2025 GLRM

WEDNESDAY MORNING

Biochemistry General Session

Hilton Paper Valley
Bond/Crown Room

M. Talaga, *Organizer*
A. H. Aebly, K. L. Riel Maas, *Presiding*

8:20 Introduction to Session.

8:30 2. Biochemical analysis of non-protein coding RNA LINC00298 and its role in the development of Alzheimer's disease. **R. Hellmann Whitaker**

8:50 3. Comparative interactome of wildtype and cancer-relevant TP53 variants using Oxford Nanopore long-read sequencing. **S. Ramadan**, A. Ahmed, Y. Guan, J. Aleksic, Y. Mohamoud, J. Malek

9:10 4. Impact of secondary sphere arginine mutations on the catalytic activity of nitrile hydratase. **D. Huntoon**, A.T. Fiedler, B. Bennett

9:30 Intermission.

10:00 5. Investigating the effects of crosslinking and catechol-mediated interactions on the mechanical properties of mussel foot protein 5. **A. Gerber**, J. Graham, S. Keten

10:20 *(Withdrawn)* ~~**6.** Designing proteomimetic Keap1/Nrf2-inhibiting polymers as therapeutics against diseases of oxidative stress. **M.P. Hopps**, K. Carrow, J.M. Mesfin, A. Chen, J. Holm, O. Ebrahim, K. Christman, N.C. Gianneschi~~

10:40 7. Enzyme engineering for Sustainable nylon recycling: redesigning nylonase C and SARS-CoV-2 main protease. **M. Derakhshani-Molayousefi**, I. Madera Cuevas, S. McCarty, M. Dolorfino, T. Sztain-Pedone

11:00 Concluding Remarks.

Environmental Chemistry General Session

Hilton Paper Valley
Briarwood/Ebony Room

K. Crawford, *Organizer, Presiding*
J. Weidenhamer, *Presiding*

8:00 8. Measuring microplastic contamination in agricultural drainage water and surface waters: Evaluation by mass concentration is essential for accurate assessments. **P.J. Rice**, G. Feyereisen, B. Dalzell, L. Frankson, C. Simmerman, T. Schumacher, R. Malone, M. Williams, K. King

8:20 9. Disentangling Lake Erie dissolved reactive phosphorus loadings 1980 - 2024. **C.E. Spiese**, M.N. Bowling, S.E. Moeller

8:40 10. Enhanced ligand exchange for ultrasensitive neonicotinoids detection from soil water via surface-enhanced Raman spectroscopy. **S. Liu**, H. Wei

9:00 11. Quantum chemical and statistical rate theory modeling of greenhouse gas formation from refrigerant ozonolysis. **K.T. Kuwata**, S. Goldstein, D. Hicks, F. Liu, S. Solomon

9:20 break.

9:40 12. Heterostructured bismuth-based metal-organic frameworks for visible light-driven degradation of emerging organic contaminants. Z.M. Kazi, G.J. Bamiduro, **E.M. Zahran**

10:00 13. Investigating ligand exchange on colloidal gold nanorods using surface-enhanced Raman spectroscopy for water quality monitoring. **J. Gorman**, B. Hein, H. Wei

10:20 14. Synthesis and field tests of an anti-soiling, self-cleaning, thin film coating for solar photovoltaic modules. **K.A. Walz**, W. Zeltner, M.A. Anderson

10:40 15. Cadmium in inexpensive jewelry: A dangerous and unnecessary health and environmental hazard. **J. Weidenhamer**

Organic Chemistry General Session

Hilton Paper Valley
Rosewood/Linden Room

B. Lybbert, *Organizer, Presiding*
C. J. Douglas, *Presiding*

8:00 16. Unlocking the potential of asymmetric hydroacylation using chiral transient directing groups. **P.B. Staub**, C.J. Douglas

8:20 17. Synthesis of novel 3D carbon allotropes: A bottom up approach. **A. Bright**, C.J. Douglas

8:40 18. Designing, modeling, and synthesizing 3D carbon allotropes based on cyclooctatetraene. S. Velliyarat, J.N. Boyn, **C.J. Douglas**

9:00 19. Reimagining Preorganization: Persistent, isoenergetic conformational isomers increases diversity in structurally well-defined macrocycles. **L. Claton**, E. Simanek

9:20 break.

