Draft Final Program

CHED

DIVISION OF CHEMICAL EDUCATION
A. Cannon, W. Harwood, and I. J. Levy, Program Chairs

Westin San Diego
Crystal I Ballroom

High School Program

Green Chemistry

R. Davidson, Organizer, Presiding

8:00 Registration.
8:30 Welcome.
8:40 1. Environmental chemistry research for high school students. J. C. Ingram
9:00 2. Using Google Docs to foster reading, writing, and critical thinking in the science classroom. B. Belyea
9:20 3. Future women in science. F. Califano
9:40 Intermission.
10:10 5. Spectrophotometry in the high school chemistry laboratory. R. McGraw, S. B. Mitchell
10:30 6. Pop culture in the chemistry classroom. E. K. Mitchell
10:50 Intermission.
11:00 7. "Or what?": On getting involved, and getting people to care. J. A. Malik
12:10 Luncheon.

Westin San Diego
Crystal II Ballroom

Chemical Education Research

Graduate Student Research Forum
M. Anzovino, Organizer
J. Carmel, Organizer, Presiding

8:30 Introductory Remarks.

8:35 9. Design and testing of a survey instrument to assess students’ perceptions of and attitudes toward scientific inquiry.
M. E. Anzovino, A. E. Greenberg, J. W. Moore

8:55 10. Comprehension ability and how it affects performance in general chemistry.
D. T. Pyburn, S. Pazicni, V. Bei Reilly

D. Pakhira, J. A. Heppert, D. R. Benson

9:35 Intermission.

9:50 12. Elucidating students’ understanding and misconceptions of alkyl halide and alkene reactions in undergraduate organic chemistry.
D. Cruz-Ramirez de Arellano, M. H. Towns

10:10 13. Disconnect in students' understanding of intermolecular forces.
L. Corley, S. Underwood, M. Cooper

10:30 Concluding Remarks.

Westin San Diego
Opal Room

Green Chemistry Theory and Practice

Financially supported by Green Chemistry and Engineering Subdivision of the Industrial and Engineering Chemistry Division and Applied Chemical Technology Subdivision of the Industrial and Engineering Chemistry Division
E. Brush, Organizer, Presiding

8:30 Introductory Remarks.

8:35 14. Ionic variations in the choline chloride/urea deep eutectic solvent system.
C. L. Jensen, D. Swartling

8:55 15. Environmentally friendly synthesis of over 100 imines in a green chemistry project for first semester organic chemistry.
M. K. Linder, J. Bennett

A. Marmet, J. Bennett

C. M. Aloia, T. Jameson, E. J. Brush

9:55 Intermission.

10:05 18. Expanding the scope of microwave chemistry in undergraduate teaching labs.
M. J. Karney, J. E. Champy, Vanier

S. Nagarajan, S. Jayaraman, R. Ravichandran, R. Boudin, R. Nagarajan, J. Kumar

10:45 20. Catalysis and sustainability in the undergraduate lab: Teaching the full spectrum of research skills through synthesis and application of a catalyst.
A. Ison, E. Ison

11:05 Intermission.
11:15 21. Creating a culture of sustainability at Widener University.  **L. D. Bastin**

11:35 22. Green chemistry and sustainability at Bridgewater State University: Teaching, research, and outreach that disciplinary lines.  **E. J. Brush**

11:55 23. Transforming chemistry education through the green chemistry commitment.  **A. S. Cannon, K. Anderson**

12:15 Concluding Remarks.

Westin San Diego
Diamond I

Research in Chemical Education

Learning in the Nanosciences

C. Russell, G. Bhattacharyya, Organizers
L. McClary, Presiding

8:30 Introductory Remarks.


8:55 25. Researchers' perceptions of self-assembly: Capturing a field in scientific revolution.  **M. Orgill, T. Bussey, M. S. Wood, K. Crippen, W. Ho, C. Kern**


9:35 Intermission.


10:30 29. Understanding foam size and surface area by cleaning stains.  **K. J. Martinez-Hernandez, G. M. Petersen**

10:50 Concluding Remarks.

Westin San Diego
Diamond II

NMR Spectroscopy in the Undergraduate Curriculum

Financially supported by Anasazi Instruments, Inc., Agilent Technologies, and Bruker Corporation
D. Soulsby, L. J. Anna, A. Wallner, Organizers, Presiding

8:30 Introductory Remarks.


8:55 31. Heteronuclear NMR in advanced undergraduate laboratory courses:  $^{59}\text{Co}$, $^{23}\text{Na}$, $^{31}\text{P}$, and $^{195}\text{Pt}$.  **H. M. Kaup,**
Hang, D. E. Janzen

9:15 32. Long and winding road: From the research lab to the teaching lab. C. Nataro

9:35 Intermission.

9:50 33. Multidimensional NMR in undergraduate research: Application to DNA structure and drug:DNA complexes. T. Dwyer

10:10 34. Four years of 2D NMR in the organic laboratory. V. R. Miller


10:50 Concluding Remarks.

Undergraduates Collaborating for the Future

Sponsored by I&EC, Cosponsored by CHED and SOCED

Westin San Diego
Crystal I Ballroom

High School Program

Green Chemistry

R. Davidson, Organizer, Presiding

12:15 Introduction of recipient of the James Bryant Conant Award in High School Chemistry Teaching.

12:20 36. Award Address (James Bryant Conant Award in High School Chemistry Teaching sponsored by Thermo Fisher Scientific). Combustion analysis: Reflecting on twenty seven years of high school chemistry. R. Allen

1:05 Intermission.


2:05 38. Cell phone spectrometers: Getting students to see the light (and do the math). A. Scheeline

2:55 Intermission.

3:05 39. Bioplastics: Going from synthetic to natural based polymer plastics. S. Rukes


4:45 Concluding Remarks.

Westin San Diego
Crystal II Ballroom

Chemical Education Research

Graduate Student Research Forum
M. Anzovino, Organizer, Presiding

1:30 Introductory Remarks.

1:35 41. Internet-enhanced peer tutoring increases student perceptions of learning in a blended organic chemistry course. M. J. Evans, J. S. Moore

1:55 42. Changing perspectives: Understanding the epistemological development of general chemistry students. K. Mazzarone, N. P. Grove

2:15 43. Are students thinking critically? Measuring changes in chemistry students’ scientific reasoning ability in a non-majors course. J. H. Carmel, E. J. Yezierski

2:35 Intermission.

2:50 44. Peer-led team learning in general chemistry: Self-concept, attitude to chemistry, and motivation regarding learning. J. Chan, C. Bauer

3:10 45. Secondary students with blindness: Changes in states of matter. A. L. Lewis, G. M. Bodner

3:30 Concluding Remarks.

Westin San Diego
Opal Room

ACS-CEI Award for Incorporating Sustainability into Chemistry Education

Cosponsored by CEI
M. Fisher, Organizer, Presiding

1:30 Introductory Remarks.

1:35 46. ACS-CEI award for incorporating sustainability into chemical education. M. A. Fisher


2:50 Intermission.


3:35 50. Renewable energy and sustainable chemistry across the undergraduate chemistry curriculum. N. E. Carpen, M. Pappenfus, T. J. Soderberg


4:35 Concluding Remarks.

Westin San Diego
Diamond I

Next Generation PLTL

Symposium in Honor of Jack Kampmeier
P. Varma-Nelson, Organizer, Presiding

1:30 Introductory Remarks.

1:45 52. Peer-led team learning applied to laboratory instruction. T. Samoriski, J. P. Dinnocenzo


2:35 54. Organic chemistry PLTL implementation at Hope College: Jack Kampmeier impacts a career, from peer leade PUI professoriate. J. G. Gillmore

3:00 Intermission.


3:35 56. Developing leaders in science: Implementation of Peer Led Team Learning across disciplines. L. S. Young, :

4:00 57. PLTL: A transformative program in the sciences and mathematics at UT Dallas. J. W. Sibert

4:25 Concluding Remarks.

Westin San Diego
Diamond II

NMR Spectroscopy in the Undergraduate Curriculum

Financially supported by Anasazi Instruments, Inc., Agilent Technologies, and Bruker Corporation
D. Soulsby, L. J. Anna, A. Wallner, Organizers, Presiding

1:30 Introductory Remarks.

1:35 58. Introducing NMR and IR analysis of unknowns in the first year laboratory. N. C. Tomson, K. J. Graham, E. :
McIntee, A. A. Peterson, C. P. Schaller

1:55 59. Integrating and designing nuclear magnetic resonance spectroscopy based experiments in the undergradual chemistry curriculum. N. Vasumathi, A. Nichols, B. Helms, N. Mwebi, B. Moser

2:15 Intermission.

2:30 60. NMR as an effective tool for teaching experimental design in the introductory organic chemistry laboratory c J. A. Cramer

2:50 61. Teaching NMR spectroscopy using online resources from the Royal Society of Chemistry. A. J. Williams, A. Pshenichnov, V. Tkachenko, P. Robinson

3:10 Panel Discussion: Joe Grabowski, Bert Holmes, Tom Wenzel.

3:55 Concluding Remarks.

A Celebration of Chemical Safety: Jay Young Memorial

Sponsored by CHAS, Cosponsored by CCS and CHED

Undergraduates Collaborating for the Future
Westin San Diego
Ballroom Foyer

General Posters

I. Black, Organizer

7:00 - 9:00

62. Mobile webapps for teaching chemistry. **L. B. Lewis**

63. iPad project: Integrating iPads into general chemistry. **R. M. Jones**, G. R. Shelton


65. Podcasting the general chemistry classroom. **C. A. Smith**

66. Synergistic relationship between academics and a scientific museum: Chemistry meets history. **R. H. Wallace**


70. Chemistry: Bridge between agriculture and other applied science. **R. A. Estremera-Andújar**, C. R. Ruiz-Martín

Rivera-González, F. Roman, W. de la Torre

71. Purple Haze, White Rabbits, and Mother's Little Helper: Drug projects that instill knowledge while fostering science interest in nonmajors. **L. Isom**

72. Green side of chemistry: Think green, be green! **C. A. Hernandez Larracuente**

73. Introducing and implementing the principles of green chemistry. **A. W. Wallace**


76. Development of an energy-themed chemistry course for non-science majors. **R. W. Corbin**

77. pH effects upon luminol reactions quenched by ascorbic acid. **C. F. Saladino**, L. D. Pedersen


79. Computations enhance undergraduate trans effect lab: Characterizing cis- and trans- [Pt(NH$_3$)$_2$Cl$_2$]. **M. A. Guino Nutbrown**, A. L. Fernandez


81. Polymer inverse temperature dependent solubility: A visual demonstration of the importance of TΔS in the Gibbs
82. Relaxation kinetics of UV sensitive materials. **R. C. Dudek**, C. A. Williams


85. Redefining the first semester general chemistry laboratory experience at Shippensburg University. **C. M. Zaleski**

86. Using experimental and computational chemistry to teach electrophilic aromatic substitution reactions. **D. Soulsby**

87. Multiweek comprehensive organic lab: Identification of the composition of a mixture of solids. **L. D. Pedersen**

88. NMR in advanced undergraduate laboratory experiments: 2D Spectra, heteronuclear coupling, paramagnetism, or variable temperature effects. **M. Hang, D. E. Janzen**

