Jeanette Krause and William Connick, Program Chairs

WEDNESDAY MORNING

Northern Kentucky Convention Center
Room 9
Analysis of Dietary Supplements
S. Kern, Organizer, Presiding

8:00 1. Elemental analysis and speciation of dietary supplements. K. Kubachka

8:25 2. Thermal profiling and in-source fragment ions for rapid characterization of supplements: Tools for using a compact DART-MS system for quality control and contamination detection. B. Musselman, R. Goguen, F. Li


9:35 Intermission.

10:05 4. Analysis of dietary supplements containing phosphodiesterase type-5 (PDE-5) inhibitors. B. Hanson, R. Flurer, S. Kern, E. Nickum, V. Toomey, S. Voelker

10:30 5. Simplifying 2D-LC, 2D-LC/MS automated workflows fast and efficient multi-dimension LC & LC/MS method development. B. Giuffre

Northern Kentucky Convention Center
Room 4
Assessment of Community, Environmental & Occupational Exposures to Chemicals related to the Unconventional Oil & Gas Industry
J. Snawder, Organizer, Presiding

8:00 Introductory Remarks.

8:15 7. Engaging community in air quality research near unconventional oil and gas extraction sites. E. Haynes, L. Kincl, D. Rohlman, B. Paulik, K.A. Anderson


9:05 9. Stable isotopic constraints on methane migration into groundwater and emissions to the atmosphere from unconventional natural gas extraction: Examples from Ohio, Colorado, and Texas. A. Townsend-Small


9:55 Intermission.


Northern Kentucky Convention Center
Ballroom A
Bioinspired Chemistry
Financially supported by Procter & Gamble Company
B. Isfort, Z. Khambatta, Organizers, Presiding

8:00 Introductory Remarks.

8:15 15. Biomimicry: Sustainable solutions inspired by nature. J. Lim

9:00 16. Bioinspired chemistry in the air, on land, and in the seas. J.J. Wilker

9:45 Intermission.

10:00 17. Animal tracks: Do living organisms leave behind chemical clues to adhesive success? A.Y. Stark


11:00 Panel Discussion.
Northern Kentucky Convention Center
Room 2
Catalysis in Natural Product Synthesis
M. K. Brown, A. E. Mattson, Organizers, Presiding

8:00 19. Iron-catalyzed carbonyl olefin metathesis. C. Schindler

8:25 20. Chemical synthesis methods via cooperative catalysis. T.N. Snaddon


10:00 Intermission.

10:15 23. A unified strategy to access protoilludane sesquiterpenoids through carbene catalysis. K. Scheidt


Northern Kentucky Convention Center  
Ballroom E  
Frontiers in Nucleic Acids Chemistry  
N. Leontis, Organizer  
R. M. Wilson, Organizer, Presiding

8:00 26. Oxidation of purine bases.  R.M. Wilson

8:30 27. Early events in the photochemistry of nucleic acid bases.  C.E. Crespo-Hernández

9:00 28. The role of the electron in radiation damage to DNA.  M.D. Sevilla, A. Kumar, A. Adhikary, L. Shamoun

9:30 29. A ROS-activated DNA damaging agent that targets leukemias.  E.J. Merino

10:00 Intermission.

10:30 30. Watching the bypass of a major oxidative lesion by a human DNA polymerase.  Z. Suo

11:00 31. RNA evolution in a highly oxidizing environment: The case of the mammalian mitochondrial ribosome.  P. ROY, M. Hosseini, M. Sissler, E. Westhof, N. Leontis

11:30 32. Dynamics and mechanism of DNA-repair by photolyases.  D. Zhong
Northern Kentucky Convention Center
Room 5
Inorganic Chemistry, Organometallics & Sensors-
Inorganic Chemistry & Sensors
J. A. Krause, Organizer
W. B. Connick, Organizer, Presiding

8:00 33. A dinuclear nickel catalyst for cycloaddition reactions: Alkyne cyclotrimerization and reductive methylene cyclopropanation. S. Pal, C. Uyeda

8:30 34. Cationic dirhodium(II,II) complexes as dual action electrocatalysts for H⁺ and CO₂ reduction. S. Witt, C. Turro

9:00 35. Development of new cobalt pincer complexes for catalytic applications. Y. Li

9:30 36. Compromised catalysis vs mechanistic insight: Using a sterically hindered iron catalyst to produce and characterize high-valent iron species in water and organic solvents. M.R. Mills, A.D. Ryabov, T.J. Collins

10:00 Intermission.

10:20 37. Colorimetric and optical sensing of anions. A. Hossain


Northern Kentucky Convention Center
Room 7
J. E. Goldberger, Organizer, Presiding

8:00  40. Colloidal syntheses of anisotropic lead-salt nanostructures using chloroalkanes.  L. Sun, Z. Jiang, S. Premathilaka, S. Chiluwal, S. Kandel, A. Antu, Y. Tang, S. Khan

8:25  41. Linking the forward and reverse vapor-liquid-solid mechanisms in metal oxide nanostructures.  B.M. Hudak, L. Yu, Y. Chang, M. Park, B.S. Guiton

8:50  42. Halide double perovskites: A new class of compound semiconductors.  P. Woodward, E. McClure

9:15  43. Diamond-like semiconductors: Toward improved infrared nonlinear optical materials.  J.A. Aitken

9:40  Intermission.

10:00  44. NIR-to-visible light upconversion in lanthanide-doped alkaline-earth fluorohalide nanocrystals.  K. Dissanayake, F. Rabuffetti

10:25  45. Tailoring magnetism and electronic transport in MPn2Se4 semiconductors.  P.F. Poudeu Poudeu


11:10  47. Hydrothermal synthesis of non-centrosymmetric lead oxide carboxylates.  C. Oertel, N. Fellah, E. Liu, M. Zeller

Northern Kentucky Convention Center
Room 1
Mass Spec Methods for Analysis of Radioisotopes in Environmental & Nuclear Forensic Applications
Cosponsored by NUCL
J. L. Steeb, E. Widom, Organizers, Presiding

8:00 49. Mass spectrometry for nuclear forensics. R.W. Williams

9:00 50. Actinide analysis of lichen by TIMS: Identifying anthropogenic contamination in the environment. E. Widom, K. McHugh, D. Kuentz

9:20 51. Uranium isotope constraints on radioactive contaminant sources in tree bark. E.R. Conte, E. Widom, D. Kuentz

9:40 52. Uranium mobility across annual growth rings in multiple tree species. K. McHugh, E. Widom, G. Sam

10:00 Intermission.

10:30 53. Developing Argonne’s two-parameter (non-linearity and weighted mass bias) model for high precision ICP-QMS isotope ratio measurements: Results from Inter-laboratory round robin. J.L. Steeb, D.G. Graczyk, Y. Tsai, M. Snow, C.R. Hexel

11:10 55. Trace element signatures of uranium ore concentrates: Source attribution and proof of concept. T.L. Spano, E. Balboni, C. Dorais, A. Simonetti, P.C. Burns


Northern Kentucky Convention Center
Room 6
Nanoscience & Biotechnology
Cosponsored by BIOT
L. Esfandiari, H. Kumari, Organizers, Presiding

8:30 57. Molecular dynamics investigation of the binding of P1 peptide and mutants on graphitic surfaces. E. Helton, S. Barr, G.M. Leuty, R.J. Berry

9:05 58. Degradation of 1,1,1-trichloroethane by nanoscale zero valent iron (NZVI) supported on powdered activated carbon (PAC). M. Chowdhury


10:15 Intermission.

10:30 60. Tuning of size and shape of RNA nanoparticles for applications in nanotechnology. P. Guo

11:05 61. Dimensional control of chemical interfaces using polymerizable amphiphiles. S.A. Claridge
Northern Kentucky Convention Center
Room 10
Physical Chemistry/Computational Chemistry
W. B. Connick, J. A. Krause, Organizers
B. S. Ault, Presiding

8:30 62. Photochemistry of aqueous pyruvic acid under model atmospheric conditions. A.J. Eugene, S. Xia, M.I. Guzman

9:00 63. Ozonolysis of catechol at the gas-solid interface. E.A. Pillar-Little, M.I. Guzman

9:30 64. Reusable mineral ZnS for photocatalytic reduction of fumarate to succinate. R. Zhou, M.I. Guzman

10:00 Intermission.


10:45 66. Monitoring charge separation and injection processes of semiconductor perovskite thin films. C. McCleese, L. Wang, Y. Zhao, C. Burda


Northern Kentucky Convention Center
Room 3
Responsive & Functional Polymeric (Nano)Materials
N. Ayres, D. Konkolewicz, Organizers, Presiding

8:30 68. Introducing functionality to poly(arylene ether)s via sulfonamide activated nucleophilic aromatic substitution polycondensations. E. Fossum
9:00 69. Synthesis and polymerizability of 1-functionalized vinylbenzocyclobutenes with controlled curing temperatures. C.R. Pugh, W.K. Storms, J.S. Baker, A.R. Amrutkar

9:30 70. Kinetic study of amine catalyzed photo-initiated RAFT polymerization. M. Allegrezza

10:00 Intermission.

10:30 71. Utilizing assembly of graphene oxide at the oil-water interface to access tailored structures. B. Rodier, P. Wei, Q. Luo, E. Mosher, S. Burton, E. Pentzer

11:00 72. Building a theoretical perspective on how chemical structure determines the performance of polymer-based electronic devices. C. Risko

Northern Kentucky Convention Center
Room 8
Innovations & Initiatives in K-16 Chemical Education-Online Learning: Expanding the Classroom
Financially supported by PCS Administration-Potash Corp
J. Breiner, Organizer
A. Vonderheide, D. Waddell, Organizers, Presiding

9:00 73. Incorporating recorded video lectures into organic chemistry course content: Student survey and standardized exam results. C.G. Gulgas

9:30 74. Advancing technology and its impact on internet enhanced teaching. R.K. Gilpin, C.S. Gilpin

10:00 Intermission.