9:40 20. Photo-mediated Hexafluoroisopropxylation of Unactivated Aryl Halides. B. Boyden, **S. Tobin**, N. Haen, A. Metz, C. Wojnowiak, T. Taylor, A. Cutty, A. Litza, I. Stiles, N. Soehner, A. Oberbroeckling, N. O'Leary, H. Popp, I. MacKenzie

10:00 21. Sustainable total synthesis of an active analog of OSW-1. **P. Nnamdi**

10:20 22. Experimental and computational studies into the impact of boron on the photo-ene reaction. **R. Van Hoveln**, J. Posz, M. Brown

Physical Chemistry General Session

Hilton Paper Valley
Parchment/Oaktag Room

J. H. Gutow, *Organizer*, *Presiding*
S. Brown, *Presiding*

8:00 23. Transport properties of deep eutectic solvents described by the compensated Arrhenius formalism. **S.K. Piwoni**, A.M. Fleshman

8:20 24. Characterizing phase transitions in Ionic Liquid materials. **S.K. Shaw**, M. Van Den Top, C.B. Lasar

8:40 25. Molybdenum chalcogenide clusters as supports for lanthanides and low-valent actinides. D. Paudel, S. Duggan, **P. Miro**

9:00 26. Probing temperature-dependent vibrational dynamics of 2-Trifluoromethylbenzimidazole (TFMBI). **M. Mahipala Mudalige**, E. Ballman, A. Rury

9:20 Break.

9:40 27. Predicting radical luminescence: Theory and computation. **S.K. Piwoni**, G.T. Sazama

10:00 28. Investigating intermolecular structure and charge transfer during molecular aggregation of squaraine molecules. **Z.S. Walbrun**, A.R. Hoban, A.Y. Paulson, C.Y. Wong

10:20 29. Ultrafast charge-carrier dynamics of solid-state photo-oxidation catalysts in solution. **S. Brown**, T.N. Haddock, L.X. Chen

10:40 30. Investigating the influence of surface environments on electron transfer dynamics in dye-nanocrystals systems. **M. Patel**, **L. Yang**, W.L. Gladfelter, D.A. Blank

Analytical Chemistry General Session (Poster)

Hilton Paper Valley
Salon A/B

B. Lybbert, *Organizer*

11:00 - 12:00

32. Spontaneous chemical modification of carbon electrodes and impacts on electrochemical reaction kinetics. **S. Adams**

33. Extraction of volatile organics from aqueous solution as a first step to compounds involved in scent communication. **P.G. House**, X. Teeman

34. Optimizing a bioelectrode with methanol dehydrogenase from lanthanide-modified *Methylobacterium extorquens* AM1. **K.G. Mielke**, O. Beumler, **M.G. Jaber**, O. Alam, K.L. Knoche Gupta

35. Evaluation of Microsomal stability of Endocannabinoid transport inhibitors. I. Discovery of potent and metabolically stable small molecule inhibitors of mammalian sterol carrier protein-2. **K. Medubi**, E. Saxon

36. Mass spectrometry imaging for undergraduates: Opportunities and challenges. **R.W. Fitch**, A. Lin, E.L. Mack, R.E. Ratliff, R.B. Van Ooteghem

Biologically-related Small Molecules Poster Session

Hilton Paper Valley
Salon A/B

M. Hammers, *Organizer*

11:00 - 12:00

37. Screening for antimicrobial activity in extracts of *Lentinula edodes*. **E. Staves**, **A. Arbaugh**, M. Rogge, **K.A. McGarry**

38. Pegylated Imidazodiazepines: A pro-drug strategy for asthma treatment. **E.T. Kowalczyk**, M.J. Meyer, K.M. Medubi, M.A. Toriola, G.T. Yocum, C. Emala, L. Arnold

39. Uncovering anticancer agents: Isolation and characterization of *Trametes Versicolor* secondary metabolites. **R. Lowenthal**, M. Roman, M. Mullowney, S.A. Snyder, A. Esser-Kahn

40. Synthetic progress towards ring expanded antivirulence agents for uropathogenic *Escherichia coli*. **A.J. Toensing**, A. Stoorza, E.E. Carlson, A.S. Duerfeldt

41. Turmeric powder or curcumins in capsules for the reduction of genotoxicity and cancer?. **N. Moolky**

42. Mechanistic insight into aldolase activity with ketones. **S. Bruffy**, A. Meza, J. Soler, T.J. Doyon, S. Young, M. Garcia Borras, A. Buller

43. Synthesis of antischistosomal quinoxaline compounds: Modifying substituents to improve *in vivo a*ctivities and pharmacokinetic profile. **T. Cassidy**, S.L. Debbert

44. Cross-linking efficiency of UV-active Anthracene coupled bifunctional analog. **N. Setu**, X. Peng

45. Exploring mechanisms of combining Vitamin C and ROS-activated prodrugs for targeted and selective tumor killing. **T. Ponnamperumage**, T. Ali, X. Peng

46. Synthesis of small molecule modulators of quorum sensing in bacteria to regulate biofilm formation. **D.M. Rubush**, M. Vivaldo-Nikitovic, T. Perez Morales

47. Synthesis and lead optimization of anti-schistosomal heterocyclic compounds targeting thioredoxin glutathione reductase. **A. Stewart**, S.L. Debbert

48. Rhodamine-based ratiometric fluorescent sensor for dual-channel visible and near-infrared emission detection of NAD(P)H in living cells and fruit fly larvae. **H. Lanquaye**

Chemical Education General Session (Poster)