89. Isolation and reactivity-based separation of nepetalactone diastereoisomers from catnip oil in an advanced undergraduate laboratory. **L. G. French, L. Trzepkowski**

90. Peer-led laboratory experience in hybrid introductory chemistry course for non-majors. **B. C. Brooks, S. G. Eddins, T. Totten**

91. Proposed experiment for analysis of Coffee Joulies™ to demonstrate thermodynamic properties and the commercial viability of chemical principles. **M. R. Smith, D. Teeters**

92. Integration of liquid chromatography-mass spectrometry into the undergraduate chemistry curriculum. **K. H. Ben M. Ensel, S. E. Perkins, J. D. Haines**

93. Enhanced learning of TLC by a team approach. **J. G. Lindberg, T. Mobley**

94. Integrating electronic data collection and web-based data storage into an enzyme kinetics experiment in the biocl teaching laboratory. **S. M. Tremain**

95. Development of photographically friendly reactions of ethyl acetoacetate and diethyl malonate. **A. M. Mateo, H. J Priestap, J. C. Quirke, J. E. Quirke**

96. Modified U-tubes: A valuable tool for development of photographically friendly reactions. **J. C. Quirke, J. E. Quirke**

97. Development of a rogue’s gallery that illustrates practical errors and potential risks in carrying out liquid-liquid extractions. **J. C. Quirke, J. E. Quirke**

98. Mastery based approach to the first semester organic laboratory sequence. **L. A. Goj**

99. Chemistry lab journal: More than a laundry list of observations. **C. E. Cannon**

100. Improvements on a solvatochromism and photo-induced electron transfer physical chemistry laboratory exercise. **Findley, K. J. Billings**

101. Modern techniques in biochemistry education: Protein structure analysis using size exclusion chromatography. **D Austin, J. Dickinson, A. Charlebois**

102. New method for qualitative analysis labs: Collaboration and communication skills developed in general chemistry. **A. Thomas, S. Murray**

103. Chromatographic separation of amino acids: Development of a laboratory experiment for freshman chemistry. **L Brunauer, K. Caslavka, K. Van Groningen**

104. Adapting quantitative analysis techniques to real-world samples: Determining the concentration of iron in soil samples. **S. E. Hubbard**

105. Helping students to learn how to analyze the water environments. **Y. Watanabe-Ezoe, T. Shimaoka**
106. Taking the "Mud" out of the Muddy River: Engaging students in chemical analysis. N. Chen, A. Sime, M. Berger

107. Apparatus, system, and method for solving chemistry problems. D. Amare

108. Construction of surface chemistry course for chemistry and chemical engineering based on sharing of optimized teaching and learning. Z. Jiang, Z. Yao, Z. Liu, W. Li, D. Tang, Y. Song


110. Teaching practice and thoughts of "Applies surface chemistry basis" innovation and research course. Z. Yao, Z. Sun, Y. Song

111. Encouraging students to join research activities during teaching process of surface chemistry course. Z. Yao, Z. W. Li, S. Qiu, Z. Wang, Z. Liu

112. What we’re doing isn’t working: An alternative to the traditional general chemistry course. T. A. Knoerzer, B. V

113. "Five-minute mechanism" program in organic chemistry. J. J. Mullins

114. Climate change concepts and POGIL. D. King, J. Lewis, K. Anderson, D. Latch, S. Sutheimer, G. Webster, C. Middlecamp, R. Moog

115. Chemistry experience: A course instructing incoming students in necessary skills and responsibilities. T. Frielle

116. Bonding through the challenges of a 2-year college environment. H. M. Young, H. M. Schmale, M. Y. Zechari

117. Teaching chemistry at a technical college through practical field work: Milwaukee river project. T. J. Cerar, B. Dieringer, S. A. Schlipp

118. Impact of early undergraduate research experience on retaining STEM students: Building connections across the disciplines. S. Sutkamp, H. A. Bullen

119. DFT calculations in the undergraduate curriculum: Project oriented assignments. D. K. Geiger


121. Cardinal Science Scholar Program at Otterbein University: A program to increase student retention. J. M. Esson

122. Undergraduate research in an introductory chemistry course. N. Chen, J. McElroy, L. Pham, V. Webber, M. E


124. Active learning approach to understanding heat cycles using a homemade Stirling engine. B. A. Turner, R. S. Raguidin, C. L. Adams, C. S. Penland, R. Reyes

125. ENVIRO-CHEM research experiences for underrepresented minority teachers and students through mentoring. M. Ramos, A. M. Garcia


128. Effect of using digital science textbook on the scientific attitude, self-directed learning ability and scientific problem solving of elementary school students. Y. Kong

129. Effect of the online-homework and PLTL on the motivation of undergraduate general chemistry students from self-determination theory perspective. I. I. Salame, O. Ivashkiv, N. Hershberger

Feick, B. DeKorver

131. Influence of instructors mental models of chemistry textbooks on general chemistry instruction. A. Leontyev, J.

132. Chemistry outreach at Widener University through the Student Affiliates Chapter of the American Chemical Society Chemistry Club. L. M. Liable-Sands, A. E. Moretti, M. Bradley, A. Martin


134. Service learning and chemistry: Using community engagement to reinforce chemistry concepts. T. Munguia

135. Improving the recruitment, retention, and progression of chemistry majors through the incorporation of chemist education faculty members in a chemistry department. G. T. Rushton, S. E. Lewis, M. L. Dean, D. C. Bromfield Lee

136. Students learning science through a sustained network of teachers: A high school chemistry teacher professional development program. E. J. Voss, S. Khazaeli


139. Student's activity for International Year of Chemistry in Chinju National University of Education. Y. Kong

140. Adding partial credit to multiple-choice ACS Exams: Process and results. J. R. Raker, M. Grunert, K. Murphy, T. Holme

141. Faculty members' experiences with, and perceptions of, supplemental instruction (SI) across chemistry, biology, and math disciplines: A qualitative investigation. M. E. Emenike, M. E. Loverude, B. L. Gonzalez


143. Chemical education and outreach developments at SLCC. P. J. Iles, L. Giddings, R. Valcarce, N. Bastian, M. Alvarez, C. Kambourian, C. Yocum

144. Four-pronged approach to supporting at-risk students: Successes and re-evaluations of the PERSIST scholars program. M. Hutnick, B. C. Chan, S. Nayak, D. Lovett, L. Bradley, J. Osborn

145. SOAR scholars: A comprehensive support program for academically talented, first generation and underrepresented STEM students. H. A. Bullen, K. L. Haik, G. Mackin

146. Use of factor analysis of student learning approaches and other variables to evaluate student achievement in first semester general chemistry. S. Beckley, J. Suits

147. Successful strategies for improving the assessment of student learning in a high school teacher professional development program. S. Khazaeli, E. J. Voss, D. Eder

148. Multiple representations of covalent and ionic bonding: Development of a concept inventory. C. J. Luxford, S. L

149. Determining the effect of the Target Inquiry professional development program: A multilevel analysis of student achievement. J. T. Harshman, D. G. Herrington, E. J. Yezierski

150. Instrument for reliable pre/post assessment of children's attitudes and motivation at informal chemistry outreach events. C. Bauer, M. Emenike, J. Reed, T. Holme

151. Comparison of attitude toward chemistry, biology, and mathematics among arts, media, and communication students. B. Büdy, A. Khosravani, M. L. Rafacz

152. Community-based design and national testing of an assessment tool to measure student understanding of enzyme kinetics in undergraduate biochemistry. J. Loertscher, V. Minderhout, S. M. Villafane, J. E. Lewis

154. ACID I: A diagnostic tool to elicit organic chemistry students' conceptions of acid strength. **L. McClary**, S. L. Bretz

155. Student misconceptions as measured by the acid-base reaction concept inventory. **J. D. Jensen**, S. L. Bretz

156. Misconceptions as detected by the enzyme-substrate interactions concept inventory. **K. J. Linenberger**, S. Bretz


158. Assessment of audience response information device data to identify learning deficiencies in organic chemistry students. **J. A. Jenson**

159. Student conceptions about oxidation-reduction reactions across the particulate, macroscopic, and symbolic domains. **A. Brandriet**, S. Bretz


161. Analysis of two-modes for a placement test and pass/fail rates for a developmental chemistry course. **J. L. Frye, Basca**

Westin San Diego
Crystal I Ballroom

**Chemical Biology: When Two Heads are Better Than One**

**GSSPC Symposium**

Cosponsored by BIOL, INOR, and ORGN
T. Mui, Organizer
A. Komor, A. Wang, J. Chaubard, J. Holder, Presiding

9:15 Introductory Remarks.

9:30 162. Chemical glycoprofiling. **C. R. Bertozzi**

10:30 163. Blending platinum complexes in nanoparticles for cancer therapy. **S. J. Lippard**

11:30 Concluding Remarks.

Westin San Diego
Crystal II Ballroom

**George C. Pimentel Award in Chemical Education: Symposium in Honor of Diane M. Bunce**

Cosponsored by WCC
J. Iriarte-Gross, Organizer, Presiding

8:30 Introductory Remarks.

8:35 164. What does mentoring have to do with Catholic, chocolate and chemistry? **J. M. Iriarte-Gross**

8:55 165. Mentoring for the future of the scientific enterprise. **M. P. Doyle**
9:15 166. Mentors and role models: Critical components of successful careers. I. D. Eubanks


9:55 Intermission.

10:10 168. Mentoring the last Jedi or the Beatles: The Capitol years. T. J. Greenbowe

10:30 169. Paying it forward: The gift of mentoring. M. M. Kirchhoff

10:50 170. Professional development within The POGIL Project: Growing the leadership team. R. Moog

11:10 Concluding Remarks.

Westin San Diego
Opal Room

Improving Safety Education in Academic Institutions

Cosponsored by CHAS
R. Hill, Organizer
D. Finster, Organizer, Presiding

8:30 Introductory Remarks.

8:35 171. Safety skills needed by undergraduates upon graduation. R. H. Hill, D. C. Finster

8:55 172. What does industry want in academic safety training? K. P. Fivizzani

9:15 173. Role of the Committee on Professional Training in promoting laboratory safety. G. S. Wilson

9:35 Intermission.

9:45 174. Challenge of teaching chemical health and safety in colleges and universities. D. C. Finster

10:05 175. Academic lab safety, where are we now? D. A. Katz

10:25 Intermission.

10:35 176. Teaching laboratory safety in a two-year chemical technology program. K. P. Hunter

10:55 177. Four-year program in safety instruction. D. C. Finster

11:15 Panel Discussion.

Westin San Diego
Diamond I

Research in Chemistry Education

Chemistry in Primary and Secondary Schools

G. Bhattacharyya, Organizer
C. Russell, Organizer, Presiding
8:30 Introductory Remarks.


8:55 179. Stratification of conceptual development of students' understanding of chemistry at macroscopic, symbolic particulate levels in classification of chemical and physical change. C. Hale-Hanes

9:15 180. High school students' representations of chemical equilibrium. N. D. Rovira-Figueroa, M. B. Nakhleh

9:35 Intermission.

9:50 181. Project guided inquiry. A. C. Banerjee

10:10 182. Assessing high school students' understanding of isotopes and their skills for reading mass spectra. F. Mumba, V. Wong, A. Banda

10:30 Concluding Remarks.