10:30 75. Development and implementation of an online general chemistry course. Y. Law
11:00 76. Development of an online college-level general chemistry preparatory program. J. Roach


WEDNESDAY AFTERNOON

Northern Kentucky Convention Center
Room 3
Bioconjugates for a Changing World
Cosponsored by PMSE
D. Konkolewicz, R. C. Page, Organizers
J. Berberich, Organizer, Presiding

1:30 78. Protein modification via ring-opening metathesis polymerization. S.A. Isarov, P. Lee, J.D. Wallat, J.K. Pokorski

2:05 79. Opioid polymer biohybrids. S. Averick, S. Li, D. Cohen-Karni, D. Whiting


3:00 81. Synthesis of well-defined protein-polymer conjugates using ligase-mediated site-specific modification. J.D. Stapleton, R. Falatach, J. Plaks, R.C. Page, D. Konkolewicz, J. Kaar, J. Berberich

3:20 Intermission.
3:50 82. Chemoenzymatic labeling methods for bioorthogonal protein conjugation applications. M. Parasa, A. Saleh, A. Witten, J. Fraseur, T. Kinzer-Ursem

4:25 83. Materials at the beach: Characterizing and mimicking shellfish adhesives. J.J. Wilker


Northern Kentucky Convention Center
Ballroom A
Bioinspired Chemistry
Financially supported by Procter & Gamble Company
B. Isfort, Z. Khambatta, Organizers, Presiding

1:30 Introductory Remarks.

1:45 85. Micro-architectures and interfaces in biological and synthetic materials. F. Barthelat

2:30 86. Self-organization and other biomimetic properties of nanoparticles. N. Kotov

3:15 Intermission.

3:30 87. Bioinspired chelates for light-responsive control of transition metal availability. M.J. Baldwin

4:00 88. Bioinspired strategies for enhancing function in degradable polymers. M. Becker

4:30 Panel Discussion.

5:15 Concluding Remarks.
Northern Kentucky Convention Center
Ballroom E
Frontiers in Nucleic Acids Chemistry
R. M. Wilson, Organizer,
N. Leontis, Organizer, Presiding

1:30  89. RNA nanostructures for biomedical applications.  P. Guo

2:00  90. Fabrication of nanometer scale functional polygons utilizing RNA 3WJ motif.  E. Khisamutdinov

2:30  91. The pluses of DNA-seeking porphyrins.  D.R. McMillin, S. Ghimire

3:00  Intermission.

3:30  92. RNA drug discovery: A paradigm shift for targeting cis regulatory RNA.  J.V. Hines


4:30  94. NMR based profiling of pancreatic cancer, type 1 diabetes, and acute kidney injury.  M.A. Kennedy

Northern Kentucky Convention Center
Room 8
Innovations & Initiatives in K-16 Chemical Education-Innovative Teaching Strategies
Financially supported by PCS Administration-Potash Corp
J. Breiner, Organizer
A. Vonderheide, D. Waddell, Organizers, Presiding
1:30 95. Implementation of computer simulations in general chemistry labs: Student perspectives and instructional implications. **T.M. Clark**

2:00 96. POGIL vs. lecture in an organic chemistry classroom: Does it make a difference in student performance? **M.P. Dematteo**, M.L. Greer


3:00 Intermission.

3:30 98. A one-semester chemistry survey course for nursing majors taught concurrently in three formats: face-to-face, flipped classroom, and on-line. **S.S. Preston**

4:00 99. Moving from pure science research to science education research: The initial strides from a graduate student perspective. **E.G. Westbrook**, J. Breiner

4:30 100. Using Google forms and Google sheets in AP chemistry lab. **T. Pinyayev**

**Northern Kentucky Convention Center**
**Room 5**
**Inorganic Chemistry, Organometallics & Sensors-Inorganic/Organometallics & Catalysis**
W. B. Connick, J. A. Krause, Organizers
R. Muvirimi, Presiding

1:30 101. Insight into the dinuclear intermediates of the Pauson–Khand reaction. **D.R. Hartline**, C. Uyeda

2:00 102. Near-IR fluorescent probes based on zinc phthalocyanines and their subphthalocyanine intermediates. B.A. Corbin, L. Sejdarasi, M.A. Kaster, **E.R. Trivedi**

3:00 Intermission.

3:30 104. Wet-chemical synthesis of iron dichalcogenide marcasite FeSe$_2$ and FeTe$_2$ nanocrystals. **E. Bastola**, K.P. Bhandari, N. Shrestha, R.J. Ellingson

4:00 105. Correlation of structure of square-planar metal complexes with pendant nucleophiles. **J. Ringo**, T.W. Green, J.A. Krause, W.B. Connick

4:30 106. SCrALS: Providing a straightforward solution to challenging samples. **A.G. Oliver**, J.A. Krause

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**Northern Kentucky Convention Center**  
**Room 1**  
**Mass Spectrometry**  
**P. A. Limbach, Organizer, Presiding**

1:30 107. Yin and Yang in mass spectrometry: Research-level mass spectrometry in industry. **L. Sallans**

1:50 108. Coupling electrochemistry with probe electrospray ionization mass spectrometry (PESI-MS). **Y. Cai**, H. Chen

2:10 109. Charge detection mass spectrometry for monitoring virus assembly in real time. **C. Lutomski**, K. Zhao, A. Zlotnick, M. Jarrold

2:50  111. A new thiol derivatization reactions with 2,1,3-benzo telluradiazole studied by mass spectrometry.  C. Xu, Q. Zheng, K. Xu, B. Tang

3:10  112. Analysis of native electrospray of ubiquitin, cytochrome c and bovine serum albumin studied by IMS-IMS-MS.  A. Jacobs, D.E. Clemmer

3:30  Intermission.

3:50  113. Confirmation of subunit-subunit connectivity and topology of computationally designed protein complexes using surface induced dissociation/ion mobility.  A. Sahasrabuddhe, Y. Hsia, F. Busch, D. Baker, V.H. Wysocki

4:10  114. Salivary protein changes in medical residents performing stressful clinical simulations.  R. Marvin, M.B. Saepoo, S. Ye, D. White, K. Hensley, P. Rega, V. Kazan, D. Giovannucci, D. Isailovic


5:10  117. Differential mass spectrometry analysis of transfer RNA by stable isotope labelling.  M. Paulines
Northern Kentucky Convention Center
Room 4
Methods & Applications of Analytical Chemistry in Occupational Health
Cosponsored by NUCL
R. Streicher, Organizer, Presiding

1:30 118. Introducing the 5th edition of the NIOSH manual of analytical methods. P. O'Connor


2:10 120. Manganese speciation in workplace samples: Method development and validation. R.N. Andrews, K. Hanley, H. Feng, K. Ashley

2:30 121. Optical molecular fluorescence determination of ultra-trace beryllium in occupational and environmental samples using highly alkaline conditions. K. Ashley, L. Adams, A. Agrawal, J. Cronin

2:50 Intermission.

3:20 122. Measurement of diacetyl and 2,3-pentanedione in powdered flavorings by headspace SPME and GC-MS. F. Nourian, R.P. Streicher

3:40 123. Use of the DAN (1,8-diaminonaphthalene) method for assessment of isocyanate hazards related to application of spray foam insulation. R. Streicher, D. Bello, F. Nourian, M.K. Ernst, J.E. Arnold, M.A. Steinmetz, T. Scott, J.R. Pretty


Northern Kentucky Convention Center
Room 6
Nanoscience & Biotechnology
Cosponsored by BIOT
L. Esfandiari, H. Kumari, *Organizers, Presiding*


2:40 128. Encapsulation of xenon in the context of materials and $^{129}$Xe NMR-based sensors. K.T. Holman

3:15 Intermission.

3:30 129. Membrane-active, synthetic amphiphiles that mediate antibiotic resistance reversal. G.W. Gokel


4:40 131. Porous materials for clean energy applications. P.K. Thallapally
Northern Kentucky Convention Center
Room 2
Organic Synthesis of Bioactive Molecules
Cosponsored by MEDI
M. DAI, Organizer, Presiding

1:30 132. Alkaloid synthesis based on cyclopropanols. J.K. Cha

2:00 133. Exploring chemoselectivity through natural product total synthesis. S.A. Snyder

2:30 134. Dearomative functionalization with arenophiles. D. Sarlah

3:00 135. 2-chloro-4-[[1R,2R]-2-hydroxy-2-methyl-cyclopentyl]amino]-3-methyl-benzonitrile: Discovery and synthesis of transdermal selective androgen receptor modulators (SARM) for muscle atrophy. A. Saeed

3:30 Intermission.

3:45 136. Rh(I)-catalyzed cycloadditions and cycloisomerizations in natural product synthesis and drug discovery. W. Tang

4:15 137. Natural products as a fountainhead for chemical innovation. P.E. Floreancig

4:45 138. Preparation and electrocyclization of $N$-alkenyl nitrones for the synthesis of novel oxazine heterocycles. L.L. Anderson

5:15 139. Recent advances in the total synthesis of biologically active natural products. C.J. Forsyth
Northern Kentucky Convention Center
Ballroom D
What is Happening Down on the Pharm
Financially supported by Aerpio Therapeutics
D. J. McLoughlin, Organizer, Presiding

1:30 140. Setting a course for biomedical innovation in the 21st century. G. Zhu

2:15 141. Novel medicines, high-risk new mechanisms, high reward. J. Gardner

3:00 Intermission.

3:15 142. The on-demand synthesis economy: Complexity, diversity, and immediacy in chemical synthesis. J.N. Johnston

4:00 143. Late phase development of abemaciclib. D.P. Kjell, J. Merritt, K. Sullivan, M.A. Pietz, M. Andiappan, N.A. Furr

4:45 144. Therapeutic targeting of oncogenic protein tyrosine phosphatases. Z. Zhang

Northern Kentucky Convention Center
Room 7
Controlled Assembly of Functional Supramolecular Materials
J. K. Klosterman, Organizer, Presiding

2:00 145. Design and synthesis of dehydrobenzoannulene based 2D covalent organic frameworks. J.W. Crowe, P. McGrier


ACS Central Regional Meeting 2016 61
2:50 147. Assembly of laminar metal-organic frameworks using a supramolecular building block strategy. J.K. Klosterman

3:20 Intermission.