Hilton Paper Valley
Salon A/B

K. L. Riel Maas, *Organizer*

11:00 - 12:00

49. Escape the chemistry lab! (an escape room experience). **B. Lybbert**

50. Tiny Earth Chemistry: Promising antibiotic-producing isolates from Beloit College. **K. Jansen Labby**

51. Open source tools to facilitate teaching of skills needed by chemists. **J.H. Gutow**

52. Analysis of scientific practices in organic chemistry laboratory curriculum: impact on student perceptions of learning. **M. Menzel**, M. Richards, A.H. Aebly

53. Searching for the origin of XRD peaks of celestite and tourmaline minerals. **T.J. Schmoll**, C.J. Reed, N. Stojilovic

54. Anxiety in science education: Identifying patterns and vulnerable populations in post-pandemic college classrooms. **K. Rukamp**, E. Sanstad

WEDNESDAY AFTERNOON

Advancing ACS' Core Value of Inclusion and Respect

Hilton Paper Valley
Parchment/Oaktag Room

S. L. Debbert, *Organizer*
J. E. Mihalick, *Organizer, Presiding*
J. D. Schuttlefield Christus, *Presiding*

1:20 55. General chemistry student responses to evidence of structural inequities in STEM and the impact on their perceptions of belonging. **A. Loh**

1:40 56. Promoting access and inclusivity in chemistry through pedagogy and policy in the classroom. **E.O. Wade**

2:00 57. Fostering inclusion and retention through a Women in STEM Scholars Program. **A.F. Raigoza**, H. Amthauer, A.A. Peterson, M. Baker, R. Campbell, J. Crumley, K. Nairn

2:20 group discussion.

2:40 break.

3:00 58. Development of a robust chemistry undergraduate teaching assistant program at a Big Ten university. **H.E. Starr**

3:20 59. ADVANCE-ing equity in STEM departments at primarily undergraduate institutions. **J.D. Schuttlefield Christus**, D. Roseland, S.J. Larson

3:40 *(Withdrawn)* **60.** ~~Crisis looming in unspoken words: The irrefutable case for an inclusive culture in chemistry. **A. Saylor**~~

4:00 group discussion.

Atmospheric Chemistry in the Great Lakes Region

Hilton Paper Valley
Briarwood/Ebony Room

P. Cleary, *Organizer, Presiding*

1:20 61. How do different definitions of atmospheric chemical regimes relate? Connecting ozone production, radical cycling, and NO_x 'crossover points'. **H.S. Kenagy**, C. Heald, J. Palmo, J.H. Kroll

1:40 62. Tackling the nutrient impurities in a controlled way using cellulose fibers. **P.R. Sharma**, S. Hicks, S. Muddapu, E. A Alfarsi, **J. Koebbe**, **M. Kahwaji**

2:00 63. Characterizing atmospheric deposits on surfaces: Growth and maturation. **M.T. Okunade**, U.G. AKPORERE, E.J. Bieber, A. Millard, S.K. Shaw

2:20 64. A particle's fate: Morphology and composition of indoor surface films. **U.G. AKPORERE**, A. Millard, S.K. Shaw

2:40 Intermission.

3:00 65. Atmosphere of the Great Lakes area. **J.E. Sabol**

3:20 Panel Discussion.

Biochemistry General Session

Hilton Paper Valley
Bond/Crown Room

M. Talaga, *Organizer*
A. H. Aebly, K. L. Riel Maas, *Presiding*

1:20 66. Specific G peptide interactions in Prostaglandin E2 G-Protein Coupled Receptors. **N. Anderson**, K. Culhane, H.P. Hendrickson

1:40 67. Phytochemical investigation of Solidago altissima (Tall Goldenrod) and Verbena hastata (Blue Vervain). **G. Sullivan**

2:00 69. Analysis of cannabinoids and terpenes in *Cannabis sativa* with varying compost applications. **L. Cole**, B. Scharenbroch, S. Riha, B. Barringer, A. Impullitti

2:20 1. Extracellular loop 1 modulates Parathyroid Hormone 1 Receptor downstream signaling and G protein interactions. **K. Culhane**, E. McArthur, M. Janssen

2:40 Concluding Remarks.

Green and Sustainable Chemistry

Hilton Paper Valley
Rosewood/Linden Room

B. L. Kedrowski, *Organizer, Presiding*
J. R. Rucinski, *Presiding*

1:20 70. From crops to commercial products: Teaching green and sustainable chemistry through soy-based innovations. **J.E. Wissinger**, M.T. Wentzel, A.S. Cannon, M.S. Hensley, K. Weigal, R. Heggs

1:40 71. Green chemistry in the organic lab and at home: A two-step green benzil synthesis from imitation almond extract. M.J. Bishop, M. Sheehan, L. Arnett, **J. VanderWoude**, **M. Bosscher**

2:00 72. Synthesis of short chain PET oligomers for use in biodegradation studies. **J.R. Rucinski**, B.L. Kedrowski

2:20 break.

