Glass City Chemistry Conference

N. Beres, Program Chair

THURSDAY EVENING

Radisson Hotel, University of Toledo
Social and Dinner

5:30 Meet and Greet
6:15 Dinner
7:00 Welcome
7:15 Keynote – Kyle Sword, NSG Pilkington
8:15 Social

FRIDAY MORNING

Memorial Field House 2260
Biochemistry

N. Beres, Organizer
P. Bhatta, Presiding

8:30 Introductory Remarks.
8:35 1. DNA adducts from C5'-oxidation as endogenous exposome. S.H. Cho, A.C. Bryant-Friedrich
9:05 2. Binding of adrenergic compounds to mu opioid receptor enhances opioid activity. R. Root-Bernstein, M. Turke
10:05 Intermission.
10:55 5. Inhibitory effects of herbal extracts on the melanin production in melanoma cells. Y. Eom, M. Lee
11:25 Concluding Remarks.
Memorial Field House 1270

**Chemical Education**

N. Beres, *Organizer*

J. Beres, *Presiding*

8:30   Introductory Remarks.
8:35   6. Curriculum and research related to the intersection between chemistry and art. E.T. Wise
9:05   7. Combining metal alloys in a freshman chemistry lab with a medals project -- the nexus of art and science. J. Pothoof, C. Baker, M.A. Benvenuto
9:35   8. Development of a liberal arts chemistry course including active learning and a travel component to the Netherlands. A.R. Roerdink, N. Beres
10:05  Intermission.
10:25  9. Interdisciplinary research module for organic and biochemistry laboratory courses. T. Sucheck
11:25  Concluding Remarks.

Memorial Field House 1230

**General Orals**

N. Beres, *Organizer*

F. Y. Saleh, *Presiding*

8:30   Introductory Remarks.
8:35   11. Surface assembly and two dimensional nanostructures of benzoic acid at Au(111) electrode/electrolyte interfaces. C. Leasor, Z.J. Li
10:05  Intermission.
10:25  14. Stretching the applications of biomass: Green chemistry approaches to lignin-based renewable elastomers and flexible composite materials. T. Bova
10:55  15. Wet-chemical etching of cadmium telluride solar cells to prepare tellurium rich surface. E. Bastola, K.P. Bhandari, R.J. Ellingson
11:25  Concluding Remarks.
Inorganic Chemistry

J. A. Schmidt, Organizer
M. Basiouny, Presiding

8:30 Introductory Remarks.
8:35 16. One-pot in-situ preparation of polypyrrole composites with metal oxide fillers. V. Livingstone
9:05 17. Effect of structural order on the electrical conductivity of Sr$_{2-x}$Ca$_x$Fe$_2$O$_5$ ($x = 0$ and 1). R.K. Hona
10:05 Intermission.
10:55 20. Synthesis and characterization of Al$_x$Sc$_{2-x}$Mo$_3$O$_{12}$ using non-hydrolytic sol-gel methods. L. Lovings, C. Lind-Kovacs
11:25 Concluding Remarks.

Memorial Field House 2250

Medicinal Chemistry

I. T. Schiefer, Organizer, Presiding

8:30 Introductory Remarks.
9:35 Intermission.
10:55 Concluding Remarks.

Panel Discussions
Memorial Field House 1200
Sexual Harassment Awareness

G. Hymel, Organizer, Presiding

10:00 Introductory Remarks.
10:05 Thomas Goodwin, Private Attorney - Victims' potential legal responses and how it may impact their work environment
10:30 Julia Benfield, SANE at University of Toledo Medical Center
11:00 Katie Hallek, Victim Advocate at the YWCA Hope Center
11:30 Q n A
11:55 Concluding Remarks.

FRIDAY AFTERNOON

Memorial Field House 1270
Chemical Education

N. Beres, Organizer
J. Beres, Presiding

1:00 Introductory Remarks.
2:05 27. Chemistry demonstration outreach: Tips and tricks. A. Miller
2:35 Intermission.
2:55 28. Promoting, evaluating, and supporting metacognitive learning strategies in General Chemistry. T.M. Clark
3:55 30. Integration of real science research as the core context of a general education science course. W.R. Midden
4:25 31. Increase learning by decreasing student dependency on websites that provide worked solutions to homework and lab assignments. E.L. Brown
4:55 Concluding Remarks.