Active Learning in the Undergraduate Analytical Chemistry Curriculum
Sponsored by ANYL, Cosponsored by CHED

Inspiring Science Education: Readiness for the Global Enterprise
Sponsored by IAC, Cosponsored by CHED, PRES, and SOCED

Westin San Diego
Crystal I Ballroom

Chemical Biology: When Two Heads are Better Than One
GSSPC Symposium
Cosponsored by BIOL, INOR, and ORGN
T. Mui, Organizer
A. Komor, A. Wang, J. Chaubard, J. Holder, Presiding

1:00 Introductory Remarks.

1:05 183. DNA-mediated signaling. J. K. Barton

2:05 184. Metalloprotein folding. H. Gray

3:05 Intermission.

3:35 185. Insoluble chemical cues that instruct human pluripotent stem cells. L. L. Kiessling

4:35 186. Breeding and building molecules to image cell ultrastructure and membrane potential. R. Y. Tsien

5:35 Concluding Remarks.

Westin San Diego
Crystal II Ballroom

George C. Pimentel Award in Chemical Education: Symposium in Honor of Diane M. Bunce

Cosponsored by WCC
J. Iriarte-Gross, Organizer, Presiding

1:30 Introductory Remarks.
1:35 187. Mentoring in the classroom. R. Cole
1:55 188. Intercollegiate mentoring: Opportunities for growth for two-year college faculty. T. Mewhinney
2:15 189. Impact of a STEM faculty learning community on faculty attitudes and practice. S. E. Shadle
2:35 Intermission.
2:50 190. No teacher is an island: The role of communities and coaching for building best practices in high school science. L. Daubenmire
3:10 191. From mentee to mentor: Exploring both sides of the mentoring relationship. J. R. VandenPlas
3:30 192. Award Address (George C. Pimentel Award in Chemical Education sponsored by Cengage Learning and friends and colleagues of George and Jeanne Pimentel). Mentoring: The teaching ideal. D. M. Bunce
4:05 Concluding Remarks.

Westin San Diego
Opal Room

Improving Safety Education in Academic Institutions

Cosponsored by CHAS
D. Finster, Organizer
R. Hill, Presiding

1:30 Introductory Remarks.
1:35 193. Changing a culture: Improving chemical laboratory safety at Texas Tech University. D. J. Casadonte
1:55 194. Impact of laboratory accidents on chemical health and safety policies and safety culture at academic institutions. M. Weil
2:35 Intermission.
2:45 196. Setting the bar: An approach to undergraduate safety education. R. Izzo
3:05 197. Marketing a culture of safety through online videos. H. Weizman, D. Harvey
3:25 Intermission.
3:35 198. Chemistry is not a "zero-exposure" profession: Introducing solid risk-management principles and the "inherently safer" mindset to chemistry students. H. J. Elston
3:55 199. Hazard identification and risk analysis for chemical research laboratories: Adapting the chemical industry's
approach to the needs of academia. **D. J. Leggett**

**4:15 Panel Discussion.**

Westin San Diego
Diamond 1

Research in Chemistry Education

Learning in Introductory Chemistry

C. Russell, G. Bhattacharyya, *Organizers*
N. Barrows, *Presiding*

**1:30 Introductory Remarks.**

**1:35 200.** Origin of life: A context for teaching introductory chemistry. **B. Venkataraman**

**1:55 201.** Spectrum of perceptions: Students' interpretations of structure-property relationships. **S. Underwood**, L. M. Cooper


**2:35 203.** Paying attention to gesture in chemical explanations: What does it tell us? **F. G. Amar**, V. Flood, R. Nemin

**2:55 Intermission.**

**3:10 204.** Are female students at a higher risk of failure than male students in summer session general chemistry courses? **K. A. Chambers**

**3:30 205.** Assessing the impact of a supplemental instruction program in general chemistry for community college students. **C. Gabel**, R. Walker

**3:50 206.** Determining the chemical knowledge of community college students in general biology. **C. Gabel**, R. D. Wi

**4:10 207.** General chemistry students' understanding of climate science principles relating to chemistry. **M. H. Town**

**4:30 Concluding Remarks.**

San Diego Convention Center
Hall D

Undergraduate Research Poster Session

Agricultural and Food Chemistry

M. Adams, *Organizer*

**12:00 - 2:30**

**208.** Effects of macromolecular crowding agents on tyrosinase. **G. R. Fritch**, W. H. Flurkey

210. Effects of processing on antioxidant activity in pomegranates. J. Westbrook, K. Daus

211. Synthesis and quantitation of the honey bee waggle dance pheromone (Z)-9-pentacosene. S. A. Mavropoulos, Heit, A. F. Charlebois

212. Synthesis of biologically active phosphonates from Lesquerella oil. C. L. Coley, D. M. Cermak, E. L. Fayer, S. C.

213. Benzaldehyde adduct formation with 2'-deoxyguanosine in DNA. M. E. Geitz, D. R. Quirk Dorr

214. Comparison of root iron uptake rate in Carya aquatica and Carya illinoinensis. G. E. Kroh, M. A. Grusak

215. Polyphenols in wine based on the type of barrel used in aging. D. A. Wiltzrout, D. H. Fish

216. Ion selective electrodes and solutions to biofouling. S. Nelson, A. Dittmer, P. Buhlmann

217. HPLC analysis of resveratrol in red wine. R. Bain, B. Varughese

218. Investigation of Brown Ring Patch disease of turfgrass caused by Waitea circinata var. circinata. H. M. Young


San Diego Convention Center
Hall D

Undergraduate Research Poster Session

Analytical Chemistry

Cosponsored by ANYL and SOCED
Financially supported by Applied Chemical Technology Subdivision of the Industrial and Engineering Chemistry Division
M. Adams, Organizer

12:00 - 2:30

222. Extraction of alpha acids from hops using accelerated solvent extraction. S. Martin, P. Hooker

223. Thermodynamic studies of lauryl acrylate porous polymer monoliths used in capillary electrochromatography. S. Li-Gonzalez, N. J. Kuklinski, M. M. Bushey


225. Quantifying active ingredients in antimalarial drugs using LC/MS analysis. T. C. Cristarella, E. Robbins, E. Bajeti Barstis

226. Surface enhanced Raman spectroscopy of single conjugate polymer molecules on nanotextured silver film. K. S. Brooks, D. A. Clayton, S. Pan

227. Indirect amperometric detection of inulin. N. J. Ronkainen, J. Pollock
228. Reactivation of an apoenzyme to signal target binding events. S. Branch, S. Sitaula, T. Turner, M. Ali

229. Characterization of the materials used by the artist Victor Brauner: Progress report. H. Tran, T. B. Malloy

230. Correlation of the rates of solvolysis of 4-chlorophenyl chlorothionoformate. B. M. Sansbury, M. J. D'Souza


232. Impact of siderophores in biofilm formation on bone and medical implants. A. Yarawsky, H. A. Bullen


238. Quantification of PBDE kinetics in rat tissue in a high-dose postnatal diet: Neurologic implications. B. M. Ingram, N. W. Bower, L. Driscoll

239. Forensic determination of the provenance of skeletons from a lost 19th century mental asylum cemetery. A. T. Keller, N. W. Bower, C. C. Lundstrom


241. Nutrient testing of water in Kenya, Africa. C. Williams, C. Lisse


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Undergraduate Research Poster Session

Biochemistry

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481. Structural and functional studies of the Y-family DNA polymerase Pol k. N. C. Mariano, S. Lone

482. Exploring the role of Asn152 in altering the resistance spectrum of the class C beta-lactamase CMY-2. N. P. Tim M. J. Skalweit, R. A. Powers

483. Cloning and sequencing of GAPDH from Brassica oleracea and Calendula officinalis. S. A. Al-Dhumani, B. Chite Tallmadge

484. Solid phase peptide synthesis of blocking peptides designed for blocking tissue transglutaminase cross-linking in disease. S. Gates, A. Rammelsberg

486. Experimental analysis of the human serotonin transporter. A. T. Chan, M. Cascio

487. Biophysical analysis of the interactions between the 5'- and 3'-untranslated regions of the dengue virus genome. J. J. Sanchez, E. Fasoli

488. Solubilization of subtilisin carlsberg by chemical modification with decanoic acid. J. J. Sanchez, E. Fasoli

489. Expression of CXCR3 receptor by HEK 293 cells transfected with recombinant plasmid DNA pCMV/hCXCR3. P. Edmonds, R. He


491. Identification of residues that specify substrate binding in the aldo-keto reductase, YDL124w. F. Montgomery, B. Budden, M. Roush, C. Connelly, A. Orrego, M. Page, B. Stevenson, C. Poole, C. Padgett, B. D. Feske, S. C. Mateer

492. Development and characterization of a novel amine dehydrogenase from Bacillus badius phenylalanine dehydroï¿½ J. J. Sanchez, M. Abrahamson, A. Bommarius

493. Expression, purification, and characterization of CTP: Phosphocholine cytidylyltransferase from Leishmania infant D. Lange, J. A. Friesen

494. Use of imidazole-containing protecting groups for the synthesis of RNA phosphoramidite monomers. A. S. Johnson, C. Griffin, V. K. Dunlap

495. Expression of FCHO₂ protein in different embryonic stages of Danio rerio. U. Maharjan, K. M. Cooper

496. Specificity and affinity of the silencing suppressor p14 for RNA. E. Reister, J. M. Vargason

497. Structural characterization of lead bound Synaptogmin I. T. Bright, P. McGinn, J. W. Karr

498. Development of a simple bioassay to identify antibiotic properties of natural products. C. E. Meier, K. P. Manfredi


500. Oxidative DNA damage induced by photoactivated daunomycin in the presence of copper ions. J. Venters, A. S. Johnson, K. M. Zewail-Foote

501. Pretreatment of bioenergy crops and conversion to simple sugars by enzymatic hydrolysis: A biofuel initiative. B. Joseph, J. Pinto, J. Boles


503. Conversion of cellulose to free sugars by microbial systems. J. M. Pinto, J. Boles, B. Davis

504. NMR and thermodynamic studies of the human oncogenic microRNA, miR-34c. G. H. Miner, B. S. Tolbert


507. Switching off cucurbituril-mediated processes with high-affinity guests. S. K. Kwee, V. Ramalingam, A. R. Urbach

508. Understanding the role of Y-family DNA polymerase in lesion bypass of the chemotherapeutic drug cisplatin. J. DeLouchrey, S. Lone

509. System for comparing relative rates of back electron transfer and crosslinking. C. Khorozyan, S. Khorozyan, Z. A. Perez, E. D. Stemp


512. Aggregation properties of a short peptide in the presence of Cu(II) and Zn(II) ions. C. Davidson, A. Taylor, N. F

513. General sequence and environmental parameters for G-wire self-assembly. M. Klimstra, T. Marsh


515. Temperature dependence of activation of calf intestinal alkaline phosphatase in presence of trifluoroethanol. K. Karimian, E. Csuhai

516. Imaging Babesia bovis infected erythrocytes and free parasites using atomic force microscopy. J. D. Roscioli, L Scudiero, C. Suarez

517. Synthesis of arsenate diester internucleotide linkages. C. M. Davis, M. A. Sismour, G. M. Church


519. Decay of guanine radical produced by the flash quench technique: Dependence upon quencher. E. Carrillo, V. L Torres, R. Senter, E. Stemp