2:40 74. Factors considered for reducing carbon footprint in analytical testing instrumentation. **C. Rivera**

3:00 75. Conversion of hydrothermal liquefaction aqueous phase carbon to bacterial cellulose. **J.L. Adair**, B. Barstow, J.L. Goldfarb

3:20 76. Waste stream to Green and Sustainable Chemistry. **R. Pagel**

3:40 *(Withdrawn)* **77.** ~~Green surfactants: Unraveling antiviral mechanisms to promote sustainable biomanufacturing. **V. Sharma**, G. Wallis, F. Biliot, K. Morris, C. Heldt~~

Keynote 1

Hilton Paper Valley
Salon D

K. A. McGarry, *Organizer, Presiding*
M. Hammers, *Presiding*

4:30 Introductory Remarks.

4:35 78. Green Chemistry in commercial manufacturing of pharmaceuticals. **S.D. McCann**

5:20 Q&A.

WEDNESDAY EVENING

Project SEED (Poster)

Hilton Paper Valley
Salon A/B

M. Gulotta, G. R. Wyllie, *Organizers*

6:00 - 7:00

79. ACS project SEED wants YOU!. **R.W. Fitch**

80. Anti-EGFR aptamers as targeted therapeutic agents for Non-small cell lung cancer (NSCLC). M. Nambisan, **G. Sharma**

81. Computational analysis of RNA-based aptamers targeting the CD133+ glioblastoma cells. S. Talamas, **G. Sharma**

82. *In Silico* design and simulation of aptamer-mediated enrichment strategies for CD8αα+ CAR T-Cells. S. Kothuri, **G. Sharma**

83. Computational modeling of Duobody antibodies targeting CD30+ cells in Hodgkin and non-Hodgkin lymphoma. R. Venisetty, **G. Sharma**

Sci-Mix 1 (Poster)

Hilton Paper Valley
Salon A/B

B. Lybbert, J. E. Mihalick, *Organizers*

6:00 - 7:00

84. Design and synthesis of novel HDAC2 inhibitors as potential therapeutics for neurodegenerative diseases. **. Adedeji**, A. Rahman, M. Hossain

85. Using heterocycle synthesis to introduce urban undergraduate students to multistep organic synthesis: Opportunities, challenges, and lessons learned. **F.M. Rivas**

86. Visible light-driven defluorination of trifluoroacetate using a transition metal photocatalyst. **A.S. Wickramaarachchi**, I.D. Jayampathi, A.N. Erickson, D. Wang

87. Engineering the pro-electrophile specificity of a γ-synthase to generate γ-substituted non-canonical amino acids. **H. Weilbaker**, A. Zmich, H. Berendsen, A. Buller

88. Green chemistry design principles to support learners' sustainable thinking: Next steps. **E.L. Day**, H. McFall-Boegeman, C. Schwarz, M. Zhang, M. Cooper

89. Impact of integrating generative artificial intelligence chatbots in an organic chemistry course: A comparative study. **H.J. Kumpaty**

90. PFAS adsorption in zirconium and cerium based metal Orgainic frameworks. **B. Berens**, I. Bauer, J.E. Mondloch

91. Phytoremediation of PFAS using *Cannabis sativa* L.: Exploring the fate of PFAS from contaminated soil. **L. Horne**, G. Kimber, L.J. Putman

92. Uptake of PFOA and PFOS by *Cannabis sativa L.*: Contribution of oyster mushrooms (*Pleurotus ostreatus*). **R. Shubel**, L.J. Putman

Sci-Mix 2 (Poster)

Hilton Paper Valley
Salon A/B

B. Lybbert, J. E. Mihalick, *Organizers*

7:15 - 8:15

93. Respiratory rate, arousal, and long QT risk factors for sudden infant death follow Haber's Rule. **P.R. Knoll**

94. Development of an antidote for chlorine-induced lung injury targeting $GABA_A$ receptors. **M. Meyer**, L. Arnold

95. Water-borne barrier coating based on poly(vinyl alcohol) nanocomposite. **Y. Liu**, J. Klier

96. Scaling up of Core Shell Polymers to cut back on petroleum monomers. **J. Roberts-Dobie**, B.W. Kuehl, M.J. Forrester, E.W. Cochran

97. Fabrication methods to upscale perovskite solar cells. **M. Appapillai**, W. Wei

98. Mechanical properties of organic-inorganic composite films: Compressive resistance of flexible vs. rigid organic components. **J.A. Dahl**, B.C. Higgins, J.E. Neumann

99. Synthesis and coordination chemistry of unsymmetrical phosphine ligands. **G. Hallwood**, B.P. Nell

100. Ligand controlled emission in boron complexes. **E.M. Swanson**, E. Lang, N.A. Anderson, **K.L. Cunningham**

101. Chemical characterization of dissolved organic matter released from biodegradable polyhydroxyalkanoate microplastics. **S. Krueger**, S. Kteeba, L. Guo

102. Microplastics in the Laurentian Great Lakes Watershed as a vector for toxicant transport and their capacity as environmental reactionary surfaces. **D. Stone**, J.D. Schuttlefield Christus