Memorial Field House 1230
General Orals
N. Beres, *Organizer*
A. R. Roerdink, *Presiding*

1:00 Introductory Remarks.
1:35 33. Digging deeper: Untargeted exometabolomics by nano-LC-MS reveals biogeochemical hotspots in Arctic permafrost soils. **M. Ladd**
2:05 34. High surface area silsesquioxane hybrids from static to active materials. **J.C. Furgal**, N. Hu, B. Rupasinghe, S. Mahbub
2:35 Intermission.
3:55 37. Organizing regional meetings, ACS and otherwise, all the details you really need to know. **M.A. Benvenuto**, E.P. Kippenhan
4:55 Concluding Remarks.

Memorial Field House 2260
Protein Structure & Function

J. J. Bellizzi, *Organizer, Presiding*

1:00 Introductory Remarks.
1:05 38. Quality control of mitochondrial tail anchored proteins. **M. Wohlever**
2:05 40. Molecular and structural mechanism of histone binding by the epigenetic regulator UHRF2. **B. Albaugh**
2:35 Intermission.
4:25 44. Role of MARK4-catalyzed phosphorylation of tau441 protein on tau aggregation and microtubule formation. **I. Ziu**, S. Anwar, S. Martic
4:55 Concluding Remarks.
Memorial Field House 2270

Synthesis of Biologically Active Compounds

S. J. Sucheck, Organizer, Presiding

1:00        Introductory Remarks.
1:40        46. Phenanthroline-catalyzed stereoretentive glycosylations. **F. Yu**
2:00        47. Modulation of macrophages on a micropillar/microwell chip platform with biomimetic macro-glycoligands. **X. Sun**
2:40        48. Probing the mechanism of nickel triflate-mediated formation of 1,2-cis-2-aminoglycosides from N-benzylideneamino protected donors. **E. Sletten**
3:00        Intermission.
3:20        49. General synthesis of cardiotonic steroids. **P. Nagorny**
4:10        51. Total synthesis of zwitterionic repeating unit polysaccharide A1 from *Bacteroides fragilis* ATCC 25285/NCTC 9343. **P. Eradi**
4:30        52. Modern Hsp90 inhibitors derived from old natural products. **B.S. Blagg**
4:55        Concluding Remarks.

Memorial Field House 2250

Synthetic Methodology

M. C. Young, Organizer
W. Li, Presiding

1:00        Introductory Remarks.
1:05        53. C-H and C-O functionalization via radical chaperones. **D. Nagib**
1:35        54. Efficient functionalization of common organic fragments. **H. Ge**
2:35        Intermission.
3:55  58. Phosphine-mediated partial reduction of alkynes to form (E)- and (Z)- alkenes.  R. Whittaker
4:25  59. Aerobic copper-catalyzed alkene difunctionalization reactions.  F. Wu, W. Li
4:55  Concluding Remarks.

Panel Discussions

Memorial Field House 1200
Career Choices

E. P. Kippenhan, Organizer
E. Diemler, Organizer, Presiding

2:50  Introductory Remarks.
2:55  60. The future is garbage: How and why we launched a waste-to-materials startup while grad students.  T. Bova
3:25  There and Back Again: A Student's Tale.  P. Pierce
3:45  Your Career: The Corporate Jungle Gym.  A. Nelson
4:05  A Different Graduate School Pathway.  M. Ladd
4:30  Q n A
4:55  Concluding Remarks.

Memorial Field House 1030
Opioid Crisis – Regional Consequences

G. Hymel, Organizer, Presiding

1:05  Introductory Remarks.
1:10  Narcan Training, K. Toles, Opiate Coordinator for the Toledo Lucas County Health Department
2:05  Dean Gossard, Licensed Professional Clinical Counselor who specializes in Opiate Abuse
2:35  Intermission
2:55  Tammie Smith, Coordinator for Community Outreach with the Drug Abuse Response Team (DART)
3:25  Caren Steinmiller, Associate Lecturer at the University of Toledo whose research interests include behavioral neuroscience of opioid addiction and treatment
3:55  Q n A
4:55  Concluding Remarks.
Memorial Field House 1050
LGBTQA+ and Friends Roundtable

E. P. Kippenhan, Organizer, Presiding

2:55 Introductory Remarks.
3:00 C. Gruden, L. Shackleford
4:55 Concluding Remarks.