520. Exploration of the substrate specificity of MalA from Bdellovibrio bacteriovorus. C. R. Isabella, J. Trecker, M. O. J. Grinstead, J. E. Hanson

521. Elucidating the polysaccharide composition of Stereocaulon glabrum. S. L. Paradise, J. M. Igartuburu, J. Romaç Colvin


523. Interactions of HDAC4 with potential substrate proteins. A. N. Matthew, R. G. Painter, T. J. Watt


525. Effects of osteopathic lymphatic pump techniques (LPT) on blood leukocyte numbers in rats with lung disease. J Jackson, L. Harden, A. Schander, C. Creasy, C. Mckee, L. Hodge

526. Use of aminopurine-containing DNA to detect DNA-protein crosslinking by fluorescence polarization. M. D. Marq Miller, Z. A. Perez, E. Stemp

527. HIV-1 nucelocapsid interactions with cTAR DNA and (-)-primer strand DNA. K. Lambert, R. Stote

528. Ternary drug delivery complex to target CD44 over expressing cancerous cell lines. A. N. Johnston, E. Soehnle Basu

529. EGFR-MAPK pathway activation in human papillomavirus infected cells. P. Barraza, M. Ozbun

530. How the age of a bacterial colony affects its ability to be treated by photodynamic therapy. M. Corey, B. Eggan, Powers, C. E. Stilts

531. Studies toward the total synthesis frondosin D. T. L. Campbell, T. V. Ovaska


533. Using the method of optical beam deflection to monitor cytotoxic rates related to induced amyloidosis. J. D. Hof: Baillargeon, D. Perretti, K. Neer, N. McCormick


535. Defining the mechanistic pathway of the antibiotic resistance enzyme OXA-1 beta lactamase. Z. Kilbourne, D. I
Leonard, R. A. Powers

536. Structure and adaptations of endotoxin in psychrophiles. C. A. Landis, G. M. Alpuche, B. Sandman, C. R. Sweet

537. Exploring the role of prenyl alcohols in isoprene biosynthesis and isoprenoid pathway-related cytotoxicity in Baci

subtilis. J. A. Barcelos, T. L. Sivy

538. HDAC3 interaction with N-CoR and GR using Co-immunoprecipitation after the treatment with dexamethasone. S

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539. Evaluation of isoflavanones as aromatase inhibitors by experimental and computational methods. A. Bankempe

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540. Identification of cryptic species accounts for the seemingly idiosyncratic secondary metabolism of Sarcophyton 

g specimens collected in Palau. B. Okada, K. Quach, C. Brayton, V. Shieh, C. S. McFadden, K. N. Maloney


542. Mutational analysis of the FH2 domain of the mammalian formin FMNL3 bound to TMR-actin. A. Kelley, M. Thon

F. Kull

543. Platinum(II) and zinc(II) complexes of the natural dyes, juglone and lawsone. C. Katkic, L. Gutierrez, G. Rawji

544. Comparing the effect of alanine substitutions, at M169 and T66 of E. coli and B. stearothermophilus PFK, on the 

and magnitude of the allosteric effect of phospho(enol)pyruvate. A. Tindall, G. Reinhart


San Diego Convention Center
Hall D

Undergraduate Research Poster Session

Chemical Education

Cosponsored by SOCED
M. Adams, Organizer

12:00 - 2:30

546. Developing greener AP level high school chemistry experiments with an emphasis on molar mass determination: spectroscopy and reaction rates. K. N. Denney, S. A. Henrie

547. Greener laboratory experiments designed for a general chemistry course with emphasis on acid-base principles. Harris, S. A. Henrie

548. Development of green A.P. chemistry experiments with emphasis on electrochemistry, freezing point depression, molar volume of a gas. P. Jones, S. A. Henrie

549. Development of AP level green chemistry laboratory experiments investigating mass relationships and chromatography. K. M. Cooper, S. A. Henrie

550. Microwave phenol methylation and solventless aldol condensation for organic laboratories. X. Chen, C. D. Evans

A. B. Kreisman, D. A. Vosburg

551. Conventional microwave one-pot solventless microscale reactions for the undergraduate laboratory. S. S. Gardeen

N. Casemore, T. M. Pappenfus

552. Green chemistry in the laboratory curriculum: Alkene synthesis by dehydration of alcohols in the presence of
Montmorillonite clay. \textbf{R. Albury, E. N. Asonganyi, S. Coll, M. W. Githui, I. J. Levy, L. Warnock}


554. Synthesis and fluorescence of a thiol-reactive probe for organic laboratories. \textbf{A. L. Patterson, B. J. Visser, A. I. Kislukhin, D. A. Vosburg}

555. Para-hydrogen induced polarization in the study of rhodium(I)-catalyzed alkyne hydrogenation: An upper-level inorganic chemistry experiment. \textbf{M. M. Sebeika, D. J. Fox}

556. Synthesis and analysis of ammonium decavanadate: An undergraduate inorganic laboratory experiment. \textbf{T. L. C. G. Sobel, E. Flores}

557. Identification of phytogenic volatile organic compounds in \textit{Larrea tridentata} (creosote bush). \textbf{J. Chau, M. A. Kop Fjetland}

558. Copper(I) catalyzed coupling to generate halogenated diphenylamines. \textbf{K. Hobbs, S. Anderson, D. Haines}


564. Creation of a new, student-acted laboratory safety video. \textbf{C. J. Reiner, L. R. Eller}


566. Studies in the impact of Cambridge Structural Database activities on spatial ability of sophomore organic chemistry students. S. F. Hornbuckle, \textbf{S. Abdelhamid}

567. Electrochemical studies of cell penetrating peptide interactions with lipid membranes. \textbf{P. W. D’Amore, C. Mansi Béranger, O. Buriez, E. Labbé, P. Messina, S. Lavielle, G. Chassaing}

568. Effects of surface functionalization on the characteristics of Hp IX-containing SiO$_2$ nanoparticles. \textbf{V. L. Weidner, Vono, B. P. Espósito, L. M. Rossi}

569. Biochemistry project lab in protein purification incorporating learning teams. \textbf{J. D. Walsh, C. M. McGibony, L. D.}

570. Self-assembly, guest capture, and spectroscopy of a metal-organic cage in water. \textbf{V. Srisuknimit, D. A. Vosburg}

571. Investigation of qualitative analysis students’ understandings of reactions in aqueous solutions. \textbf{J. Pratt, R. M. Theall}

572. Quantitative application for SDS-PAGE in an undergraduate biochemistry lab. \textbf{B. Petersen, J. Carter, S. Printz, T. T. Kroll}


574. Effective pedagogical approach to using gas chromatography mass spectrometry for the qualitative and quantitative analysis of organic chemistry lab experiments. D. G. Giarakos, \textbf{S. Patel, R. Razeghifard}

575. Purification and characterization of proteins by affinity chromatography in a first year laboratory. \textbf{N. D. Petersen, J. Tian, H. V. Jakubowski}

576. Synthesis and characterization of variant fluorescent proteins in \textit{E. Coli} in a second year foundation synthesis. \textbf{J.}
577. Single crystal $^{29}$Si solid state NMR of model silicon compounds. J. A. Nagy, R. Iuliucci, A. Kentgens

578. Development of a low-cost, low-power, portable cyclic voltammetry (CV), and its application in the undergraduate laboratory. B. S. Chohan, D. G. Sykes, J. R. Mott


580. Enhancing science education in central West Virginia with community interaction. R. Morris, W. Rollyson, M. W.

581. Student comprehension of stoichiometry using ratio and proportions. C. P. Guevara, M. F. Page

582. Beer's law: A caffeinated take on the classic experiment. K. Dooling, M. Page

583. Think like a chemist. M. R. Pruchnik, M. A. Fisher

584. Impacts of the implementation of Process Oriented Guided Inquiry Learning in an organic chemistry course. T. C. Stains

585. Development of an interdisciplinary course exploring the overlap between chemistry and art. R. G. Fremer, C. :


587. Fun demonstrations for freshman chemistry. J. Ferrantelli, D. A. Habboush


590. Culinary chemistry: Developing laboratory modules for general education and outreach. J. D. Kehlbeck, D. Kreiq

591. Constituent analysis of panadol via paper analytical devices (PADs). D. M. Vega Pantoja, V. R. Darling, T. Barst Lieberman

592. Coning methodology for serine carboypeptidase II. W. Edwards, M. A. Kopecki-Fjetland

593. Structure determination using NMR: A pedagogical approach for undergraduates. C. L. Stevens, S. E. Border, M. Fisher


595. Measurement of the relationship between self-efficacy beliefs and performance in a general chemistry course. S. Hughes, T. A. Holme

596. Intracellular delivery of siRNA by polycationic superparamagnetic nanoparticles. X. Y. Lopez, B. Castillo, V. Badi Barletta

597. Can we improve research experiences to better address nature of science concepts? J. Grit, D. Herrington, E. Ye

598. Cyclic voltammetry of the surface of cupronickel modified with methyl- and carboxylic acid- terminated phospho acids. E. Renk, K. Kruszewski, E. S. Gawalt

599. Fermentation in high school: I hope it doesn't explode! M. Thomson, T. J. Weatherwax


601. American Chemical Society/International Year of Chemistry granted Lego periodic table activity in the context of
**Halloween outreach activity.** K. N. Rohrer, C. L. Schaeer, J. A. Kingsley, T. S. Kuntzeleman, B. W. Baldwin

**602.** Using lightsticks to teach a variety of chemical concepts. T. S. Kuntzeleman, K. N. Rohrer

**603.** Pseudo-first order kinetics for the general chemistry laboratory. T. L. Rapp, A. R. Rickelmann, D. Gragson

**604.** Identification markers between ACT scores and passing rates in freshman level chemistry courses. T. Quattlebaum, T. Caston, F. Yarberry

**605.** Invisible jungle. A. J. Mijalis, R. Mallepally, P. de Figueiredo, C. Kenerley

**606.** Titanium dioxide photocatalyzed degradation of 6-methyluracil (6-MeU). N. Ruiz, K. O'Shea

**607.** Enhancing the design and performance of traditional physical chemistry laboratory experiment: Determining the vaporization ($\Delta H_{vap}$) of a pure liquid. K. Brown, S. M. Abernathy

**608.** Study of the keto/enol, in fluoride ketones and $\beta$-diketons equilibrium using semiempiric methods AM1, PM3, an initio B3LYP: A computational laboratory. I. M. Rivera, N. M. Rivera, A. M. Suárez, J. Estévez, C. Torres, T. O. Carr

**609.** Incorporating chemical demonstrations into general chemistry group activities. B. De Lima, D. M. Bregel

**610.** Computational study of physical-chemical properties of “molecules of the future” using semi empirical (PM3 and ab initio (Hartree-Fock and B3LYP) methods. N. Mendez, E. Morales, J. Estevez, C. Torres, M. Berrios

**611.** Characterization of paper analytical devices (PADs). T. L. Chamberlain, T. Barstis

**612.** Pigment analysis by HPLC. T. Binsfeld, N. J. Beyer

**613.** Rapid chromatographic separation of osajin and pomiferin in the organic chemistry laboratory course. M. J. Risell Bell, W. L. Whaley