103. Over water and shoreline observations at Lake Michigan using UAS and DOAS during AGES+ 2023. **A. Langert**, **F. Madigan**, **J. Worden**, C. Hansen, P. Cleary, K. Wangen, D. Schabacker, J. Hupy, Z. Buchholz, B. Pierce, N. Rose

104. Data analysis and optimization of WISCO-DISCO 2022 Unmanned Aerial System observations of ozone and meteorology in southeastern Wisconsin. **J. Worden**, K. Wangen, D. Schabacker, K. Koerber, A. Sivilay, A. Torti, P. Cleary, N. Rose, J. Hupy, J. Acdan, B. Pierce

105. Navigating the limitations of particle trapping: the corral trap. **A.N. Kuiken**, B. Chasteen, J.C. Woehl

106. Using *In-Silico* tools to understand the impact of mutations on binding affinity of non-covalent inhibitors of BTK. **J.J. Mallen**, A. Saha, M. Hasan, S. Sharma

THURSDAY MORNING

Chemical Business: Resources and Best Practices

Hilton Paper Valley
Parchment/Oaktag Room

Cosponsored by SCHB
C. Boxley, J. E. Sabol, X. Simon, *Organizers*, *Presiding*

8:00 Introductory Remarks.

8:05 107. ACS Division of Small Chemical Businesses (SCHB). **J.E. Sabol**

8:25 108. Launching and maintaining a successful solopreneur practice. **H.J. Elston**

8:45 109. Intellectual property: An alternative career paths for chemists. **C.M. Turoski, A. Sussman**

9:05 Discussion.

9:20 Intermission.

9:40 110. Know your business partners. **J.E. Sabol**

10:00 *(Withdrawn)* **111.** ~~Ideas to products.~~ **~~R. Baranowski~~**

10:20 112. Mitolyn reviews and complaints 2025: (We tried it 365) my honest review. **J. Vince**

10:40 Discussion.

Chemical Education General Session

Hilton Paper Valley
Rosewood/Linden Room

K. L. Riel Maas*, Organizer*
K. L. Riel Maas, M. Talaga, *Presiding*

8:00 Opening Remarks.

8:10 113. Spectroscopy in the high school classroom: Organic characterization of unknown compounds. **J.T. Bentley**

8:30 114. Modifying organic laboratory curriculum through the lens of Scientific Practices: A preliminary analysis. **A.H. Aebly**, M. Menzel, M. Richards

8:50 115. Antiparasitic heterocycles as targets in an undergraduate course-based research experience. **S.L. Debbert**

9:10 Break.

9:40 116. Introducing ionic liquids to undergraduates. **S. Dutta**

10:00 117. Easy viewing of spectra and vibrational modes from electronic structure output using the QQMS website. **H. Leverentz**, J.K. West

10:20 118. Effect of simulated physical chemistry laboratories on student learning. **Z.S. Walbrun**, L. Nawab, C.Y. Wong

10:40 119. Sustainable agriculture outreach through chemistry education: Introducing a course on microbial disinfection for poultry professionals. **R. Marusak**, C. Cardona, D. Foster-Hartnett, T. Johnson, M. Leonard

Inorganic Chemistry General Session

Hilton Paper Valley
Briarwood/Ebony Room

S. Lense, *Organizer, Presiding*
B. P. Nell, *Presiding*

8:00 120. Synthesis of transition metal complexes bearing unsymmetrical bisphosphines. **B.P. Nell**, D.H. Johnston

8:20 121. Modulation of M-M distance and spin in dinuclear metal complexes containing Fe and Mn supported by triaryl tetradentate ligands with different flanking donors. **D.M. Sembukuttiarachchi**, A. Goodrich, D. Duffy, K. Spielvogal, S. Sinhabahu, M.P. Shores, S.R. Daly

8:40 122. Selective electrocatalytic transformation of C-H and C-C bonds in n-alkanes using real-time modulation of applied potentials. **M. Schreier**

9:00 123. Design of manganese-selective ligands for use in manganese(II) fluorescent sensors. **S. Lense**, C. Kaepp, D. Dempsey, P. Steenport, C. Jensen

9:20 Intermission.

9:40 124. Designing second-sphere hydrogen bonding interactions in biomimetic models of thiol-oxidizing nonheme iron enzymes. **P.E. Sheridan**, A.N. Erickson, A.T. Fiedler

10:00 125. Underlying mechanism of particle size control for CuBTC MOF. **M. Polzin**

10:20 126. Creating inorganic nanomaterials by molten-salt synthesis method. **Y. Mao**

10:40 127. Complex speciation and reactivity of polyoxovanadate-alkoxide clusters. S. Duggan, **P. Miro**

Biologically-related Small Molecules (1)

Hilton Paper Valley
Bond/Crown Room

M. Hammers, *Organizer*
J. M. Holub, P. Willoughby, *Presiding*

8:20 *(Withdrawn)* **128.** ~~Targeted degradation of undruggable proteins using a novel heterobifunctional proteomimetic platform. **M. Wang**, M. Truica, B. Gattis, J. Oktawiec, X. Zhang, S. Abdulkadir, N.C. Gianneschi~~

8:50 129. Chemoenzymatic synthesis of dihydroxylated noncanonical amino acids. **P. Willoughby**

9:20 Intermission.