Memorial Field House Hallway
General Posters

N. Beres, E. P. Kippenhan, Organizers

5:00 - 7:00 pm
61. Get involved with the ACS Division of Chemical Education. T. Clark
63. Facile synthesis of Ag nanoparticles supported on Fe₃O₄ microspheres as recyclable nanocatalysts for 4-nitrophenol reduction. J. Li, L. Pu, H. Long, W. Bian
64. Characterization of a carbon dioxide-hexafluorobenzene complex using matrix isolation infrared spectroscopy. Y. Payagala, J.C. Amicangelo
65. Mathematical and attitudinal assessments in second-semester general chemistry. L.H. Kolopajlo
66. New, multicomponent, one-pot, microwave-assisted synthesis of 1,3,5-triazine-2,4-diamines. A. Junaid, A.V. Dolzhenko
69. Juicy research experiences in the general chemistry laboratory. F.J. Wyzgoski, A. Chanon, J. Scheeren
70. Construction of a SWR1 chromatin remodeling sub-complex for histone H2A.Z deposition. H. Haller, C. Wu
72. Carbon dioxide mediated strategy: Functionalization of benzyl amines via sp² C-H activation. P. Chand Thakuri, M. Kapoor, M.C. Young
73. Low temperature synthesis of tungsten oxide for future use in composites. S. Perlini, V. Livingstone, C. Lind-Kovacs
74. Low valent heterogeneous catalysis using metal organic frameworks. **A.M. Rabon**, M.C. Young

75. Modification of electrode surfaces via chromium deposition. **D. Lankitus**, W.J. Clark


82. Determination of enantiomeric excess in chiral carboxylate. **S. Sheykhi**, L. Mosca, P. Anzenbacher

83. Computational study of low lying hexamer water clusters interacting with CO₂. **D.B. Lawson**

84. Comparison of DPPH, ABTS, and iodine clock methods for determining antioxidant capacity of fresh fruits. **O. Fingerhut**, M.A. Nussbaum


87. Initial characterization of alkaline phosphatase from *Heliobacterium modesticaldum*. **S.P. Romberger**, R. Pochedly


90. Scanning tunneling microscopy study of surface assembly of benzoic acids at Au(111) electrode/electrolyte interfaces. **Z.J. Li**, C. Leasor