**614.** Verification of ingredient concentrations in herbal based vitamins using the flame AA, HPLC, and GC-MS. T. Guic Fish

**615.** CPC radical clock reaction as a diradical probe in the thermal reactions of spiro[bicyclo[4.2.0]oct-2-ene-7,1'-cyclopropane]. W. F. Hancock-Cerutti, P. Leber

**616.** Nuclear magnetic resonance spectroscopy in undergraduate biochemistry labs: Analysis of amino acids and som peptides. A. Nichols, N. Vasumathi, B. Moser, E. Shelton, D. Forsyth, A. Keenum

**617.** Development of interactive Pourbaix diagrams in 3D. M. S. Crocker, J. B. Maddox, L. L. Pesterfield, G. K. Schwert

**618.** Adaptation of electronic air quality data into an instructional laboratory experiment. A. Gomez, K. Foster

San Diego Convention Center
Hall D

**Undergraduate Research Poster Session**

**Environmental Chemistry**

Cosponsored by ENVR and SOCED
Financially supported by Applied Chemical Technology Subdivision of the Industrial and Engineering Chemistry Division
M. Adams, Organizer

12:00 - 2:30

**619.** Effects of salinity and organic matter content on triclosan photo-degradation. P. P. Vaughan, J. Baptiste

**620.** Synthesis of a mixed metal Cr/Ru-MIL-101 MOF by incorporation of Ru into the framework of the Cr-MIL-101 str

622. Electrochemical trace analysis of cyanazine. S. Vue, J. H. Brown

623. Characterization of uranium uptake by *Sporobolus airoides* in the southwest region of the Navajo reservation. K. Finney, J. Benally, J. C. Ingram

624. Studies of substituent effects in phenyl chlorothionoformate esters. O. N. Hampton, M. J. D'Souza


626. Identifying mechanisms of trichloroethylene toxicity. J. B. Asfaha, V. De La Rosa, D. Corvaglia, C. Vulpe

627. Iron dissolution from montmorillonite clay: Toward understanding the effects of mineral dust aerosol deposition on ocean bioproductivity. C. E. Thompson, C. D. Hatch


630. Exploring the formation of novel nitrogen-containing compounds in the urban atmosphere by laboratory experiments. G. Giarikos, M. Campbell, S. Gao

631. Chemical characterization of "brown carbon" aerosol in the Los Angeles basin: Developing a continuous on-line reactor to capture seasonal and source variability. V. Shieh, L. N. Hawkins


633. Comparative ionophoric studies of the marine algal toxin azaspiracid. A. Rasky, D. Foping, M. T. Hamman, M. T.

634. Comparison of two multilayer adsorption isotherms used in adsorption Kohler theory: Predicting the CCN activity of common clay mineral aerosols. A. Greenaway, K. J. Harris, C. D. Hatch

635. Uptake and impacts of silver nanoparticles on *Brassica rapa*. A. K. Miller, S. E. Sanders, K. M. Metz

636. Characterization and implementation of a newly designed transmission FT-IR flow reaction system for the study of mineral dust heterogeneous chemistry. R. Weingold, M. Conine, C. D. Hatch


638. Photodecomposition of ortho-hydroxylated tetrabrominated diphenyl ether 90 in aqueous solutions. J. F. Kerrig and R. Ross

639. Fluorescence determination of pesticides for Alamosa mosquito control. S. Saville, S. Pressley, J. Shaffer, R. B. F.

640. Measurements of NO₂ and O₃ near elementary school playgrounds. S. A. Gonzalez, M. D. Schuder

641. Synthesis, characterization, and catalysis of manganese-amino acid complexes within faujasite-type zeolites. A. Pressley, L. Davis

642. Gas chromatography-mass spectroscopy of estrogen photoproducts. D. Ghere, M. Romes, C. Graves, P. M. Hare

643. Extraction and quantification of polycyclic aromatic hydrocarbons from a field burned agricultural soil in Eastern Oregon. P. Deenik, J. Riggle

644. Study of Hg levels in selected Arkansas water sources. M. Ford, J. Nix
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Correlation between dissolved iron in beach water and photochemical production of hydrogen peroxide. **S. Cheh, L. Burns, C. Clark, W. de Bruyn**

Biological and chemical changes from hydrological mechanisms. **J. C. Britting, D. Lecaptain, J. Matty, D. G. Uza Schuberg**

Desorption kinetics for chlorinated organic pollutants in model systems containing both contaminated and uncontaminated sediment. **A. R. Molina, M. M. Handlin, M. McConville, N. M. James, F. M. Dunnivant**

Siderophore interaction with hematite-water interfaces investigated using second harmonic generation and ATR-spectroscopy. **A. C. Elder, A. Mifflin**

Petroleum hydrocarbons: Effectiveness of extraction and separation from complex matrix. **J. C. Scott, N. O. Mwebi**

Evaluating the effect of ethylene propylene diene monomer (EPDM) rubber on $^{15}$N-ratio analysis. **S. Peterson-Wahl, V. Schindler**

Improving solar distillation with a parabolic trough solar concentrator. **B. Heacock, K. Daus**

Genetic modification of *E. coli* for enhanced production of cellulosic biofuel. **J. L. Reedy, L. J. Moore**

Bioplastics from algae: Making use of eutrophication. **M. VanWert, A. Cornejo, D. Karpovich**

Method development of preparing fatty acids as naphthacyl ester derivatives for HPLC analysis of oilseed crops. **Bailey, R. Gesch, N. Carpenter**

Chemical characterization of atmospheric particles from different sources in the Guánica’s Dry Forest: Inorganic organic fraction. **W. Marrero-Ortiz, O. L. Mayol-Bracero**

H2On месте and beyond: Measuring our river water. **J. Davis, A. Pentecost, C. H. Lisse**

Assessing estrogenic and androgenic activity of UV filter photoproducts. **S. C. Jensen, K. H. Wammer, D. Martin Weigelt**

Water quality analysis of the West Branch of the Susquehanna River. **C. Hawksworth, K. Rublein**

Rhamnolipid-facilitated dissolution of copper oxides. **C. Greene, J. C. Ingram**

Detecting estrogens in chicken waste. **A. F. Givens, Q. Wang, M. J. D'Souza**

Mercury-imprinted polymers for wastewater remediation. **K. Carlson, A. Mueller**

Mangrove restoration: Growing Rhizophora Mangle in a controlled environment in order to find their optimum growth requirements. **K. Wicob, K. Mughal, D. Steele, P. Santana, N. Pierre, J. Novoa, S. Henriquez, J. Grimm, M. Exposito**


Atmospheric chemical measurements and trends in Columbus, GA. **S. M. Abegaz, M. Nestor**


Production of cellulosic ethanol from dried distillers grains with solubles. **C. Crandall, A. Marette-Sekfali, C. Har-Fake, J. Carroll, J. Howard**

Physical property solutions applied to recycling problems. **G. Harnden, R. Dougherty, M. L. Golden**

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San Diego Convention Center
Hall D

**Undergraduate Research Poster Session**

**Geochemistry**

Cosponsored by GEOC and SOCED
M. Adams, Organizer

**12:00 - 2:30**


697. Analysis of trace metals in stream sediments near an abandoned copper mine along Unionville Brook, Bristol, Connecticut. **C. Singh**, M. Evans, B. Westcott

San Diego Convention Center
Hall D

**Undergraduate Research Poster Session**

**Inorganic Chemistry**

Cosponsored by SOCED
Financially supported by Applied Chemical Technology Subdivision of the Industrial and Engineering Chemistry Division
M. Adams, Organizer

**12:00 - 2:30**

698. Effects of supercritical CO$_2$ activation on the structure of metal organic frameworks. **M. Krenik**, J. Riveros


700. New naphthalenyl-substituted organotin complexes for better catalysis. **A. M. DeLaRosa**, J. Pichler, F. Uhlig


703. Chemical reactions of a phosphoric acid based rust converter on ornamental iron. **D. K. Gibson II**, C. S. Chin

704. Synthesis and optimization of high surface area substrates with metal oxide coatings. **M. D. Lee**, J. L. Kashka, H. Rakowsky


708. Kinetics and mechanism of the oxidation of guanine in oligonucleotides by a Pt(IV) complex. **Y. High**, S. Choi

709. Synthesis and characterization of R-phenylglycine methyl ester enaminoketone and related metal complexes. **G.**
Meira, C. F. Dignam

710. Stability of chromium(III) compounds in cell culture media. S. N. Crooke, J. B. Vincent

711. Gold(III) thiacrown complexes with cyclometallating ligands. D. J. Colangione, G. J. Grant


714. Oxygen transport of peroviskite ceramic membranes by irradiation with microwave technology. E. Horner, E. A. Baldauff, J. T. Williams

715. Analyzing the effects of microgravity and temperature on the crystal growth of tin using a scanning electron microscope. D. G. Giarikos, H. Mederos, R. Sung, B. Perlman, E. S. Ackerman

716. Aluminum corrosion in copper(II) and related metal ion solutions. C. Cama, S. G. Sobel

717. Microwave synthesis of a family of triazole based N-heterocyclic carbene precursors. M. Slitts, M. A. Guino-o


720. Iron(II) and zinc(II) complexes with a dipyrindylamine ligand containing an α-ketocarboxylate. K. M. Meehan, S. Friese

721. Synthesis of polyphosphine ruthenium alkyl hydride complexes. J. J. Gair, C. P. Schaller

722. Ionic liquid effects on the synthesis of silver iodide nanoparticles. R. Fraser, L. B. Seballos

723. Synthesis of Pt(II)/(IV) and Pd(II) asymmetric tetraphenylporphyrins. A. Kaur, E. Campbell, K. Cousins, L. M. W. T. Grubbs

724. Laser-induced resonance light scattering method for detecting trace amounts of curcumin in a solution. C. L. Massaro, W. T. Grubbs


729. Synthesis of phosphoryl(organyl)boranes and their uses as ligands in transition metal complexes. A. Jiang, C. T. Muñoro

730. Examination of the binding of iron(III) to the amyloid-beta peptide and its potential implications in Alzheimer’s disease. S. S. Murray, K. Mies


733. Synthesis and structural characterization of N-heterocyclic carbene(NHC) vanadium(V) oxo-halide complexes. M. Wargolet, M. D. Spicer

734. Synthesis and characterization of Cu(I) complexes for use as molecular oxygen sensors. J. A. Kessler, L. M. Hir
R. Mann

735. Synthesis of carbene ligands from amino acids and attachment to various small-molecule analogs of iron biomolecules. **S. Butch**, D. Crouthers, M. Darenbourg

736. Metal organic frameworks constructed with phosphinic acid ligands. **S. M. Boyer**, J. A. Rood


738. Exploration of new oxidative visible light photocatalysts. **T. J. Del Castillo**, J. Goddard, M. Malacria, L. Fensterb Hayes

739. Water-soluble porphyrins and DNA interactions. **K. N. Lesley**, S. R. Perry, L. R. Carr, V. M. Nickel, J. E. Bradshaw


742. Photophysical and chiroptical properties of chiral 9-coordinate lanthanide(III) complexes. **S. Lopez**, E. E. Quiroz Muller

743. Supramolecular assembly of metal oxide clusters. **J. E. Mattingly**, A. M. Beatty


748. Synthesis of molecular nanomagnets with azide bridged manganese(III) triangles. **T. Schluechtermann**, R. Inç Brechin