9:40 130. Small molecule chemical probes facilitate the study of protein prenylation. H. Kottala, Y. Chen, **M.D. Distefano**

10:10 131. A helical peptide antagonist of the human growth hormone receptor. **J.M. Holub**

Environmental Chemistry Poster Session

Hilton Paper Valley
Salon A/B

K. Crawford, *Organizer*

11:00 - 12:00

132. Assessment of copper, lead, and PAHs in soils and plants in 10-year old stormwater biofilters. **K. Crawford**, J. Dewhurst, R. Hawley

133. Exploration of miniaturized Hydrogen Sulfide capture processes to compare scavenger effectiveness in the oil and gas industry. **R. Wagner**, J.W. Hewage, S.R. Hettiarachchi

134. Physical parameters determining chemistry in freshwater. **G. Kim**, D.L. Donohoue

135. Discovery and characterization of fungal antimicrobials from environmental samples. **R. Abler**, **L. Grubisha**, **J. Wondergen**, R. Cortez, K. Hammerberg, L. Markiewicz, S. Ohizu, E. Patty, M. Starry, L. Tapper

136. Why are red cedars invasive? A study of the stability of podophyllotoxin in soil. **S. Vu**, J. Weidenhamer

Organic Chemistry Poster Session

Hilton Paper Valley
Salon A/B

B. Lybbert, *Organizer*

11:00 - 12:00

137. Can the anisotropy of the induced current density (AICD) be used to characterize hydrogen bonds?. **M. Amaya**, **S. Daly**, A. Mahendran, A. Castillo

138. Computational insights into the synthesis and excited-state properties of a heteroaromatic PAH derivative. **M. Amaya**, **S. Daly**, A.M. Jamhawi, A. Castillo

139. Exploring how through-space charge transfer is influenced by relative orientation of electron donors and acceptors. **K. Bannach**, **W. Lind**, N.P. Bowling

140. Development of novel Alpha 2B adrenergic receptor ligands by using a palladium catalyzed Buchwald Hartwig amination with brominated benzodiazepines. **M. Fernando**, A.B. Vincent, S. Harrington, M.A. Toriola, L. Arnold

141. Configuration-encoded approach to 1,5-polyol synthesis: Diol-containing building blocks. **Z. Fike**, G.K. Friestad

142. Efficient palladium-catalyzed Buchwald-Hartwig amination of brominated heterocycles using Pd2(dba)3 and XPhos ligand. **S. Harrington**, M.R. Fernando, L. Arnold, A.B. Vincent

143. Late-stage C2–C3 olefination approaches toward synthesis of Bastimolides A and B and analogues. **S.B. Kumi**, G.K. Friestad

144. 3-Sulfenylation of 2,3-unsubstituted indoles. **A. Naef**, B. Taylor, C. Backmann, S. Meier, D. Hunnicutt, **J.S. Russel**

145. Characterization of through-space charge transfer via arylene ethynylene templates. **E. Randazzo**, N.P. Bowling

146. Intramolecular charge transfer between overlapping aromatic rings via pyridine scaffold and metal clamping mechanism. **S. Sczygelski**, M. Beyerl, N.P. Bowling

147. Biocatalytic synthesis of noncanonical amino acids from a hydroxy aldehyde surrogate. **C. Studinski**

148. Application of diorganylditellurides in hiyama coupling reactions. **S. Zhang**, M. Gabriel, J. Jin

Physical Chemistry Poster Session

Hilton Paper Valley
Salon A/B

J. H. Gutow, *Organizer*

11:00 - 12:00

149. *(Withdrawn)* ~~Photocatalytic oxidation of 5 Hydroxymethylfurfural to 2,5 Furandicarboxylic Acid using mesoporous Pd nanoparticles: Harnessing hot holes for selective oxidation in green chemistry.~~ ~~**P. Poorjafari Jafroodi**~~

150. Evolving charge transfer during thermal annealing of a polymer: Fullerene blend. **Z.S. Walbrun**, R.V. Fisher, C.Y. Wong

151. Grid-Adapted-Manybody-Analysis (GAMA): A fragment-based quantum chemistry exploration on medium-sized water clusters. **S. Kundu**

152. Exploring computational strategies to predict relative binding free energies of protein-protein interactions. **M. Hasan**, S. Sharma, J.J. Mallen, A. Saha

153. Calculation of metal Monohydroxide electronic and vibrational states using multireference and grid-based methods. **W. Henning**, J.N. Woodford

154. Advances in point spread functions for aplanatic and aberration corrected focusing through multiple media. **B. Chasteen**, J.C. Woehl