3:40 148. STM study of supramolecular nanostructures at electrode/electrolyte interfaces. Z. Li

4:10 149. Tuning mechanical properties in metallo-supramolecular polymers with ligands and light. A. Razgoniaev, A. Ostrowski

4:30 150. Sumanene as new material for supramolecular aggregates. A.Y. Rogachev

WEDNESDAY EVENING

Northern Kentucky Convention Center
Ballroom B-C
ACS Sponsored Posters
J. A. Krause, Organizer
5:30 - 7:30

Get involved with the ACS division of chemical education. D. Zimmerman.

SCHB experience helps you meet the challenges in the chemical sciences sector. J. Sabol.

ACS Small Chemical Businesses Division membership: A valuable tool for the entrepreneur. J. Sabol.

Northern Kentucky Convention Center
Ballroom B-C
151. Development and validation of a new method to measure activity of the Na⁺, K⁺ ATPase using ICP-MS QQQ. C.A. Stiner, J. Landero, T. Radzyukevich, J. Heiny


153. Development of an electrochemical biosensor for arsenic. S. Minderlein, J. Berberich, J.P. Scaffidi


156. Comparison of boron-doped diamond and nitrogen-incorporated tetrahedral amorphous carbon thin-film electrodes for the detection of estrogenic compounds by HPLC-EC. A. Castiaux, J. Qiu, G.M. Swain

157. The electrochemical behavior of boron-doped diamond and nitrogen-incorporated tetrahedral amorphous carbon thin-film electrodes in ionic liquids. R. Jarosova

158. Analysis of a series of dietary supplements via energy dispersive X-ray fluorescence spectroscopy (EDXRF). W. Bair, S. Maurice, M.A. Benvenuto
159. Classification of key ororants in coffee by headspace solid phase microextraction and gas chromatography-mass spectrometry. J. Kyle, E.A. Baldauff

160. Does temperature affect confirmatory analysis of blood, cell morphology of red blood cells and DNA degradation? B.K. Bosley, F. Musko, M. Wright


162. Selection of aptamers for microcystin-LR using quantum dots and capillary electrophoresis. M. Brito, C. Rousseau, J. Guthrie

163. Water quality studies of contributing streams to the Huron River in southeast Michigan. O. Hajihassani, J. Powers, J. Vites

Northern Kentucky Convention Center
Ballroom B-C
Biochemistry/Medicinal Chemistry
J. A. Krause, Organizer
5:30 - 7:30

164. Enzyme immobilized microfiltration membrane for environmental bioremediation. R. Sarma, D. Bhattacharyya

165. Design and synthesis of new allosteric HIV-1 integrase inhibitors. Y. Mansour, P. Koneru, M. Kobe, A. Hoyte, M.S. Mohamed, M. Kvaratskhelia, J. Fuchs

167. Analogues of the natural product ethyl \( N \)-(2-phenethyl) as potent biofilm inhibitors of methicillin resistant \textit{staphylococcus aureus}. \textbf{M. Stephens}, N. Yodsanit, C. Melander

168. Functionalization of Indole scaffold as allosteric HIV-1 integrase inhibitors. \textbf{J. Antwi}, P. Koneru, M. Kobe, M. Kvaratskhelia, J. Fuchs


171. A modified ribonuclease assay for \textit{E. coli} clones secreting RNase U2. \textbf{B. Solivio}, \textbf{A. Beiersdorfer}, \textbf{B. Addepalli}, \textbf{P. Limbach}

172. Inhibition of Ras-Raf interaction by bicyclic peptides. \textbf{W.A. Bedewy}, N.A. Abou Taleb, T.M. Nasr, S.F. Hammad, D. Pei

173. Deoxygenation of sugars leads the way to sustainable chemical production. \textbf{M. Morrow}, J. Brantley , A. Samant , D. Toste


176. Introducing non-science majors to science through an environmental chemistry course. **V.C. Ezeh**

177. Primary literature in a foundations of inorganic chemistry course. **V.C. Ezeh**

178. Development and characterization of a teaching constant current coulometry instrument for a multifunctional chemical analysis (MCA) system. **E.M. Coombs, J.P. De Jesus, N.D. Danielson**

179. Development and characterization of a teaching sequential flow Injection analysis instrument for a multifunctional chemical analysis (MCA) system. **S.R. Vogelsong, A. Ali, N.D. Danielson**

180. Student friendly science labs utilizing IPADS and videos. **S. Ladogana, J. Green, P.D. Voegel**


182. Photovalic properties of silver doped nickel tungstate. **A. Riley, Z. Li, S. Hosseini**
183. Coordination of 1,3-bis(diphenylphosphinomethyl)benzene and 1,3-bis(ditertbutylphosphinomethyl)benzene ligand to uranyl nitrate. M. Alotaibi


188. Boracarboxylation of vinyl arenes. E.J. McClain, T.W. Butcher, T.G. Hamilton, B.V. Popp


Northern Kentucky Convention Center  
Ballroom B-C  
Materials Chemistry/Nanomaterials/Sensors  
J. A. Krause, Organizer  
5:30 - 7:30


192. The role of acetic acid and water in the synthesis of colloidal PbS nanosheets. **S. Premathilaka, Z. Jiang, A. Antu, L. Sun**

193. Sorption of noble metal nanoparticles from the water column by periphytic algal turf communities. **H. Faraj, J.B. Miller**

194. Photocontrollable visible range absorbing rhodamine spirolactams for super resolution imaging. **P. Rai**


196. Understanding the mechanism of formation of PbSe NR. **S. Chiluwal, S. Kandel, Z. Jiang, L. Sun**

197. Understanding octahedral tilting in n=2 Ruddlesden popper phases. **A. Sharits, P. Woodward, N. Benedek**

198. Controlled Spacing of emissive phenylene diacrylic acids in Pillared Metal Organic Frameworks. **S. Puri, J.K. Klosterman**

199. Cs$_2$AgBiX$_6$ (X = Br, Cl) — New visible light absorbing, lead-free halide perovskite semiconductors. **E. McClure, P. Woodward**
200. Synthesis and characterization of Al$_x$Sc$_{2-x}$Mo$_3$O$_{12}$ using non-hydrolytic sol-gel methods.  **L. Lovings**, D. Blum, A. El-Amin, C. Lind-Kovaes


203. Correlating structural properties to biosorption capacity.  Z. Kelver, T. Robaska, K. Villegas, **D.J. Schauer**

Northern Kentucky Convention Center
Ballroom B-C
Organic Chemistry/Green Chemistry/Catalysis
**J. A. Krause**, Organizer
5:30 - 7:30

204. Towards the optimization of the allylation of phenols and alcohols via oxypyridinium salts.  **A. Jacobs**, P.A. Albiniak


206. 1,3-dipolar cycloaddition of nitrile oxides containing quinoline-5,8-dione.  **R. Ravanfar**, J. Nguyen, R.E. Sammelson

207. Hyperbranched poly(ester)s as platforms for the controlled delivery of drugs.  **G. Greene**, **B.A. Howell**

208. Gallic acrylates as a base for the development of nontoxic flame retardants.  **J. Bahry**, **B.A. Howell**
209. Phosphorus esters of gallic acid. K. Oberdorfer, B.A. Howell

210. Generation of phosphorus flame retardants for textiles and plastics from itaconic acid. V. Hill, Y. Daniel, B.A. Howell

211. Brominated phosphorus compounds from alkynols. A. Gudbrandson, B.A. Howell

212. Phosphorus derivatives of biophenol as flame retardants for polymeric materials. C. Schmaltz, B.A. Howell

213. The 1,8-diaminonaphthalene phytic acid salt as a biobased flame retardant. A. Dembski, Y. Daniel, B.A. Howell

214. Exploring the reactivity of oxypyridinium salt derivatives with oxygen nucleophiles. C. Culy, P.A. Albiniaik


216. Production of a series of multi-dentate podand ligands and incorporation into plastics for use as potential metal chelators. M.A. Benvenuto, J. Payne


218. Evaluation of the reactivity of N-Alkylmaleimides and Diels-Alder adducts of anthracene as potential paper sizing agents. I.H. Bonck, B.N. Michel, J. Fotie

219. Electronic substituent effects on the reactivity of 2-benzylxoy-1-methylpyridinium triflate derivatives. S.A. Harry, P.A. Albiniaik
220. Formation of the synthons 4,4’-dipyridil diketone and 1,3-di(4-pyridinyl)acetone. B.D. Coleman, J.C. Martinez, M.P. Castellani

Northern Kentucky Convention Center
Ballroom B-C
Physical Chemistry/Computational Chemistry
J. A. Krause, Organizer
5:30 - 7:30

221. Using metal nanostructures to enhance the intrinsic fluorescence of hemoglobin. H. Sekhon, C. Whitcher, M. Cheng, J.S. Biteen

222. Light-sensitive reaction-diffusion waves in a checkerboard-like illumination system. S. Kirn, N. Manz

223. Ab initio and semi-empirical quantum chemistry calculations of DMPO and DMPO-OH - water clusters. P. Campbell, S.J. Kirkby

224. Ab initio and semi-empirical calculations of cyanoligated rhodium dimer complexes. Y. Asiri, S.J. Kirkby

225. Quantum chemistry calculations of glucan building blocks. U.P. Patel, S.J. Kirkby

226. Computational study of the energetics of binding and folding of the pH (Low) insertion peptide (pHLIP). A. Clark, Z. Bonham, N. Graziano, B. Mertz
Northern Kentucky Convention Center
Ballroom B-C
Polymer Chemistry
J. A. Krause, Organizer
5:30 - 7:30


228. Post-polymerization modification of branched polyglycidol with N-hydroxyphthalimide to give ratio-controlled amino-oxy functionalized species for biomedical applications. D.B. Beezer, E. Harth

THURSDAY MORNING

Northern Kentucky Convention Center
Ballroom D
Electroanalytical Chemistry in the Central Region
Cosponsored by ANYL
A. F. Bange, Organizer, Presiding

8:00 229. Electrochemically modulated delivery of nitric oxide (NO) for biomedical applications: From improved intravascular catheters and chemical sensors to inhaled NO therapy. H. Ren, A. Hunt, N. Lehnert, M.E. Meyerhoff

8:40 230. Applications of diamond electrodes in electroanalysis and spectroelectrochemistry. G.M. Swain

9:20 231. A calibration-free anodic stripping detection system for truly remote sensing of heavy metals via anodic stripping coulometry. R. Baldwin, M.M. Marei, T. Roussel, R. Keynton

10:00 Intermission.
10:20 232. Ultrafast electron-transfer kinetics of graphene as revealed by nanogap voltammetry. **S. Amemiya**

11:00 233. Electrochemical imaging with ion channel probes. **L.A. Baker**

**Northern Kentucky Convention Center**  
Room 2  
**Functional Porous & Polymeric Materials: Synthesis, Properties & Applications**  
Cosponsored by POLY  
**P. McGrier, Organizer, Presiding**

8:00 234. Siloxane functionalized polynorbornenes via vinyl-addition polymerization for CO₂ separation membranes. **B.K. Long, K. Gmernicki, E. Hong, C. Maroon, T. Saito**


8:55 236. Patternable conjugated polymers with latent hydrogen-bonding on the main chain. **Y. Zhu**

9:25 237. Fluorinated porous materials: From metal-organic frameworks to molecular crystals. **O. Miljanic**

10:00 Intermission.