750. Titanium dioxide thin film microfluidics. **R. A. Reinhard**, C. Campbell

751. Complexation studies of Ru(II) and Re(I) pendant polyamine host complexes. **A. M. Putt**, M. Harris

752. Tuning structural and photoluminescent properties of lanthanide tetracyanoplatinates by incorporating borate ligands. **N. Pham**, R. E. Sykora, A. Weber, X. Chen

753. Effects of alkali metal substitution in a series of lanthanide cyanometallates. **M. R. Pischek**, R. E. Sykora, A. We Barletta, Z. Assefa

754. Effect of energy transfer on various lanthanide ions by Au$_2$Pt$_4$ clusters. **F. D. White**, R. E. Sykora, X. Chen, L. L Z. Assefa

755. Investigating tin(II) fluoride as a Lewis acid catalyst for biodiesel production. **E. A. Benton**, R. W. Hartmann


757. Lewis acid catalyzed methylation of oleic acid for biodiesel synthesis: Exploring the tin(II) halides. **N. Wright**, K Nichols, R. Hartmann

758. Analysis of zirconium based alloys using an internal-stat variable model. **A. J. Weiss**, P. Follansbee


761. Bridging of Keggin sandwiches of the form \([M^{II}(OH)_{2}]_{3}(PW_{9}O_{34})_{2}\) by the coordination of organic ligands. J. K. Christenson, W. A. Neiwert

762. Preparation and properties of metal-organic frameworks of cobalt nitrate and 4, 4'-bipyridine. K. Mauger-Sonnek, C. L. Weeks

763. Investigation of Lewis acid catalytic abilities of tungsten (IV) compounds on the esterification of oleic acid as a model for biodiesel. J. J. Chambers, M. Kingsley, H. J. Ford, J. L. Mullin


765. Study of the inclusion of a Ag(I)-Nimesulide complex into the cavity of β-cyclodextrin. A. L. Thompson, R. E. P. Abbehausen, F. R. Bergamini, P. P. Corbi

766. XANES studies of cobalt compounds. J. C. Kaine, D. L. Tierney

767. Ground state spectroscopy of five coordinate cobalt(II) complexes. S. M. Greer, D. L. Tierney

768. Using phase transfer catalysis and microwave energy to rapidly prepare group six carbonyl complexes. P. Dizon, K. Birdwhistell

769. Using borohydride catalysis and microwave energy to rapidly prepare group six carbonyl complexes. K. A. Osavi Dizon, K. Birdwhistell

770. Investigation of lanthanum(III) coordination chemistry in room temperature ionic liquids. J. C. Porter, S. P. Pas

771. Series of multidentate ligands utilizing 1,3-diaminobenzene or 2,6-diaminotoluene, and metal complexes thereof synthesizes and characterization. A. Koglin, M. Altaii, M. A. Benvenuto

772. Recent developments in the synthesis of a series of podand ligands utilizing diethylenetriamine (N3), triethylenetetraamine (N4), or spermine (sp-N4). C. Kashat, M. Cross, A. Mordi, V. Chimedzu, C. Pattah, L. Gschwenk, A. Benvenuto


774. N-heterocyclic carbene-based iridium(I) and rhodium(I) complexes: Structure and catalytic properties. D. P. Wi, G. S. Nichol, L. J. Anna, E. Rajaseelan


776. Transition metal doped tin dioxide as alternative cathode support in proton exchange membrane fuel cells. B. L. J. L. Hunting

777. Synthesis and reactivity studies on the polynuclear metal cluster Os₃(CO)₆[1,2-p-tolyl]S(C₆H₄)PPh₂]. J. M. Met Richmond, V. Nesterov

778. Novel solid nano-particles for low temperature selective synthesis of methyl levulinate from carbohydrates and t resources. J. N. Metz, L. Jin, C. Kuo, S. L. Suib

780. Complex metal sulfides from layered double hydroxide precursors. C. P. Glagola, D. P. Sunderland

781. Methyl ester production of oleic acid catalyzed by tin(II) bromide. B. Laubacker, R. W. Hartmann

782. Synthesis and characterization of chromium(III) complexes of cis-P,P'-diphenyl-1,4-diphospha-cyclohexane for l alpha olefin catalysis. A. W. Goodwin, M. L. Helm

783. Synthesis and characterization of P,P'-1,4-diphospha-cyclohexane derivatives and their metal coordination react M. Cranston, M. L. Helm

784. Effect of electropolishing and anodization on electrochemical properties of titanium. E. Bullert, K. Rohly


786. Synthesis and thermal decomposition of tris-diethyldithiocarbamato iron(IV) hexafluorophosphate. R. Z. Beck, ... Coffield, N. V. Duffy, A. F. Hepp

787. B-F bond activation of triazaborolopyridinium fluoride dyes. S. Dionicio, T. Lin, F. P. Gabbaï


789. Iron and cobalt complexes of a paramagnetic terpyridine analog. S. Ponce, T. Ta, C. Richardson, D. J. Brook

790. Design, synthesis, and characterization of porphyrin and fullerene containing model compounds for artificial photosynthesis. L. Freeman, A. van der Est


793. Bisamine boron cations from 1,4-dimethylpiperazine. J. A. Johnson, V. R. Miller


796. Analysis of binding between estrogentic compounds and humic substances using STDD-NMR with water suppress Bedard, K. D. Sienerth

797. Scanning electrochemical microscopy investigation of high carbon CoCrMo alloys used in metal-on-metal (MoM) bearings. J. Meyer, R. J. LeSuer

798. Synthesis, characterization and electrochemistry of possible CO2 reduction catalysts of the form [M(bpca)2]^{(n-2)} Davidson, K. D. Sienerth


800. Modeling enantioselectivity in chelate-controlled synthesis of ansa-zirconocenes using a chiral 1,1'-Bi(2-naphthyl directing ligand: A DFT study. L. C. Frenette, D. C. Wiser


803. Substitution reactions of borohydride and cyanoborohydride ions with hexafluorophosphate ions. A. Kafle, G. M
804. Metallomorphinochlorins: Mapping the conformational space of morphinochlorins. A. Ticho, L. P. Samankum Zeller, C. Brückner

805. Solution processed cobalt sulfate and cobalt phosphate thin films prepared from aqueous precursors. N. Nguyen Kelsey, C. Nguyen, S. Nielson, C. L. Heideman


808. Investigation of the interaction between zinc and the beta amyloid peptide. R. A. Ouma, K. Mies

809. Synthesis and characterization of cyclen based Rh(III) metallointercalators for DNA binding. H. L. Hancock, S. Haefner

810. Synthesis and reactivity of vanadium(V) thiolates. A. A. Ellsworth, J. J. Smee

811. Immobilized Sonogashira catalyst systems for C-C coupling reactions: New mechanistic insights and improved recyclability. J. Alderson, J. Pope, J. Bluemel


813. What really determines the absorption of CO stretching of arene molybdenum tricarbonyl? J. Vaughn, A. Zidar


816. Doubly linked diruthenium metal complexes containing a naphthalene ligand. E. Alqassab, H. Salembier, T. Han M. Chin, R. Wallace, M. B. Hall, L. M. Perez, W. Brenssel

817. Studies into the structure and reactivity of homoleptic and heteroleptic salicylaldiminato magnesium complexes. Goldkamp, G. T. Quinque, J. A. Rood


819. Toward the synthesis and characterization of metallothiosalens. M. E. Shaffer, D. S. McBain, B. M. Johnson, C. E. C. Wasinger

820. Electronic structure of lanthanide acetylacetonate complexes. T. Seguin, B. L. Westcott, N. E. Gruhn

821. Pb(II) extraction and optical sensing by dinitro-phenylenediamine derivatives and phenazine analogs. Y. Reynal Dela Cruz, L. I. Lozano-Lewis, Y. Zhang, S. R. Marder, K. Kavallieratos

822. Metal-directed multiprotein structures for redox catalysis by copper. A. Perez, A. Medina-Morales, F. A. Tezcan

823. Synthesis, characterization, and fluorescence and cytotoxicity studies of rhenium(I) (tricarbonyl)(α-diimine) pentylicarbonato complexes. B. V. Powell, S. Mandal

824. Design and synthesis of bimetallic DNA intercalators possessing two Rh(III) (9,10-diaminophenanthroline) groups. Goncalo, D. Rosenbaum, S. C. Haefner

825. Explaining the role of multiple titanium dioxide blocking layers in dye sensitized solar cells. S. Kadylak, K. Lafev Kariuki, K. Skorenko, J. Weiss

826. Activation of C-H and C-F bonds by in situ generated Cp*Co(I) fragments. B. Daws, F. Hung-Low, C. A. Bradley

827. Synthesis, characterization, and DNA binding and cleavage properties of a platinum(II) Schiff base complex. L. J.
Guitierrez, G. Rawji

828. Axially ligated ruthenium porphyrin dyes in dye sensitized solar cells. E. W. Driscoll, H. Van Ryswyk

829. Electron transfer kinetics in ionic liquids: Synthesis and characterization of a binuclear donor-bridge-acceptor of (bpy)$_2$Ru$^{	ext{II}}$-mcbpy-(Pro)$_2$-Apy-Ru$^{	ext{III}}$(NH$_3$)$_5$. F. Frasca, A. Meloi, R. Abdel Malak Rached, J. Wishart

830. Synthesis and characterization multinuclear palladium and platinum complexes with pyridine based bridging ligands. R. A. Adrian

831. Examination and characterization of an adamantyl-substituted unsaturated carbene. J. R. Burns, J. K. Vohs

832. Synthesis, characterization, and NO affinity of an electron poor water soluble porphyrin. C. M. Rathbun, J. Pellegrino


834. Hybrid thiophene/phenol multidentate ligands. P. J. Burns, J. R. Farrell

835. Using Mannich condensations to model the structure and function of metallo-enzyme active-sites. P. R. Reneha


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Hall D

Undergraduate Research Poster Session

Medicinal Chemistry

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Financially supported by Applied Chemical Technology Subdivision of the Industrial and Engineering Chemistry Division
M. Adams, Organizer

12:00 - 2:30

837. Extraction and cytotoxic studies of essential oils of Cnidoscolus chayamansa. S. C. Acevedo-Muñiz, N. M. Rive Portalatin


841. Qualitative and quantitative analysis of 45 year old pentobarbital samples. S. F. Hornbuckle, A. Farooq


843. Screening of organic compounds for use as photosensitizers in photodynamic therapy (PDT) treatment of cancer. Baker, C. Batiste, K. LaiHing

845. Identification of novel inhibitors of low molecular weight tyrosine phosphatase via virtual screening. C. L. Seiler Jakubowski, E. J. McIntee


847. Release characteristics of salicylic acid and bismuth from stomach relief suspensions. A. C. Smith, A. S. Durden Koether

848. Using computational docking to assess the role of chirality on drug metabolism by CYP2C9. T. Simon, G. Miller,

849. Investigation of chirality and its effects on the computational docking of various enantiospecific molecules with (T. Simon, G. Miller, M. Perry

850. Synthesis and testing of the porphyrin H$_2$TPPSO for photodynamic therapy. S. R. Perry, K. N. Lesley, L. R. Carr, Nickel, J. E. Bradshaw, T. E. Hayes