155. Applying the compensated Arrhenius formalism to ionic liquid-solvent mixtures. **N. Striker**, A.M. Fleshman

THURSDAY AFTERNOON

Chemical Education General Session

Hilton Paper Valley
Rosewood/Linden Room

K. L. Riel Maas, M. Talaga, *Presiding*

1:20 156. Enhancing student achievement and belonging in general chemistry: The impact of metacognition instruction and role models in STEM. **A. Hewitt**, R. Fall, S. Puvanendran, M. Mwavita, J. Mutambuki

1:40 157. How long students retain knowledge and how they feel about frequent assessments. **N. Stojilovic**

2:00 158. Advantages of misaligning the schedule of lecture and lab content for general chemistry. **M. Klemp**

2:20 159. Quantitative approach to measuring outcome expectations in undergraduate chemistry students. **C.A. Beck**, K.L. Murphy

Fate, Transport, and Remediation of PFAS

Hilton Paper Valley
Briarwood/Ebony Room

J. E. Mondloch, *Organizer, Presiding*
S. Riha, *Presiding*

1:20 Opening Remarks.

1:30 161. The fate of PFAS remediation. **R. Pagel**

1:50 162. The influence of charge compensating ions on PFBS adsorption in MOF-808. **J.E. Mondloch**, J. Mikel, B. Berens, G. Versnik

2:10 164. Phytoextraction of PFAS from soil using Alfalfa and Hemp. **S. Riha**, D. Singkofer, G. Geils, A. Pfeil, O. Schwarz, B. Opaneye, B. Jore, M. Harwood, J. Muenchow, A. Silavanh, B. Barringer, S. Ellison, A. Impullitti, J.E. Mondloch, B. Scharenbroch

2:30 Closing Remarks.

History of Chemistry General Session

Hilton Paper Valley
Parchment/Oaktag Room

Cosponsored by HIST
D. E. Lewis, S. C. Rasmussen, *Organizers, Presiding*

1:20 165. Mary Elvira weeks and *The discovery of the elements*. **V.V. Mainz**

1:45 166. Chemists are people, too: arrogant, unassuming, combative, conciliatory, conservative, liberal, rigid, flexible: We got 'em all!. **D.E. Lewis**

2:10 167. Alfred Bernhard Nobel, Nobel prizes and nobelium. **K. Kostecka**

2:35 168. Historical confusion: Regnault, Baumann and the discovery of poly(vinyl chloride). E.W. Culver, **S.C. Rasmussen**

3:00 Break.

3:10 169. Glue: From rendered animal skins and hooves to modern synthetic adhesives. **G.R. Wyllie**

3:35 170. Organic chemistry under pressure: acetylene and the quest for synthetic fuels and rubber. **D.E. Lewis**

4:00 171. HIST Primer on historical research: Tips, advice, and resources. **S.C. Rasmussen**

Biologically-related Small Molecules (2)

Hilton Paper Valley
Bond/Crown Room

M. Hammers, *Organizer*
E. Burghardt, C. Friederichs, *Presiding*

1:40 172. Semi-synthetic access to deacidified GEX1A analogues by decarboxylative functionalization. **E. Burghardt**, R.E. Taylor

2:00 173. Logic-gated approach for targeted delivery and site-selective activation of photothermal agents in precision cancer treatment. **C. Jiang**, Z. Zhao, A. East, S. Bandyopadhyay, Z. Jiang, J. Chan

2:20 174. Development of novel pet imaging probes targeting cancer specific sugar uptake mechanisms. **K. Sedaghatnia**, M. Tanasova

2:40 Intermission.

3:00 175. Toward a comprehensive method for identification of cellular senescence. **K. Elbein**

3:20 176. Establishing a two color fluorescence probe assay for the simultaneous screening of GLUT 5 and GLUT 2 Fructose transporters in live cells. **O. Afolabi**, M. Tanasova

3:40 177. Generation of naphthylamine derivatives as fluorescent probes for accumulation kinetics studies in gram-negative bacteria. **C. Friederichs**, Q.M. Gibaut, J.W. Berryman, A.S. Duerfeldt

Biochemistry General Session (Poster)

Hilton Paper Valley
Salon A/B

M. Talaga, *Organizer, Presiding*

4:30 - 5:30

178. Covalent immobilization of biomacromolecules for AFM characterization. **B. Mercado Velez**, V. Sharma, S.A. Kriz, P. Goetsch, C. Heldt

179. G protein coupling selectivity in parathyroid hormone 1 receptor. **E. McArthur**, K. Culhane

180. Expression and purification of green flourescent protein tagged parathyroid hormone. **A. Risilia**, K. Culhane

181. Tandem priming of *Arabidopsis thaliana* to examine drought tolerance responses. **D. Owen**, **L. Beaumont**, **R. Pugh**

182. Trapping nitric oxide intermediate of variant cytochrome *c* nitrite reductase. **B. Dimock**, A. Pacheco, J. Wilcoxen, B. Bennett