10:30 238. Contorted aromatics and polymers from cyclopenta-fused polycyclic aromatic hydrocarbons. **K.N. Plunkett**

11:05 239. Design of triblock polymers and their implementation as high-performance nanostructured membranes and high capacity metal ion adsorbent systems. **B.W. Boudouris, R.A. Mulvenna, J.L. Weidman, Y. Zhang, W.A. Phillip**

**Northern Kentucky Convention Center**
**Room 7**
**Sensors & Their Applications in Environmental & Occupational Health**
**Finanially supported by Spectroscopy Society of Pittsburgh**
**D. DeBord, M. Hoover, Organizers, Presiding**


9:00 243. Portable spectrometer for near real-time measurement of elemental concentration of aerosols. **P. Kulkarni**, L. Zheng, M. Birch

9:30 Intermission.

10:00 244. Portable ultrafine particle counter sampling in ground and aerospace environment. **C.M. Grabinski**, G.M. Slusher, J. Martin, C.C. Grigsby, D. Ott

10:30 245. Personal ultrafine (≥ 4.5nm) real-time particle counters utilizing innovative and versatile water-based CPC technology. **J. Lockey**, S. Son, G. LeMasters, P. Ryan

11:00 Panel Discussion.
Northern Kentucky Convention Center  
Ballroom E  
Frontiers in Nucleic Acids Chemistry  
B. Addepalli, M. Lemaitre, Organizers, Presiding

8:30 246. Rapid synthesis of challenging oligonucleotides for research and pre-clinic studies. H. Zhu

9:00 247. Development of allele-specific stereopure antisense oligonucleotides (ASOs). M. M

9:30 248. 5'- triphosphate oligonucleotides synthesis: From research scale to up to 40 g batch. S. Jiang, E. Paredes, H. Cramer, K. Ackley

10:00 Intermission.


11:00 250. Mechanisms and applications of 3'-5' RNA polymerases: Substrate recognition by non-canonical polymerases. K. Patel, P. Yourik, J.E. Jackman

11:30 251. DNA in tight spaces: Linking structure, stability and protection in cation packaged DNA. J.E. Derouchey

Northern Kentucky Convention Center  
Room 4  
Frontiers in Organometallic Chemistry  
H. Guan, Organizer, Presiding

8:30 252. Pincer-templated ruthenium hydrides for catalytic hydrogen transfer reactions. N.K. Szymczak
9:05 253. Ligand influences on base metals for two-electron transformations. **A.R. Fout**


10:15 Intermission.

10:35 255. Catalysis at metal-metal bonds. **C. Uyeda**

11:10 256. Pyrrole-based PNP pincer complexes with late transition metals. **V.M. Iluc, J.A. Kessler**

**Northern Kentucky Convention Center**  
**Room 8**  
**Innovations & Initiatives in K-16 Chemical Education**  
**Pupils to Pedagogy & Everything In Between**  
**Financially supported by PCS Administration-Potash Corp**  
**A. Vonderheide, Organizer**  
**J. Breiner, D. Waddell, Organizers, Presiding**

9:00 257. More complex models for the acid-base equilibria of monoprotic acids. **W. Hensel, R.K. Gilpin**


10:00 Intermission.


11:00 261. Utilizing 3D printing to enhance introductory chemistry lectures and labs. **J.D. Mendez**
11:30 262. Internationalizing undergraduate chemistry research. I.L. Lagadic, S. Gauthier, A. Maicaneanu, C. Zambrano

12:00 258. 187 years of working stoichiometry problems. W. Jensen WITHDRAWN

Northern Kentucky Convention Center
Room 1
Materials Chemistry & Application: Environment, Energy & Biology
Financially supported by Shepherd Chemical Company
N. A. Eckert, R. Hart, S. Taylor, Organizers, Presiding

8:30 263. Levitating liquids. C. Benmore


10:00 265. Theoretical framework for understanding the role of solution phase conditions within successful hydrothermal synthesis of metal organic frameworks. A.E. Clark, C. Wang, X. Yang

10:30 Intermission.

11:00 266. Living on the edge: Chemistry at the interfaces. M. Dolgos

11:30 267. The chemistry of self-healing materials. K. Hart

Northern Kentucky Convention Center
Room 9
Molecular Modeling of Energy Storage Devices & Biomolecular Complexes
T. L. Beck, R. I. Dima, G. Stan, Organizers, Presiding
8:30 268. Structural and morphological aspects of polymeric electrolytes. S.J. Paddison

9:00 269. Deciphering structural dynamic mechanisms in molecular motors and switches. B. Grant


9:50 271. Density-functional study of the La2Zr2O7 low-index faces. Y. Mantz, Y. Duan

10:10 Intermission.

10:25 272. The role of allostery and conformational dynamics in protein evolution. S. Ozkan


11:15 274. Modeling heterogeneity in protein and RNA complexes under tension. M. Hinczewski, D. Thirumalai

11:45 275. Coarse-grained simulations of mechanical threading of Immunoglobulin domains through non-allosteric ClpY ATPase pore. A. Javidialesaadi, G. Stan

Northern Kentucky Convention Center
Room 5
Nanomaterials & Nanotechnology for Analytical & Spectroscopy-Based Applications
Financially supported by PITTCON
P. Zhang, Organizer, Presiding
8:30 276. Single-molecule super-resolution microscopy study of the distance-dependent interaction between a fluorescent molecule and a nano-antenna. **B. Fu, J.D. Flynn, B. Isaacoff, H. Tuson, J.S. Biteen**

9:00 277. Quantitative SERS measurement for halogenated organic compounds in environmental water. **Z. Yu, Y. Zhou, P. Zhang**

9:30 278. Utilizing analytical- and microscopy-based methods to examine ADMEs of silver nanoparticles (AgNPs) in vero 76 cells. **S.A. Paluri, J.D. Ryan, N. Lam, I.E. Pavel Sizemore**

10:00 Intermission.


**Northern Kentucky Convention Center**
**Room 3**
**Organic Chemistry & Catalysis**
**M. Dai, Organizer, Presiding**

9:00 282. Tuning the optoelectronic properties of coresubstituted naphthalene diimides by the selective conversion of imides to monothioimides. **F.S. Etheridge, R. Fernando, J. Golen, A.L. Rheingold, G. Sauve**


10:00 285. Developing a novel, tunable carbene scaffold for small molecule activation and catalysis. J.P. Moerdyk

10:20 Intermission.


11:00 287. Copper-catalyzed cyclopropanol cross coupling: An umpolung strategy to access beta-substituted carbonyls. K.E. Gettys, M. Dai


THURSDAY AFTERNOON

Northern Kentucky Convention Center
Ballroom D
Electroanalytical Chemistry in the Central Region
Cosponsored by ANYL
A. F. Bange, Organizer, Presiding
1:30 290. Does science drive technology or vice versa? The special case of electroanalytical chemistry over the past fifty years. **P.T. Kissinger**

2:10 291. Size-dependent electrooxidation and electrophoretic deposition of gold nanoparticles. **F.P. Zamborini, S. Allen, R. Masitas Castillo**

2:50 292. Recent advances in in situ spectroscopy and on line spectrometry. **D.A. Scherson**

3:30 Intermission.

3:50 293. Voltammetry at catalytic size-exclusion electrodes. **J.A. Cox, M. Ciabocco, M. Berrettoni, S. Zamponi**

4:30 294. Electrochemistry at 800°C and no reference electrode. **H.O. Finklea**

**Northern Kentucky Convention Center**  
**Ballroom E**  
**Frontiers in Nucleic Acids Chemistry**  
**B. Addepalli, M. Lemaitre, Organizers, Presiding**

1:30 295. Tuning Cas9 activity with CRISPR RNA modification. **K.T. Gagnon, Z.J. Kartje, K. Rohilla, C.L. Barkau**

2:00 296. Gamma peptide nucleic acids: Chemistry and applications. **A. Fraley**

2:30 297. Translation control using ³PNA probes. **T. Canady**

3:00 Intermission.

3:30 298. Use of chemical modification and mass spectrometry to identify substrate-contacting sites in
proteinaceous RNase P, a tRNA processing enzyme.  T. Chen, A. Tanimoto, V.H. Wysocki, V. Gopalan

4:00 299. Efficient gene editing in Neurospora crassa with CRISPR technology.  T. Matsu-ura, M. Baek, J. Kwon, C. Hong

4:30 300. Clinical trials with oligonucleotide therapeutics.  M. Lemaitre

Northern Kentucky Convention Center
Room 4
Frontiers in Organometallic Chemistry
H. Guan, Organizer, Presiding

1:30 301. Insights into the inverse trans influence as illustrated by uranium-nitrogen multiple bonds.  S.C. Bart, N. Anderson, M. Zeller, P. Fanwick

2:05 302. Mild carboxylation strategies with base metal catalysts.  B.V. Popp


3:15 Intermission.