854. Methodology development of nucleophilic addition to cefotaxime. Y. Hao, S. A. Brouet

855. Chemical composition of the hexane extract of Hypericum mutilum. K. B. Manning, G. E. Henry

856. Progress on the synthesis of pyrrole C$_5$-nucleosides as potential antiviral agents. C. P. James, Z. M. Orr, B. S. Burnham


858. Computational analysis of ajulemic acid binding sites in PPARy-similar proteins. J. Levy, L. Hensley, M. Perry

859. Preparation of more polar analogs of a novel chemical series with activity against the malaria parasite Plasmodium falciparum. A. D. Gaidry, C. E. Gutteridge, M. T. O'Neil


862. Genetic algorithm modeling of dimeric aryl diketo acid inhibitors for HIV-1 integrase. C. L. Turner, M. A. Gonzal M. Ko, A. R. Hadaegh

863. Molecular docking studies of novel aurone derivatives as selective COX-2 inhibitors. B. McKinnon, O. Newman


865. In silico analysis and synthesis of anticancer metal-based drug-linker building blocks. B. B. Duerk, J. D. Smith


867. Synthesis of analogs of the anticancer agent TU100. D. Cano, C. Harple, R. J. Sheaff, J. C. DiCesare

868. Design, synthesis, and evaluation of a novel series of isoprenylated coumarins as promising pancreatic cancer
therapeutics. M. Jun, T. Devji, A. Webb, D. Carrico-Moniz


870. Memantine and riluzole do not reverse the neurotoxic effects resulting from chronic exposure to depleted uraniu Corrigan, S. M. Lasley, B. Hanerhoff, K. Pastucha

871. Structure-based design of a novel trifluoromethyl substituted aurone as a potential anticancer agent. A. Zuver, McKinnon, C. Mills

872. Modeling the free radical scavenging activity of aurone derivatives, potential inhibitors of cyclooxygenase-2 (COX). L. Maimo, C. Mills


874. Electrochemical studies of possible new drugs to treat Chagas disease. A. W. Arena, F. E. Arrieta, M. Papadop D. K. Smith

875. Pyrralinone-yrroolidine oligomers as universal peptidomimetics. K. M. Bierschenk, K. Burgess, A. Raghuhraman,


877. Developing a mouse model for the study of podocyte regeneration after injury. J. A. Gomez, N. Wanner, F. Graü T. Huber


879. Regioselective nucleophilic ring opening of aziridines in the synthesis of T1AM analogs. J. L. Whitmore, O. Whi D. Enck, M. E. Hart

880. Direct detection of active pharmaceutical ingredients in intact tablets by helium plasma ionization mass spectror Mahr, Z. Yang, A. B. Attygalle

881. Determination of potential skin sensitivity to chemical products based on their reactivity. A. D. Castaneda, J. Guldemann, E. Gimenez-Arnau, J. Lepoittevin

882. Preparation of a photolabile GLP-1R ligand. A. M. Vattelana, A. Badea, D. R. Haines

883. Toxicity studies of polycationic polymers on mammalian cell lines. C. A. Lazu, P. Cruz, G. Barletta

884. Progress toward the flinderole alkaloids. B. Wakefield, A. Benson, M. Brown, N. Williams

885. Investigating the use of small molecule ligands in stabilizing the West Nile Virus glycoprotein at low pH. C. Leibi S. Green


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Undergraduate Research Poster Session

Nanotechnology

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M. Adams, Organizer

12:00 - 2:30

887. Chemically directed assembly of photoactive metal oxide nanoparticle heterojunctions via the copper-catalyzed i alkyne cycloaddition "click" reaction. **A. C. Cardiel**, M. C. Benson, L. M. Bishop, K. Louis, J. Yeager, Y. Tan, R. J. Hamers

888. Folate functionalization of surfactant-templated mesoporous silicates used as anticancer drug delivery systems. **Johnson**, I. Lagadic


891. Fabrication of supported palladium nanoparticles on polycarbonate membranes as catalysts for the Suzuki reacti **A. Reynolds**, C. E. Harris, K. M. Metz


893. Direct in vivo observation of microbi ally synthesized nanostructured materials. **J. R. Lazzari-Dean**, I. R. McFari Y. Ei-Naggar

894. Syntheses of polystyrene-organoclay nanocomposites using thiol-functionalized organoclays. **L. Foss**, I. Lagadic


897. Preparation and characterization of polyacrylonitrile (PAN) and polylactic acid (PLA) electrospun nanofibers and nanoparticle embedded nanofibers using optical and scanning electron microscopy. **R. Reid, C. Dill, N. Joseph**, J. Ra LaiHing, C. Owens, S. Olesik


899. Synthesis and characterization of nanostructured strontium titanate (SrTiO$_3$) particles. **N. Buisson**, C. J. O'Con

900. Fabrication and characterization of graphite supported nanoparticles as catalysts for the Suzuki reaction. **M. R. I M. Metz**

901. Synthesis of supported palladium nanocubes for catalysis. **C. M. Kruppe**, K. M. Metz

902. Self-assembly of gold nanoparticles through "click" chemistry. **A. M. Yee**, N. T. Flynn


904. Solute-solvent induced halogen bonding by silver nanostructures. **J. Shamburger**, D. A. Perry

905. Characterization of gold nanoparticles in size and concentration by UV-Vis spectroscopy. **A. M. LeQuang**, A. Yaa Mellis

906. Studies on toxicity and photothermal effects in gold nanoparticles. C. Humphrey, **A. Yaacoub**, A. LeQuang, M. Larios-Sanz, B. Mellis

907. Ligand effects on nanosphere and nanobelt photoluminescence. **R. Smith**, A. M. Munro

908. Impact of gold and silver nanostructures on adsorption characteristics of benzamide and its derivatives. **T. Cher Perry**
909. Underpotential deposition of Ni on Cu$_2$O. **D. Shoals, K. Sampson, A. Fillinger**


914. Development of superhydrophobic electrospun nanofibers with raspberry like particles. **M. Womble, R. Ganz, R. Ozer**

915. Development of superhydrophobic electrospun polystyrene nanofibers with raspberry like particles. **D. Ganz, M. Womble, R. O. R**

916. Degradation and absorption of rhodamine B using TiO$_2$ calcined in O$_2$ and H$_2$. **J. Benoy, E. Obuya**


918. In silico optimization of elliptical nanowells SERS substrates. **B. R. Covello, J. Montgomery**

919. Formation of gold nanoparticles and nanorods for applications in SERS and SEIRA. **D. A. Perry, K. Primm**

920. Microwave synthesis of hematite nanostructures for use in water-splitting solar cells. **S. L. Esarey, J. Katz**


922. Synthesis of tungsten trioxide and the effects of size and shape on electrochromism. **B. Huntley, A. Schick**

923. Formation of superhydrophobic surfaces from silica nanoparticles. **I. N. Haugan, N. E. Schlotter**


925. Sorption of selenium oxoanions to synthesized titanium (IV) oxide nanoparticles. **A. A. Lasisi, I. Pumure**

926. Growth of ZnO nanorods on electrospun fibers. **L. Sutherlin, R. R. Ozer**

927. Transparent ZnO and doped ZnO thin films semiconducting thin films grown by spray pyrolysis. **G. Greenidge, J. Katz**

928. Growth of ZnO nanorods on biodegradable electrospun fibers. **U. Butt, R. R. Ozer**

929. CVD growth of graphene on copper foil and transfer on desired substrate. **S. Farooq, D. Benjamin, X. Chen, Z. Lu**


931. Self-assembly of amyloid beta peptide over dialkyl disulfide functionalized nano gold colloidal particles. **G. T. M. S. A. L. Tran, K. Yokoyama**


933. Synthesizing and characterizing doped hematite nanostructures for solar energy conversion devices. **M. Lipner**


935. Self-assembled monolayers of carbon nanospheres on metal substrates: Applications in electrochemistry. **R. Tik**
936. Effects of metal nanoparticle formation and their applications using plant growth regulators. N. H. Sarker, Y. M. C. J. Hernandez, I. A. Banerjee

937. Surface-modified nanoparticles from surfactant-free emulsion polymerization in an acoustic field. C. Ward, M. J. Oliver, N. Gray

938. Probing the surfaces of acoustically-prepared nanoparticles using fluorescence quenching. J. Oliver, M. Jenkins, Ward, N. Gray

939. Self-assembly of porphyrin nanostructures. J. F. Callejas, J. D. Batteas, A. Diaz


942. Nanoscale polymeric structures as biotemplates: Towards high-throughput, high density protein sensors. M. Mil-Song, H. Zhou, J. Hahm

943. Preparation of palladium and gold-palladium nanoisland films by nanoparticle self-assembly and heat treatment. Shon, Y. Abate, Y. Shon

944. Microwave-assisted synthesis of fluorescently labeled nanoparticles for measuring particle internalization by HeL via flow cytometry. B. Hepburn, A. N. Harris, R. A. Petros

945. Synthesis of gold nanoparticles using polyethermonoamines. A. Rubio, W. Crawford

946. Withdrawn.

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Undergraduate Research Poster Session

Organic Chemistry

Cosponsored by SOCED
Financially supported by Applied Chemical Technology Subdivision of the Industrial and Engineering Chemistry Division
M. Adams, Organizer

12:00 - 2:30

947. Unusual facile metal-free synthesis of disubstituted benzocyclobutenes and indenes: Method and mechanistic study. I. Kostenko, P. Ploypradith, P. Sarnpitak

948. Synthesis of Chagas disease-relevant oligosaccharides Galp(β1-6)GlcNAcOBn and Fucp(β1-6)GlcNAcOBn. A. S. I.


950. Stereochemically controlled dihydroxylations in the synthesis of polyhydroxylated pyrrolizidines. E. A. Granatos Liotta


952. Progress toward an azaborine-containing pinwheel polycyclic aromatic hyrdocarbon analog. T. A. Yocum, E. H.

953. Synthesis of lentiginosine from D–glucose. S. Sweeney, L. J. Liotta

D. C. Forbes

955. Modifying metal-binding ligands of molecular motors based on star-shaped ruthenium complexes. N. Austin, R. G. Rapenne


957. Synthesis of a polyhydroxylated pyrrolidine from a D-altrose derivative. K. McCarthy, L. Liotta

958. Preparation of 3- and 4-substituted pyrroles: Progress towards an alpha-helical peptidomimetic library. C. C. Ph P. Schramm

959. Synthesis of aryl azide analogs of T-0632 to investigate the GLP-1R binding site. S. M. Anderson, D. R. Haines

960. Making pentamidine analogs as potential myotonic dystrophy drugs. S. Alvare

961. 3-(Di-tert-butylphosphonium)propane sulfonate as a recyclable ligand for palladium-catalyzed cross-coupling re. of aryl bromides and chlorides. R. T. Mustain, J. N. Moore, K. H. Shaughnessy

962. Improving the synthetic method for alpha-sodium glucoheptonate. P. S. Mott, M. Hayes

963. Synthesis of porphyrin-based organic ligands for sensitization of trivalent lanthanide ions. T. Barnum, V. Bulach Hosseini