183. The tesseract quaternary complex model and Ca2+ allostery in PTH1R. **M. Janssen**, K. Culhane

184. Investigation of the pre-A tail's role on truncated hemoglobin N (trHbN) function. **S. Marium**, A. Pacheco

Green and Sustainable Chemistry (Poster)

Hilton Paper Valley
Salon A/B

B. L. Kedrowski, *Organizer*

4:30 - 5:30

185. Biocatalytic aza-Michael addition of aromatic amines to enone using α-amylase in water. **S. DUTT**

186. Investigating redox intermediates in cytochrome c nitrite reductase through EPR Spectropotentiometry and Rapid-mixing techniques. **S.T. Nkwocha**, A. Pacheco

187. Antiviral efficacy and interaction mechanism of green surfactants with enveloped viruses. **G.E. Wallis**, V. Sharma, F.H. Billiot, K. Morris, C. Heldt

188. Greening the curriculum: Strategies and challenges in implementing green chemistry in organic chemistry lab. **M. Zhang**, E.L. Day, C. Schwarz, H. McFall-Boegeman, M. Cooper

189. Introduction to the Chemistry of Materials: A sustainability-themed general education course. **J.E. Mihalick**

190. Isolating curcumin and its derivatives from tumeric by column chromatography using a non-halogenated solvent system. **E. Theoharopoulos**, R.S. Tanke

191. Development of a greener Friedel-Crafts experiment for the undergraduate laboratory curriculum. **D. Wilson**, **B.L. Kedrowski**

Materials Chemistry Poster Session

Hilton Paper Valley
Salon A/B

M. Elmer-Dixon, J. E. Mihalick, *Organizers*

4:30 - 5:30

192. Highly controlled methacrylation of gelatin for biomedical applications. **T. Bos**

193. Effect of π-extension on the photophysical properties of a pentacene heterocyclic analogue. **A. Columbres**, **M. Amaya**, A. Castillo, A.M. Jamhawi

194. Crystalline structure analysis of selected titania-based nanofibers. **C. Jensen**, N. Stojilovic

195. Selective reduction and oxidation of nitroaromatic compounds by hot electrons and hot holes. **P. Poorjafari Jafroodi**

THURSDAY EVENING

Keynote 2

Hilton Paper Valley
Salon D

K. A. McGarry, *Organizer, Presiding*
M. Hammers, *Presiding*

5:30 Introductory Remarks.

5:35 197. Nanomaterials for a more sustainable planet. **R.J. Hamers**

6:20 Q&A.

FRIDAY MORNING

Applications of Radioisotopes

Hilton Paper Valley
Bond/Crown Room

A. Momen, M. Piechowicz, *Organizers, Presiding*

8:00 198. We are explorers in radiochemical space: Adventures in radiochemistry methodology, artificial intelligence and theranostics. **P.J. Scott**

8:20 199. Recent progress in the development of extraction chromatographic materials for radionuclide separations. **M.L. Dietz**

8:40 200. Design, development and preclinical evaluation of novel theranostics: Alpha-PET Double-L.E.T.^{TM}. **M.K. Pandey**, G.B. Johnson, A. Bansal, D. Bartlett

9:00 201. Role of radionuclides in contemporary cancer treatment. **R. Hernandez**

Materials Chemistry General Session

Hilton Paper Valley
Briarwood/Ebony Room

M. Elmer-Dixon, J. E. Mihalick, *Organizers, Presiding*

8:00 202. Harnessing bionanomaterials for biomedical applications.. **A. banerjee**, A. Nadelson, W.C. Hosie, J.F. Trant

8:20 203. Electrolyte anions suppress hydrogen generation in electrochemical CO reduction on Cu. **L. Fuller**, G. Zhang, S. Noh, R. Van Lehn, M. Schreier

8:40 204. Exploration of negative thermal expansion-based thermally enhanced luminescent materials. **Y. Mao**

9:00 205. Enzymatic oxidative coupling of urushiol: Art & chemistry of the original high-tech coating. **D.M. Snyder**

9:20 206. Digital light printing of polymer-derived silicon oxycarbide ceramic structures. **V. Bishop**, W. Wei

9:40 163. Unique PFAS adsorption behavior by metal organic framework MOF-808. **W. Zhang**, B. Berens, S. Xu, J.E. Mondloch, Y. Wang

Teaching Chemistry through Humanities

Hilton Paper Valley
Rosewood/Linden Room

K. Jansen Labby, *Organizer, Presiding*

8:00 207. Chemistry & Art: a gateway introductory course. **S.J. Sobeck**

8:20 208. A costume shop scenario in the organic chemistry lab: Dye synthesis and color quantification. **K. Jansen Labby**, A. Lichte, C. Felix

8:40 209. Chemistry of art & color: A course for the non-major. **K. Kostecka**

9:00 210. Tobacco: A lens for exploring the impact of science on society. **J. Weidenhamer**