4:10 305. Multifunctional ligand design towards green chemical catalysis.  K.G. Caulton

82  Elements and Strategies for a Better Future
Northern Kentucky Convention Center
Room 8
Innovations & Initiatives in K-16 Chemical Education-
New Lessons in the Laboratory
Financially supported by PCS Administration-Potash Corp
A. Vonderheide, Organizer
J. Breiner, D. Waddell, Organizers, Presiding

1:30 306. Solar cells as a model for integrated laboratory experiences. P. Tandler

2:00 307. Thin layer chromatography for detection of neonatal respiratory distress. M.O. Garcia, G. Clark

2:30 308. Labs that relate chemistry to healthcare using MORE. G. Clark

3:00 Intermission.

3:30 309. Using digital badges to improve student hands-on skills in the undergraduate laboratory. S. Hensiek, C. Harwood, K. O'Shea, J. Fish, M.H. Towns

4:00 310. Cigarette smoke and cancer cells: An interdisciplinary, collaborative, research-based laboratory initiative. D.K. Hoover, J. Fornsaglio

Northern Kentucky Convention Center
Room 3
Materials & Polymer Chemistry
D. Konkolewicz, Organizer, Presiding

1:30 311. Stabilization of general purpose poly(styrene) by hydrogen-atom transfer. S. Lazar, B.A. Howell

2:00 312. Imidazolium-containing thiol-ene polymer networks and gels: Synthesis and properties. K.M. Miller
2:30 313. The synthesis and tribological performance of phosphonium/phosphate based ionic liquids as friction reducing engine oil additives. **M. Welmers, M. Mueller**

3:00 Intermission.

3:30 314. Electrochemical platforms for point-of-care micronutrient sensing applied to the quantification of potassium ion. **I.A. Taylor, F. Deiss**

4:00 315. Unexpected variables in P3HT synthesis. **J. Gadient, C. Lind-Kovacs**

4:30 316. Molecular architecture of electrospun fibers of poly (e-caprolactone) / aminopropyl isobutyl polyhedral oligomeric silsesquioxane (AMPOSS)-blends. **Z.B. Grim, A.J. Bauer, B. Li**

Northern Kentucky Convention Center
Room 1
Materials Chemistry & Application: Environment, Energy & Biology
Financially supported by Shepherd Chemical Company
N. A. Eckert, R. Hart, S. Taylor, *Organizers, Presiding*


2:00 318. Antimicrobial activity of unfunctionalized silver nanoparticles against water quality indicator organisms. **M. Markopoulos**, S.A. Paluri, I.E. Pavel Sizemore

2:30 319. Sustainability challenges in the complex inorganic colored pigment market. **G.T. Peake**

3:00 Intermission.
3:30 320. Alternative electron acceptors for bulk heterojunction organic solar cells.  G. Sauve

4:00 321. A monomeric chromium(III) carboxylate.  O.L. Sydora, R. Hart, N.A. Eckert, C. Benmore

4:30 322. Innovation at the intersections of mature catalytic processes.  E.G. Rightor

Northern Kentucky Convention Center
Room 9
Molecular Modeling of Energy Storage Devices & Biomolecular Complexes
T. L. Beck, R. I. Dima, G. Stan, Organizers, Presiding

1:30 323. Understanding transport and packing of ionic liquids during electrode charging.  B. Sumpter, Y. He, J. Huang, R. Qiao

2:00 324. A kinetic model for the stepping dynamics of myosin VI.  R. Tehver

2:30 325. Investigation of inhibitory potency of BHQ derivatives as SERCA inhibitors to use as potential drugs as well as tools to study the SERCA function: Binding free energy computation using FEP/MD.  M. Jayasinghe, Q. Wang, A. Schirmer, G. Stan, S. Paula

2:50 326. A Power Flex in Hsp70: The nucleotides’ impact on the actin-like ATPase domain.  D.R. Merz, R.I. Dima

3:10 Intermission.

3:25 327. Computational modeling of various types of protein complexes.  D. Kihara

4:25 329. Modeling the molecular mechanics of hearing. **M. Sotomayor**

**Northern Kentucky Convention Center**  
**Room 5**  
**Nanomaterials & Medicine**  
**Financially supported by Fisher Scientific**  
**L. Sagle, A. S. Samia, Organizers, Presiding**

1:30 330. Small nanoparticle alloys. **J. Millstone**

2:05 331. Synthesis of high-index faceted iron oxide nanoparticles for magnetic resonance imaging applications. **S. Wickramasinghe, S.F. Situ, A.S. Samia**

2:25 332. Gd@C-dots as a safe and effective T1 contrast agent. **J. Xie**

3:00 Intermission.

3:15 333. Green synthesis of magnetic gold nanoclusters. **L. Lin, N. Kadasala, A. Wei**

3:35 334. Nanoscale temperature measurement and thermal imaging with Er$^{3+}$ based nanothermometry. **S. Baral, H. Richardson, A. Aulamie, A. Rafiei Miandashti**

4:10 335. Optimizing iron oxide nanoparticles for magnetic particle imaging: Guided hyperthermia (hMPI). **S.F. Situ, L.M. Bauer, M.A. Griswold, A.S. Samia**

Northern Kentucky Convention Center
Room 6
Organic Chemistry & Chemical Biology: Their Impact on Human Health
Cosponsored by MEDI
R. Viswanathan, Organizer, Presiding

1:30 337. New Reactions and Reagents to Molecurally Edit Therapeutics and Natural Products with Fluorine. J.N. Johnston, B.A. Vara, S.V. Tsukanov, K. Schoieter


2:40 339. Parameters that predict potential cardiovascular side effects of drugs. G.X. Wang, C. Kordik


3:30 Intermission.


4:10 342. Polymorphism: Changing active pharmaceuticals by surface modification. N. Searls, R. Quinones
4:35 343. Structural and thermodynamic insights into cap-independent translation in enterovirus 71. **M. Tolbert**, C.E. Morgan, B.S. Tolbert

5:00 344. Non-nucleoside inhibitors of human ribonucleotide reductases. **R. Viswanathan**, S. Huff, C.G. Dealwis

**Northern Kentucky Convention Center**
**Room 2**
**Organic Chemistry-Design of Functional Macromolecules**
**J. R. Parquette, Organizer, Presiding**

1:30 345. Controlling molecular encapsulation with amphiphilic and bolaamphiphilic baskets in water. **J. Badjic**

1:50 346. Catechol-based coatings inspired by melanin as colorimetric metal-ion sensors. **J.M. Belitsky**

2:10 347. Stimuli-responsive calixarene-capped azobenzene dimers: Synthesis, switching, and supramolecular chemistry. **P.A. Bonvallet**, A. Steiger, C.M. VanDenburgh, A.J. Darling, P. Evans


3:10 Intermission.

3:30 350. Dynamic oligomers and stereoisomers controlled by Cucurbiturils. **E. Masson**


4:30 353. Design of narrow band-gap benzobisoxazole-containing polymers for organic photovoltaic cells. J.J. Intemann

4:50 354. Solution behavior of metal-organic lantern cages. J.K. Klosterman

5:10 355. Dendritic polymers and crosslinked hydrogel sealants and dressing: Bench to clinic to bench to …. M.W. Grinstaff

Northern Kentucky Convention Center
Room 7
Sensors & Their Applications in Environmental & Occupational Health
Financially supported by Spectroscopy Society of Pittsburgh
D. DeBord, M. Hoover, Organizers, Presiding


2:00 357. Development of a lab-on-a-chip for on-site biomonitoring of workers exposed to respirable silica aerosol. A. Chakraborty, B. Ku, C.H. Ahn


3:00 Intermission.

4:00 Panel Discussion.

THURSDAY EVENING

Northern Kentucky Convention Center
Ballroom B-C
ACS Sponsored Posters
J. A. Krause, Organizer
5:30 - 7:30

Get involved with the ACS division of chemical education. D. Zimmerman.

SCHB experience helps you meet the challenges in the chemical sciences sector. J. Sabol.

ACS Small Chemical Businesses Division membership: A valuable tool for the entrepreneur. J. Sabol.

Northern Kentucky Convention Center
Ballroom B-C
Analytical Chemistry/Instrumentation
J. A. Krause, Organizer
5:30 - 7:30


363. Composting in a bioreactor lab as part of an environmental chemistry course. A.M. Reinsel

364. Probing the UV-induced effects on RNA and RNA-modifications by LC-MS. C. Sun, B. Addepalli

365. The need for speed: Efficiency gains of UHPLC vs. high performance column technology. J.E. Clark, J. Canty


368. Rapid evaluation of flame retardants using coated wooden samples. Y. Li, T. Deans, D.A. Schiraldi


370. Electroanalytical characterization of selected polyphenolic compounds utilizing linear sweep voltammetry (LSV) and DC potential amperometry (DCPA). K.J. Kubelsky, N.J. Ronkainen

371. A method development column chromatographic separation of methanol extracts and determination of the chemical profile from Yellow – Striped Oakworm. J. Howell,

Northern Kentucky Convention Center
Ballroom B-C
Biochemistry/Medicinal Chemistry
J. A. Krause, Organizer
5:30 - 7:30

372. Examination of the disordered C-terminal domain of a host regulator of HIV-1 splicing. J.D. Levengood, C.E. Morgan, B.S. Tolbert

373. The anticancer effects of the antimicrobial peptide CDT and analogs on A549 lung cancer cells. M. Jujjavarapu, D. Heyl-Clegg, H. Evans, J. Guthrie

374. NMR studying for conformational selection of hnRNP H on mRNA splicing regulation. L. Chiu, S. Penumutchu, B.S. Tolbert


376. Biophysical insights into hnRNP A1 recognition of enterovirus 71 stem loop VI IRES domain. N. Wells, M. Tolbert, B.S. Tolbert

377. Exploiting kinase-catalyzed labeling to unravel the cellular phosphorylation network. P.M. Dedigama Arachchige, M. Pflum

379. Inhibition of mushroom tyrosinase by picloram. K. Alberts

380. Small-scale modeling of post-synthetic N-acetylgalactosamine (GalNAc) conjugation to oligonucleotide for over 1 kg scale manufacture. T. Ratterman, A. Nielander, E. Paredes, H. Cramer, K. Ackley