92. Investigation of the structure and function of the two-component tryptophan halogenase BorF/BorH. **K. Lingkon**


95. Effects of lead on early embryonic development following the Flint Water Crisis. N. Monear, B. Xhabija
97. Colorimetric replacement for the venerable Hinsberg test in qualitative organic chemistry laboratory schemes. T.L. Friebe, D.M. Snyder
98. Design and synthesis of a carbocyclic maltose intermediate useful for elaboration into enzyme inhibitors. S. Kapil, S.J. Sucheck
100. Structural determination of anisotropic gold nanostructures through absorbance measurement and AFM analysis. V. Gerios, A. Peer, D. Paicu
101. Progress towards the synthesis of glycomimetics of maltose-1-phosphate for the development of Mycobacterium tuberculosis GlgE inhibitors. G. Irumva
102. Evaluation of 2,4-dinitrophenylhydrazine as a reactive matrix for the detection of oxidized lipids by MALDI TOF. M.A. Alyami, D. Kang, P. Giolando, H. von Grafenstein
103. Synthesis of oligosaccharide components of the outer core domain of P. aeruginosa lipopolysaccharide using a multifunctional hydroquinone-derived reducing-end capping group. A. Vartak, S.J. Sucheck, F. Hefny
104. Investigation of the impact of cyano substituents on the reactivity of oxypyridinium salts. P.A. Albinia, J.G. Rodriguez
105. High-throughput dye displacement assay for enantiomeric excess determination in multiple analytes. M. Pushina, P. Anzenbacher
106. Arsenic sensing by Eu(III)/Zn(II) metallo-receptors. S. Farshbaf, P. Anzenbacher
107. PharmaFlights: Fragment based discovery based on chalcones with 4-methoxyphenyl functional group on the A ring. O.C. Ezenagu, T. Kinstedt, D.M. Ketcha
109. Analysis of formaldehyde-releasing preservatives by NMR, colorimetric methods, and hydrophilic interaction liquid chromatography (HILIC). A. Pestritto, M.A. Nussbaum
110. Efficient measurements of enzyme kinetics using 3D-printed devices for simultaneous mixing. T. Farris, M.A. Nussbaum
112. PharmaFlights: Fragment based drug discovery based on chalcone with a 2',4',6'-trimethoxy substitution on ring A. S. Lowery, C. Morris, T. Kinstedt, D.M. Ketcha
114. Synthesis of RNA oxidative damage product, 3'-deoxy-3',4'-didehydrouridine-5'-aldehyde. F. Akrimah, M. Bedi, A.C. Bryant-Friedrich
115. Self-assembly of guanidium appended tetraphenylporphyrin derivative. I.S. Demshemino, D.A. Modarelli
116. Synthetic design of a salen platform for luminescent heterobimetallic lanthanide complexes.  
   **J. Farnsworth**, M. Zeller, R. Wroblewski, E.R. Trivedi
117. VOC-compliant 2K polyurethane coatings for automotive interiors: Evaluation of polyol type.  
   **F. Zareanshahraki**, V. Mannari
118. Synthesis of meroterpenoid derivatives.  
   **A.D. Landgraf**, N. Schulte, S.J. Sucheck
119. PharmaFlights: Fragment based drug discovery based on chalcones with a 3,4,5-trimethoxy substitution on ring B.  
   **C. Fourman**, C. Morris, A. Petry, T. Kinstedt, D.M. Ketcha
120. Synthesis and investigation of C’5-pseudouridinyl radical precursor.  
   **I. Sappy**, A.C. Bryant-Friedrich
121. PharmaFlights: “Scaffold Hopping” from chalcones to benzylidene oxindoles.  
   **M. Van Putten**, T. Kinstedt, D.M. Ketcha
122. Phosphorylation of TAU 441 by GSK-3β and MARK4 protein kinases and its aggregation propensity.  
   **E.T. Laryea**
123. PharmaFlights: Fragment based drug discovery based on chalcones with 3’,4’,5’-trimethoxy substitution on ring A.  
   **B. Williams**, C. Morris, T. Kinstedt, D.M. Ketcha
124. Heavy-metal remediation of water via the use of thiophene-containing metal-organic frameworks.  
   **A. Geisse**, D. Genna
125. Fluorescence and post-synthetic reactivity of mixed fluorinated subphthalocyanines.  
   **K. McAuliffe**, E.R. Trivedi, R.L. Calandrino
126. Structure-reactivity relationship of bulky phenols in radical reactions.  
   **I. Ziu**, N. Zabik, S. Anwar, H. Ryan, S. Martic
127. Comparative investigation on the structural, electrical and magnetic properties of the double perovskites BaSrMMoO$_6$ (M= Mn, Co & Ni).  
   **S.B. Karki**
128. Silver nanoparticle synthesis and kinetic studies of their formation.  
   **T.R. Brewer**, P. Maier, A. Bower
129. Thermodynamic characteristics of metal—acetylene complexes.  
   **Z.R. Smith**, J.E. Stevens
130. Investigation of graduate student instructors’ teacher knowledge.  
   **E.K. Zotos**, A.C. Moon, G.V. Shultz
131. Unsymmetrical subphthalocyanine and subnaphthalocyanine derivatives.  
   **L. Erdmann**, V. Kennedy
132. Understanding the solid solutions Cs2AgBiBr6-xClx [x = 0, 1, 2, 3, 4, 5, 6].  
   **M. Gray**

**SATURDAY MORNING**

Memorial Field House 1050
8:00    ACS Workshop – Developing communication strategies

Memorial Field House 1200
9:00    ACS Workshop – Career Consulting
Memorial Field House 1030

High School STEM Education

N. Beres, E. P. Kippenhan, Organizers
J. Beres, Presiding

8:30  133. Safe, educational, and fun chemistry demos and activities. A.A. Hazari
9:30  134. Engaging students on climate change because it will affect their lives. A.D. Jorgensen
10:45 Intermission.
11:00 135. Teaching chemistry through art. N. Beres, J. Beres

SATURDAY AFTERNOON

Memorial Field House 1200

ACS Workshop – Acing the Interview

Memorial Field House 1030

NCW Workshop

E. P. Kippenhan, Organizer, Presiding

1:00 136. Chemistry is Out of This World - NCW Coordinators Workshop. J. Bornak, E.P. Kippenhan

Memorial Field House 1050

Local Educational Stars

1:00 Achievements of NURTURES (Networking Urban Resources with Teachers and University to enRich Early Childhood Science), S. Molitor
1:30 SCOPE (Scientists Changing Our Pre-college Education), C. Pittman
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