Li | Lin Wang |

Dulith Rajapakshe

Poster Board #: 795

Structural & thermodynamic profiling of mitoxantrone conjugation to DNA containing AP site

(4327140)

Division of Chemical Toxicology

Presenter(s): Nourhan Aboomar

Poster Board #: 796

Bisubstrate inhibitors of ten eleven translocation dioxygenase inhibitors as epigenetic modulators

(4338825)

Division of Chemical Toxicology

Presenter(s): Ryan Friess

Poster Board #: 797

Repair of abasic site-derived covalent DNA adducts by formamidopyrimidine DNA glycosylase (FPG)

(4342784)

Division of Chemical Toxicology

Presenter(s): Saosan Binh Md Amin

Poster Board #: 798

Leveraging untargeted high-resolution mass spectrometry and molecular networking for forensic toxicology screening of novel psychoactive substances

(4325475)

Division of Chemical Toxicology

Presenter(s): Maia Bates

Poster Board #: 799