381. Plasmonic nanoparticle-based hybrid photosensitizers with broadened excitation profile for photodynamic therapy against cancer cells. P. Wang, P. Zhang


384. Structural characterization of the ACCH domain of angiomotin family members. P. Virtanen


Northern Kentucky Convention Center
Ballroom B-C
Chemical Education
J. A. Krause, Organizer
5:30 - 7:30

386. Effectiveness of the 2015 active learning in organic chemistry mini-workshop. M. Miller, J. Houseknecht
387. Comparison of methods to determine the absence of copper from solution: With and without an ammonia test. M.O. Byrd, C.J. Ohrenberg

388. Water quality testing as a portion of a service learning experience in the Dominican Republic. C. Daniels, E. Cady, M. Brubaker

389. Utilizing recycled materials to create a novel product while teaching real-world applications. L. Gerlinger, S.K. Lunsford

390. Analysis of functional groups through urinalysis. J. Domingo

Northern Kentucky Convention Center
Ballroom B-C
Inorganic Chemistry/Organometallic Chemistry/Catalysis
J. A. Krause, Organizer
5:30 - 7:30


392. Luminescence response to capsaicin in an EDTA bis-methylamide Tb\(^{3+}\) chelate compared to \([\text{Tb(EDTA)}]\). C.G. Gulgas, Z. Siddiqui

393. Small ring-openings using a bimetallic nickel catalyst. H. Schoonover, C. Uyeda

394. Storage and release of drug molecules in metal-organic frameworks. P.S. Szalay

395. Synthesis and characterization of late transition metal complexes with P–N heterobidendate ligands. N.N. Baughman, J.L. Petersen, B.V. Popp

397. In situ infrared spectroscopy study of iron-catalyzed hydromagnesiation of styrene derivatives. J.A. Rogers, B.V. Popp


Northern Kentucky Convention Center
Ballroom B-C
Materials Chemistry/Nanomaterials/Sensors
J. A. Krause, Organizer
5:30 - 7:30

399. Role of structural parameters on constructing ultrasensitive plasmonic-based cardiac Troponin-T sensors. T.U. Habarakada Liyanage

400. The growth mechanism and phosphorus doping of MnAs nanoparticles: optimizing properties for magnetic refrigeration. S.R. Pimmachcharige, S. Brock


402. Shape and size tuning of zinc-doped iron oxide nanoparticles for antibacterial applications. M. Navarreto Lugo, S. Situ, A. Samia

403. Study of magnetic ordering in cubic-phase double perovskites. P. Tran, P. Woodward

405. Rational synthesis of dimensionally reduced TiS₂ phases. **R.A. Morasse**, T. Li, Z. Baum, J.E. Goldberger


407. Structural determination and thermal properties of germanane. **N.D. Cultrara**, M. Arguilla, S. Jiang, B. He, J.E. Goldberger, J. Heremans

408. Rational design and synthesis and covalent postsynthetic modification of *pcu* MOFs based on rare earth M₄(µ₃-OH)₄ clusters. **T. Luo**, S.V. Eliseeva, C. Liu, P. Muldoon, S. Petoud, N.L. Rosi

409. Photo-controlled assembly/disassembly of gold nanoparticles from disordered states to organized states. **Y. Zhou**, N.L. Rosi

410. Low temperature FT-IR studies of adsorption of aldehyde on GaInTiO₂: Role of acid-base sites. **D.K. Paul**, S. Mahbub


412. Dioxyalkylene PEEK polymers containing vanillin subunits. **J. Herbort**, **N. Yahna**, W.A. Feld

414. Quantitative evaluation of ligand co-loading for gold nanoparticle functionalization. A. Smith, K. Johnston, L. Marbella, J. Millstone

415. Modification of Nitinol Nanoparticles with Phosphonic Acid Films. S. Garretson, R. Quiñones

Northern Kentucky Convention Center
Ballroom B-C
Organic Chemistry/Green Chemistry/Catalysis
J. A. Krause, Organizer
5:30 - 7:30

416. Synthesis of bis(2,2,2-trifluoroethyl) phosphonoesters. J.A. Zaluski, J.A. Jackson

417. TLC Dyes. X. Sun

418. An epoxidation with possibilities for inquiry-based organic lab. E. Treadwell, X. Xiao

419. Large-scale diastereoselective syntheses of cycloheptadienylsulfones and stereotetrads: Application towards the total synthesis of the scarce marine macrolide aplyronine A. M. Noshi, S. Abdelmawla, P.L. Fuchs


421. Asymmetric synthesis of \(^3\)-lactones from vinyl sulfoxonium salts. S. Kaster, N. Peraino, N. Kerrigan

422. Dinuclear nickel complex and catalysis. Y. Zhou, C. Uyeda

424. Acidity trends under high speed ball milling. L.N. Trankina, J. Mack

425. Preparation of cinnamaldehyde N-phenylsemicarbazones and dicinnamaldehyde carbazones to explore their photochromicity. B. Hull, E. Treadwell

426. Synthesis and investigation of novel chalcone derivatives as chemotherapeutics. I. Janser, A. Fried, J. Wotring

427. Developing a sugar-based carboxylic acid hardener for thermoset epoxy resins. M. Molenda, Q. Zhang, T.M. Reineke

428. Quantification of weak non-covalent bonding interactions through molecular torsion balances: Alkyl Chlorine. B. Bloom


Northern Kentucky Convention Center
Ballroom B-C
Physical Chemistry/Computational Chemistry
J. A. Krause, Organizer
5:30 - 7:30


433. Predicting reaction mechanisms and potentials in acid and base from self-consistent quantum theory: H(ads) and OH(ads) deposition on the Pt(111) electrode. M. Zhao, A.B. Anderson

434. Molecular dynamics investigation of detergent micelle properties. B. Bonnett, A. Hoffmaster, S. Faramarzi, D. Grodi, B. Mertz, E.L. Harvey

Northern Kentucky Convention Center
Ballroom B-C
Polymer Chemistry
J. A. Krause, Organizer
5:30 - 7:30


FRIDAY MORNING

Northern Kentucky Convention Center
Room 5
Chemistry & Energy Conversion at Interfaces
L. Baker, Organizer, Presiding

8:40 438. Dehydrocyclization of peripheral alkyl groups in porphyrins on copper and silver surfaces. **C.G. Williams, M. Wang, C. Tempas, D. Skomski, L. Kesmodel, S.L. Tait**

9:10 439. Determining the active site for highly selective c=o bond hydrogenation: Understanding the role of the pt–support interface. **Y. Mueanngern**

9:40 Intermission.

10:10 440. Recently developed theory and applications to understanding mechanisms in electrocatalysis. **A.B. Anderson**

10:50 441. Improving the stability and selectivity for OER of WO3 photoanodes with an FeOOH oxygen evolution catalyst. **C.R. Lhermitte, J.G. Verwer, B.M. Bartlett**

11:20 442. Reduction of CO2 catalyzed by nickel pincer complexes. **H. Guan**

Northern Kentucky Convention Center
Room 9
Entrepreneurship in the Chemical Community
Cosponsored by SCHB
E. Piocos, Organizer
J. E. Sabol, Organizer, Presiding

8:00 443. The scientist as an entrepreneur. **E. Piocos**

8:30 444. Sources of funding for your business start-up. **S. Jacobs**

9:00 445. Evidence based entrepreneurship. **R. D'Souza**

9:30 446. Starting an analytical testing laboratory in Ohio: Some unanticipated and often amusing problems. **C.S. Gilpin, R.K. Gilpin**
10:00 Intermission.

10:30 447. ACS Entrepreneurial Resources Center: Looking back and looking forward. **D.G. Schmidt**

11:00 448. How the state of Ohio enable and attract business start-ups. **N. Clarke**

11:30 449. Novel ribonucleases for sequencing chemical modifications in RNA. **B. Addepalli**

Northern Kentucky Convention Center
Room 1
Materials Chemistry & Application: Environment, Energy & Biology
Financially supported by Shepherd Chemical Company
N. A. Eckert, R. Hart, S. Taylor, *Organizers, Presiding*

8:00 450. Synthesis of new Mg-rich phases in RE-TM-Mg (RE = rare-earth, T = transition metal) systems: Application for hydrogen storage and much more…. **J. Bobet**, E. Guadin

8:30 451. Cr(III) and Cr(VI) distribution in a Zr/Cr(III) conversion coating on aluminum alloy. **B. Whitman**, R. Estrada, G.M. Swain

9:00 452. Structural and quantitative characterization of CIGS solar cells with different conversion efficiencies. **J. Lee**, M. Kim, Y. Lee

9:30 453. The electrochemical and material properties of a Zr/Cr(III) conversion coating on aluminum alloy 7075. **C. Munson**, G.M. Swain

10:00 Intermission.

11:00 455. Effects of metal ions on the antimicrobial properties of silver nanoparticles. **C.D. Bonner**, F.H. Moore, S.O. Obare


Northern Kentucky Convention Center
Ballroom E
Organic Chemistry & Chemical Biology: Their Impact on Human Health
Cosponsored by MEDI
R. Viswanathan, Organizer, Presiding


8:40 458. Melanin-inspired chemistry. **J.M. Belitsky**


9:45 460. Target-inspired innovation in the synthesis of alkaloid natural products. **D.R. Williams**

10:30 Intermission.


Northern Kentucky Convention Center
Room 7
Responsive & Functional Polymeric (Nano)Materials
N. Ayres, D. Konkolewicz, Organizers, Presiding

8:00 463. The effect of the extent of cross-linking on healing rates of self-healing polymers. P. Tandler, A. Ellfritz

8:30 464. Dynamic crosslinked materials using both supramolecular and dynamic covalent linkages. B. Zhang, Z. Digby, J. Flum, E. Foster, D. Konkolewicz, J. Sparks

9:00 465. Shape memory polymer heparin-mimicking biomaterials. Q. Chai, Y. Huang, N. Ayres

9:30 Intermission.

10:00 466. Synthesis of heparin-mimicking polymers. N. Ayres, Y. Huang, Q. Chai


11:00 468. Lactose-containing hydrogels for papain stabilization. Y. Huang, Q. Chai, M. Warmin, N. Ayres

Northern Kentucky Convention Center
Room 3
Science at the EPA
S. Willison, Organizer, Presiding

8:00 469. Approaches to the development of material flow analysis for used and recycled electronic materials. J.A.
Glaser, E. Sahle-Demessie, T. Richardson, C. Lee, S.R. Al-Abed

8:30 470. Advanced oxidation of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) by ozone and ozone/hydrogen peroxide. K.M. Finan, M. Mills, A. Agrawal

9:00 471. Impact of harmful algal blooms on several Lake Erie drinking water treatment facilities and methodology considerations. H. Mash


10:00 Intermission.


11:00 474. EPA’s selected analytical methods for environmental remediation and recovery. R. Campisano

11:30 475. U.S. environmental protection agency’s efforts to enhance US radiochemistry capacity and capability in support of a large scale radiological response. K. Hall

Northern Kentucky Convention Center
Room 6
Green Chemistry
J. Mack, Organizer, Presiding

9:00 476. The impact of the presence of bromine on the effectiveness of a biobased phosphorus flame retardant. E. Ostrander, B.A. Howell
9:25 477. A recyclable surface catalyst for cyclopropenation under mechanochemical conditions. L. Chen


10:15 Intermission.


11:10 480. The synthesis of polyaromatic hydrocarbons via mechanochemistry. C. Wang, J. Mack


Northern Kentucky Convention Center
Room 4
Nanomaterials & Medicine
Financially supported by ThermoFisher Scientific
L. Sagle, A. S. Samia, Organizers, Presiding

9:00 482. Controlling the shape of iron oxide nanoparticles using lyotropic liquid crystal templates. T. Hegmann

9:35 483. Plasmon-resonant nanorods and nanostars: Multifunctional agents for nanomedicine. A. Wei


10:30 Intermission.

11:25 486. Targeting membrane receptors with plasmonic nanostructures. **Z.D. Schultz**

**FRIDAY AFTERNOON**

**Northern Kentucky Convention Center**  
**Ballroom B-C**  
**ACS Sponsored Posters**  
**J. A. Krause, Organizer**  
**12:00 - 2:00**

Get involved with the ACS division of chemical education. **D. Zimmerman**.

SCHB experience helps you meet the challenges in the chemical sciences sector. **J. Sabol**.

ACS Small Chemical Businesses Division membership: A valuable tool for the entrepreneur. **J. Sabol**.

**Northern Kentucky Convention Center**  
**Ballroom B-C**  
**Analytical Chemistry/Instrumentation**  
**J. A. Krause, Organizer**  
**12:00 - 2:00**

487. Optimum experimental conditions for the determination of total polyphenols using the peroxidase-based amperometric biosensor. **Y. Kong**

488. Electrochemical behavior of 1,2-dihydroxybenzenes in the presence of common interferent with cnt-P3HT electrode.  
**J. Lee**, D. Dodson, L. Zhai, S.K. Lunsford


493. Effect of water on the chemical residue from combusted accelerants. K.L. Hood, W.C. Wetzel


495. Initial synthesis and characterization of acrylate and methacrylate porous polymer monoliths. B. Cecil, K. Ries, J. Ziebro, C. Daniels

496. Analysis of ground spices with a handheld x-ray fluorescence analyzer. M.Y. Wu, S. Baghaie, S. Thomas, M.A. Benvenuto, E. Roberts-Kirchhoff


Northern Kentucky Convention Center
Ballroom B-C
Biochemistry/Medicinal Chemistry
J. A. Krause, Organizer
12:00 - 2:00
498. Beta-lactones formed via ketoketene dimerization inhibit carboxylesterases but not by covalent mechanisms. K. McAuliffe, N. Kerrigan, A.W. Bull

499. Impact of as-synthesized ligands and low-oxygen conditions on silver nanoparticle surface functionalization. K. Johnston, A. Smith, L. Marbella, J. Millstone

500. Investigation of RNA oxidation via selective generation of a C5'-uridinyl radical. M. Ellis, A.C. Bryant-Friedrich

501. Structural and inhibitor screening studies of fungal forms of aspartate semialdehyde dehydrogenase. G.P. Dahal, R.E. Viola


503. Fate of A 5'-aldehyde derived from C5'-oxidation in single-stranded oligonucleotides. S.H. Cho, S.A. Audat, A.C. Bryant-Friedrich


507. Identification of urine metabolic biomarkers for mouse ischemic acute kidney injury. T. Chihanga
508. Synthesis and DNA binding activity of Pt(II)-DMSO and Ru(I)-bipyridine complexes of N-3-pyridylmethylthymidine. **K.M. Church**, J. Chen, K. Li, S. Swavey


510. Progress towards a plant expression system for copper amine oxidases. **V. Doss**, S.A. Mills


Northern Kentucky Convention Center
Ballroom B-C
Chemical Education
J. A. Krause, Organizer
12:00 - 2:00

512. How the ACS bylaw for director-at-large elections was changed. **W.L. Dilling**

513. “Chemical-free” gardens, produce, crop storage bags, pest control materials, weed killers, and food. **W.L. Dilling**

Northern Kentucky Convention Center
Ballroom B-C
Inorganic Chemistry/Organometallic Chemistry/Catalysis
J. A. Krause, Organizer
12:00 - 2:00

514. Bioinspired ±-hydroxy acid containing tripodal amine chelates, derivatives and photoactivity of their metal complexes. **J.E. Vernia**, M.J. Baldwin
515. Nickel complexes of deprotonated HN(CH₂CH₂PᵢPr₂)₂ and their reactivity. **N.P. Nambukara Wellala**, J. Luebking, H. Guan


517. Preparation of cooperative multi-electron reagents. **S. Hendrickson**


520. Synthesis and spectroscopy of two benzil-based diimine ligands and their complexation to palladium(II) and platinum(II). **J.M. Justice**, T.W. Green

**Northern Kentucky Convention Center**
**Ballroom B-C**
**Materials Chemistry/Nanomaterials/Sensors**
**J. A. Krause, Organizer**
**12:00 - 2:00**


523. Investigating the effect of surfactant ethoxylation on the aqueous solubility of calixarene-based nanocapsules. **C. Ade-Browne**, H. Kumari
524. Investigating host-guest interactions of Curcumin with \( p\)\text{-}\( \text{ tert}\)-butylcalix[n]arenes. M. Mirzamani, H. Kumari

525. Water-soluble porphyrins as supramolecular biosensors. A. Mammana, S. Thorpe


527. One-pot in-situ synthesis of polypyrrole composites with inorganic fillers. V. Livingstone, C. Lind-Kovacs

528. A solution-phase route towards transition metal carbido clusters. Z. Baum, J.E. Goldberger

529. \( \text{\textsuperscript{2}}\)-galactosidase langmuir monolayer at air/subphase interface. S.K. Sharma, R.M. Leblanc


531. Spectroscopic analysis of tunable, stimuli responsive polymeric materials. A. Gasper, J. Church, C. Daniels

Northern Kentucky Convention Center
Ballroom B-C
Organic Chemistry/Green Chemistry/Catalysis
J. A. Krause, Organizer
12:00 - 2:00


534. Stability of nitrene radical intermediate in solid state and solution phase, Photochemistry of 3-azido-3-phenylnaphththalide. K.R. Thenna Hewa, A. Gudmundsdottir

535. Alkynitrene formation from diazido derivate in solution and cryogenic matrices. D.M. Sriyarathne, A. Gudmundsdottir

536. Cationic palladium catalyzed acylation of alcohols and carbohydrate-derived polyols with highly hindered acid anhydrides. E. Mensah, M. Eichholtz, F. Reyes

537. Chemo-selective transfer hydrogenation of nitroarenes by highly dispersed Ni-Co BMNPs. C. Chun

538. Impact of incorporation of ±-alkylated amino acids on ²-hairpin peptide folded stability. S.L. Schettler, M. Karnes, G. Lengyel

539. Wavelength Dependent Matrix Isolation of Vinyl Azides. O. Osisioma, B. Ault, A. Gudmundsdottir


541. Transition metal oxide catalysts for photoelectrochemical CO₂ reduction and water oxidation. E. Fugate, X. Yang, J. Husek, L. Baker

542. Light as a reagent: ³-azido aryl carbonyls in photochemical synthesis. D.M. Gatlin, A. Perry, A.D. Gudmundsdottir
543. Effects of para-Substitution in Imine Synthesis. E. Hruska, B. Knettle


545. Reductions of carbonyl compounds in high speed ball mill. A.A. Fertig, R.A. Haley, J. Mack, H. Guan


547. Degradation of \( ^2 \)-carotene in the presence of Photogenerated 1°, 2°, and 3° alkyl radicals. P. Dugan, A. Johnson, K. Arnold, S. Dubay, R. Poston, M. Dunyak, M. Masthay

Northern Kentucky Convention Center
Ballroom B-C
Physical Chemistry/Computational Chemistry
J. A. Krause, Organizer
12:00 - 2:00

548. Molecular dynamics simulations of protein unfolding and translocation by the ClpY ATPase in the protein degradation pathway. Y. Shih, G. Stan

549. ClpB-mediated unfolding mechanisms of GFP: Two different pathways breakdown and the effect of force directionality. R. Jiang, A. Kravats, G. Stan

550. Light scattering contributions to the absorption and circular dichroism spectra of the laser–induced blue state of bacteriorhodopsin. C. McGrath, A. Rudraraju, A. Mammana, M. Hufnagle, M. Masthay

552. Normal mode analysis of conformational changes in the ClpP peptidase. **Q. Wang**, G. Stan

553. Investigating the role of lattice defects in the severing of microtubules using large scale simulations. **N. Jiang**, R.I. Dima

554. DFT modeling of the antioxidant properties of thione and selone ligands coordinated to iron(II). **M.I. Brewer**, C.A. Bayse

**Northern Kentucky Convention Center**
**Room 2**
**Bio-Analytical Chemistry from Instrumentation to Regulation**
**J. A. Landero, Organizer, Presiding**


2:45 558. HPLC separation & detection of PAHs in hookah tobacco smoke via C-18 SPME. **A.A. Clutterbuck**, J.A. Caruso, J.A. Landero
3:10 Intermission.

3:30 559. Interactive effects of arsenic and selenium in aquaponic systems by HPLC and ICP-MS. S. Smith, M. Schmale, J.A. Landero, J.A. Caruso

3:55 560. Metal ion transport in biological tissues measured by ICP-MS. J. Heiny, J.A. Landero, C.A. Stiner, T. Radzyukevich

4:20 561. Subtle omega end group functionalization drives drastic depletion from polymer surfaces observed by emerging mass spectrometry technique. J. Hill, K. Endres, Q. He, M.D. Foster, C. Wesdemiotis


Northern Kentucky Convention Center
Room 7
Biochemical & Biophysical Approaches to Tackling Disease
R. C. Page, Organizer, Presiding

1:30 564. The biophysics behind bacterial biofilms: how metal-dependent protein assembly leads to recurrent Staph infections. A.B. Herr

2:10 565. Structural basis for phospholipase C regulation. A. Lyon
2:40 566. Structural insights of ZIP4 extracellular domain critical for optimal zinc transport.  J. Hu

3:10 567. Two-photon induced fluorescence resonance energy transfer (2P-iFRET) to monitor molecule-DNA interactions and DNA melting.  S.H. Al-Otaibi, R. Guda

3:35 Intermission.

3:55 568. Integrated biophysical approaches to reveal mechanisms that control HIV genome splicing.  B.S. Tolbert

4:25 569. New frontiers in lipidomics: tools for understanding how an emerging class of biological lipids, lipoamines, play novel roles in cellular communication.  H. Bradshaw

4:55 570. Perilipin 5: A regulator of neutral lipid storage in oxidative tissues.  J.T. Tansey

Northern Kentucky Convention Center
Room 5
Chemistry & Energy Conversion at Interfaces
L. Baker, Organizer, Presiding


3:20 Intermission.


5:00 576. Thermodynamics of POCOP pincer nickel hydride and formate complexes. **N.A. Eberhardt**, J.A. Krause, H. Guan

**Northern Kentucky Convention Center**  
**Ballroom D**  
**Electroanalytical Chemistry in the Central Region**  
**Special Symposium Honoring the Career of William Heineman**  
**Cosponsored by ANYL**  
**A. F. Bange, Organizer, Presiding**

1:30 577. Microfluidic platforms and technologies for neurotransmitter measurement with capillary electrophoresis. **M. Gong**

2:00 578. Flow injection based analysis: Flexible framework for new approaches in chemical and biochemical analysis. **S. Kradtap**


3:30 Intermission.
4:00 581. The personal impact of chemistry graduate school training, research and mentoring on industrial researchers and their impacts on industrial R&D. P. Schofield, K. Wehmeyer, M.J. Doyle

4:30 582. Developing new electrode materials through analytical chemistry. E.S. De Castro

5:00 583. The critical role cheminformatics plays in defining the future of toxicology: A new basis for chemical/product risk assessment. M.J. Doyle, S. Wu

Northern Kentucky Convention Center Room 9
Entrepreneurship in the Chemical Community
Cosponsored by SCHB
J. E. Sabol, Organizer
E. Piocos, Organizer, Presiding

1:30 584. From scientist to entrepreneur: How I started and where i am now: A panel discussion session. J.E. Sabol, R. Takigiku, R. Ford, L.K. Tennant, Y. Hsieh

1:45 Panel Discussion.

Northern Kentucky Convention Center Room 6
Green Chemistry
J. Mack, Organizer, Presiding

1:30 585. Sustainability education by the Midland, MI kids and chemistry group. R.M. Malczewski, M.L. Rivard

1:55 586. Two decades of the presidential green chemistry challenge awards provide powerful illustrations of green chemistry for greening the chemistry curriculum, to educate the public, and for industries to emulate. M.C. Cann

2:45 588. Greening the curriculum at the University of Toledo School of Green Chemistry and Engineering. **M.R. Mason**

3:10 Intermission.


4:05 590. Renewable biosources for the generation of effective flame retardants for polymeric materials. **B.A. Howell**


4:55 592. Flame retardant polymers for multilayered systems. **T. Deans**, Y. Li, D.A. Schiraldi

Northern Kentucky Convention Center
Room 1
Inorganic Chemistry, Organometallics & Sensors-Bioinorganic & Catalysis
W. B. Connick, J. A. Krause, **Organizers**
M. J. Baldwin, **Presiding**

1:30 593. Silver(I)-promoted oxidative cross-dehydrogenative coupling of phenols and aniline derivatives. **J. Fotie**, S. Berkessa, Z. Clarke

2:30 595. Ferrioxamine microarrays for the rapid detection and discrimination of pathogenic bacteria. N. Arora, A. Wei

3:00 Intermission.

3:15 596. Solid-state thermochromic and spin equilibria of Ni(detu)₄Cl₂. M.P. Jensen, I.A. Alfurayj, V.G. Young

3:45 597. Substrate activation and catalysis at an intact metal-metal bond. T. Steiman, C. Uyeda

4:15 598. Electrocatalytic effects induced by adsorbed halides: The reduction of hexaaquairon (III) in aqueous solutions. N. Georgescu, A.J. Jebaraj, D.A. Scherson

4:45 599. Peptide-directed synthesis of single helical gold nanoparticle superstructures. A. Merg, G. Zhao, A. Mandal, J. Boatz, X. Wang, P. Van Der Wel, P. Zhang, N.L. Rosi

Northern Kentucky Convention Center
Room 8
Methods & Applications of Radioanalytical Chemistry for Nuclear Forensics & Health
S. Glover, H. Spitz, Organizers, Presiding

1:30 600. Implications to Nuclear Forensics of Early Manhattan Project Facilities and Processes. S. Glover, H. Spitz, S. LaMont

2:10 601. Analysis of post-detonation actinide-rich particles found in Bikini Atoll soil. K. Hoffman, G. Sam, W. Connick, H. Spitz

2:40 Intermission.

3:00 602. Analysis of strontium-90 and cesium-137 in samples of calcium-rich soil from the Marshall Islands. S. Herman, S. Glover, W.B. Connick, H. Spitz
3:30 603. Radiation effects on Li-ion battery electrolyte. C. Tan, D.J. Lyons, Y.F. Zheng, A. Co, L.R. Cao

Northern Kentucky Convention Center
Room 4
Nanomaterials & Medicine
Financially supported by ThermoFisher Scientific
L. Sagle, A. S. Samia, Organizers, Presiding

1:30 604. Biocompatible liquid crystal elastomers with porous morphology for spatial cell scaffolds. E. Hegmann, T. Mori, A. Sharma, R.J. Clements, E.J. Freeman, J.A. McDonough, L.T. Korley, T. Hegmann

2:05 605. Controlling the diverse interactions of collagen for plasmonic biosensing applications. S. Unser, L. Sagle


2:45 607. Near-Infrared Photothermal Therapy In-Vitro Utilizing Iron Oxide Nanoparticles. A. Dunn, D. Shi, Y. Zhang

3:05 Intermission.


4:00 609. Microfluidic and multiplexed LSPR substrates for DNA detection. J. He, C. Bulach, M. Boegli, L.B. Sagle
1:30 610. Development of new catalytic methods for the synthesis of natural products. P. Nagorny

2:05 611. Total synthesis of complex natural product via carbonylation strategy. M. Dai

2:40 612. A radical chaperone strategy for directed C-H functionalization. D. Nagib

3:15 Intermission.

3:30 613. Catalytic transformations that utilize bimetallic cooperation. N.P. Mankad

4:05 614. Transition metal-catalyzed direct functionalization of unactivated sp³ CH bonds. H. Ge

4:40 615. New developments in catalytic carbocyclization reactions. C. Schindler

1:30 616. Microbial natural products discovery and diversification. J.S. Thorson

2:15 617. Structures and mechanisms of nicotinate catabolizing enzymes: A model system for investigating
bacterial $N$-heterocyclic aromatic compound degradation and for undergraduate education. **M.J. Snider**

3:00 Intermission.

**3:15 618.** Biochemical characterization of *E. coli* periplasmic beta-glucosidase BglX. **N.V. Stourman, L. Sui, L. Ngo, J. Weimer, T. Pickens**

**3:55 619.** The Discovery of Novel Antifungal Compounds using a Multidisciplinary Undergraduate Training Pipeline. R. McLane, A. Cox, S. Reid, L. Edelen, Y. Daher, A. Grau, H. Otte, K. Wesley, S. Anderson, **A.J. Onorato, J. Carmen**

**4:30 620.** Unusual mechanisms in alkaloid natural product biosynthesis. **R. Viswanathan**

**SATURDAY MORNING**

Northern Kentucky Convention Center  
Room 2  
K-12 Teachers Program & Workshop  
Cosponsored by CHED  
Financially supported by ACS Midland Section  
L. Ford, L. Hogue, *Organizers, Presiding*

8:15 Introductory Remarks.

**8:30 621.** Teaching climate change at the pre-college level. **A.D. Jorgensen**

9:45 **622.** Greening your laboratory program. **L. Ford**

**10:30 623.** Argument-based inquiry. **L. Hogue**
Logan Hall, Xavier University
Room 204
K-12 Teachers Program & Workshop
Cosponsored by CHED
Financially supported by ACS Midland Section
L. Ford, L. Hogue, Organizers
R. M. Malczewski, Presiding

8:15 Introductory Remarks.

8:30 624. Sci tech next generation: A hands-on science workshop for elementary and middle school teachers. R.M. Malczewski

SATURDAY AFTERNOON

Northern Kentucky Convention Center
Room 2
K-12 Teachers Program & Workshop
Cosponsored by CHED
Financially supported by ACS Midland Section
L. Ford, L. Hogue, Organizers, Presiding

1:15 625. Teaching the delicious chemistry of food. J.L. Marshall

2:45 626. Enriching high school chemistry teaching through POGIL. P.W. Butler