965. Bridge N-H vs. bridge C-H as an H-bond donor in the crystal structures of phenylhydrazones. E. O. Rohkohl, W. Ojala

966. Squaraine dyes for photovoltaic and bioimaging applications. M. Colon Gomez, S. Yao, K. D. Belfield


969. Aggregation and photophysical studies of new squaraine dyes. H. S. Haniff, Y. Zhang, K. D. Belfield

970. Investigation of camphor derived ketone and iminium salt catalysts for asymmetric epoxidation of olefins. A. M. Trainor, C. S. Williams, K. R. Overly

971. Progress toward the synthesis of poison dart frog alkaloid 237I. E. T. Stultz, M. S. Leonard

972. Progress toward the synthesis of poison dart frog alkaloid 245F. T. A. Warmbrodt, M. S. Leonard

973. Total synthesis of S-equol using phase-transfer catalysis. C. A. Allred

974. Synthesis of sterically hindered cyclic amines. R. Santhan-Oommen, O. Daugulis

975. Monitoring the aldol reaction of 2‘hydroxyacetophenone with benzaldehyde by NMR. C. B. Schmelkin, N. M. Wa


977. Structure-activity relationships in thiophene-based SHIP2 inhibitors. B. M. Kellum, W. G. Kerr, J. D. Chisholm

978. Modification of transition metal-catalyzed reactions by the addition of DMSO: Selective synthesis of cyclooctatet

979. Natural products extraction: Alkaloids from Cinchona bark. J. D. Haines, S. M. Ensel

980. Progress toward the synthesis of the degradation products of the insecticide Clothianidin. R. Fredizzi, J. Katz, I Tautges, D. B. Ball

981. Investigating the cell-free ‘metabiosynthesis’ of pyrrole-2-aminoimidazole alkaloids as novel biosynthetic precurs
clathrodin derivatives. S. M. Chihak, Y. Wang, C. Xu, D. Romo

982. Optimization of the allylic oxidation of 1-phenyl-1-cyclohexene and (+)-valencene using the Simplex method. L. Marín-Barrios, F. M. Guerra, F. Moreno-Dorado, G. M. Massanet, J. Romagni

983. Synthesis of an organic ligand for coordination with POMs to form a 2D nanoarray. T. J. Fosso, W. Neiwert


985. Palladium-catalyzed alkylation of aromatic imidates. J. Pilloni, S. Waetzig


987. Application of the alkynoic acid cyclization toward the preparation of heterocyclic compounds. E. J. Uzelac, J. L. Marple, T. N. Jones


989. Transition metal catalyzed homo-coupling of cyclic amines resulting in a direct formation of an N-N bond. J. L. R Fotie, B. T. Bhattarai

990. Design, synthesis, and inhibition studies of ethynylcoumarin derivatives as potential inhibitors for cytochrome P: 1A1, 1A2, 2B1, and 2A6. T. T. Nguyen


992. Synthesis of an A2 monomer: Difluorobis(4-hydroxylphenyl)methane. B. B. Hull, R. Kopitzke


994. DNA binding studies of 9-methylsulfanylphenanthrene. A. Briegel, A. H. Predecki


997. Isolation and characterization of podophyllotoxin from mayapple and other plants. K. A. Schroeder, A. N. French

998. Progress toward the total synthesis of spathoside. W. Rollyson, M. W. Fultz

999. Microwave synthesis of N-phenyl succinimides. R. Morris, M. W. Fultz, T. F. Guetzloff

1000. Investigation of regioselectivity in the nickel-mediated decarbonylative cross-coupling of imides with organozin reagents. T. B. Endean, J. B. Johnson


1004. Intramolecular photocycloaddition of ester and amide tethered alkenes to aromatic ketones. C. Lee, K. McMahan


1006. Amide-acetal Claisen rearrangements with acetics of cyclic amides. M. M. Kossarian, G. Daub, M. Van Vleet

1007. Development of a green single pot synthesis of isoxazolines via 1,3-dipolar cycloaddition of nitrile oxides. B. J. Campbell, C. Montecino, D. M. Solano


1010. Studies of T-0632 interactions with GLP-1R: Synthesis of a photolabile analog. **E. Buckle**, D. Haines


1012. Titanium (II)-catalyzed hydroborations of unsaturated heteroatomic substrates. **A. A. Oluyadi**, C. N. Muhoro


1015. Syntheses, electronic properties and photochemical reactivity of symmetrical arylethynyl arenediyynes. **S. N. Guevara**, N. M. Horton, J. D. Spence


1020. Chemoselective oxidation of 6,13-bis(decylthio)pentacene. **E. Cho**

1021. Synthesis of dihydropyrrans by tandem reaction of cyclic boronic half acids. **E. Couch**, L. McNulty

1022. Synthesis of fused bicyclic dihydropyrrans. **S. Stavretis**, L. McNulty

1023. Synthesis of guanosine hydrogels with water-soluble aromatic functional groups. **A. A. Khorasani**, O. Nassar, Lawrence


1025. Attempts to improve the synthesis of 4,6,8-trimethylazulene and its reactions with electrophiles. J. Rewerts, A. Stafford, **G. L. Milligan**


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1029. Microwave assisted conversion of glycerol in heterogeneous processes. **B. Lee**, S. Marincean


1033. Mild reduction of amides to amines. **G. T. Perell**, J. Ippoliti

1034. Blending and thermal degradation studies of novel fire-retardant polynorbornenes with various substrates. **K. I Poynter**, A. N. Barrett, G. J. Gabriel

1035. Cyclopropanation-cross-coupling strategy for the synthesis of chiral alkylidene cyclopropanes. **R. F. Algera**, D.
1036. WVO as a sustainable source in the development of polyurethane based coatings. A. A. Santiago, K. Bodenstedt, M. F. Page

1037. Towards green polyureas from ricinoleic acid. J. P. Robledo, M. Pasos, M. F. Page

1038. Microwave irradiation and silica-gel bound reagents in Friedel-Craft alkylation. L. R. Zupp, V. L. Campanella, Priever

1039. Studies on the resonance stabilization of conjugated aldehydes and corresponding imines. M. Sauk, R. Haley, Railing

1040. Application and utility of α-cyano chalcones in synthesis. C. B. Schwamb, S. R. Sieck


1042. Studies on the resonance stabilization of conjugated ketones and corresponding imines. L. M. Kern, M. E. Rail


1044. Diversification of thiol phosphonamidates. E. R. Wright, S. R. Sieck


1046. Creation of versatile trivalent core for glycodendrimer synthesis. G. Paragas, K. McReynolds

1047. Synthesis and evaluation of the antioxidant activity of novel benzisoxazole 2-oxide containing flavanones. T. Karsonovich, M. G. Kociolek

1048. Green electrophilic aromatic substitution reactions using graphite as a catalyst. A. B. Waghe, D. E. Ashley

1049. 1,2-Benzisoxazole 2-oxides, a new class of UV-absorbing compounds. J. S. Casbohm, M. G. Kociolek

1050. Resonance and the silicon - carbon double bond. G. Kortman, W. R. Winchester

1051. Efficient one pot synthesis of alkane thiol using potassium thioacetate and microwave assisted synthesis. B. J. A. James, R. Richter

1052. Progress towards the synthesis of rolloamide A and its analogs. A. Pottella Perez, D. M. Solano

1053. Phosphonic acid promoted aldol-type reactions between imines and unactivated aldehydes. C. P. Durant, C. L. Meyer, L. O. Davis


1055. Effect of benzannulation on the antiaromaticity of cycloheptatrienyl anions. V. Cheng, K. Whittaker, A. Thrall, S. Mills

1056. Using substituents to modify antiaromaticity: The role of delocalization. R. Navaz Gangji, M. McDowell, J. Ng, S. Mills

1057. 4,4'-Linked indenylidene dication: Using antiaromaticity to probe patterns of delocalization. L. Holguin, A. Me D. Powers, N. S. Mills

1058. Studies of (2,3-dihydro-1H-inden-1-yl)methanol. L. Motta, L. F. Silva, I. R. Maia


1060. Continuous flow synthesis of consumable chemicals. K. F. Gezehegn, V. Feng
1061. Synthesis of cyclopropyl peptidomimetics as potential BACE and HCV NS3-4a protease inhibitors. N. Dunlap, D Gouger, C. Carter, B. Alemayehu

1062. Pyrazole and pyrazolone synthesis as an undergraduate laboratory experiment. C. Fontana, L. L. Rossi, E. Odi

1063. Approach to the synthesis of belactosin A. N. Dunlap, J. Basham, D. Niroula

1064. Synthesis of labeled mevalonolactone. N. Dunlap, D. Antonelli

1065. Boronate urea catalyzed reactions of strained rings. V. Garza, S. So, T. Auvil, A. Mattson

1066. Synthesis of C-glycosyl compounds and the study of its interaction with the plasma protein bovine serum albumin. Silva, L. Rossi


1069. Synthesis of N-terminal histidine analogs towards the activation of GLP-1R. K. C. Marcus, D. R. Haines

1070. Synthesis of variously sized benzo-crown ethers for the binding of dibenzylammonium ions. V. Iungerich, L. S. L. Blosser, P. A. Bonvallet

1071. Influence of ring size and substituent effects in the binding of benzo-crown ethers with dibenzylammonium ion. Blosser, P. A. Bonvallet

1072. Monolayer stability of quantum dots. O. B. Fatunmbi, V. Rotello

1073. Photocatalytic oxidative cyclization of 1,3-amino alcohols to hemiaminal ethers. C. C. Frederickson, U. Garin, C. Marvin

1074. Free radical mediated ring expansion to seven-membered bicyclic systems. K. D. Otley, R. S. Woodworth, L. J. I. J. Rosenstein


1076. Formation of multicyclic systems via radical cascade reactions. T. J. Steiman, I. J. Rosenstein

1077. Oxidative alkene cleavage and Wittig chemistry of N-Boc 2-allylpyrrolidine. C. L. Mathis, C. C. Marvin

1078. Determination of the dihedral angles in predominantly trans-1,2-disubstituted ethane systems using NMR spectroscopy. T. Liu, J. D. Roberts

1079. Alkene cross metathesis reactions with N-Boc 2-allylpyrrolidine. B. M. Gist, C. C. Marvin

1080. Synthesis of a coronene derivative for incorporation into dye-sensitized solar cells. S. Wolock, J. Reczek

1081. Development of a direct method to convert AZT into its 5′-cyano derivative. J. A. Nagy, M. Harris


1083. β-Hydroxy-γ-lactams: A Reformatsky approach. B. N. Lichtenthal, J. C. Adrian

1084. Synthesis and characterization of novel isoluminol derivatives. N. A. Serratore, J. T. Ippoliti

1085. Organocatalyzed ketone-aldehyde aldol condensation mechanism: A kinetic study. L. J. Manley, J. C. Adrian

1086. Analysis of o-vanillylindene anilines prepared by the ethyl lactate method. M. K. Linder, A. Marmet, J. Bennett

1087. Implementation of computational techniques into undergraduate organic chemistry lecture and laboratory. A. I. M. K. Linder, J. Bennett

1088. Electrochemical reductive cyclization of activated alkenes in room temperature ionic liquids. A. Jones, R.
1089. Theoretical and experimental analysis of photochromic salicylidene anilines. **N. Mihou**, M. Record, J. Bennett


1091. Cross metathesis strategy directed towards the synthesis of conjugated polyenes. **L. Carlin**, H. Kronenwetter, Manchanayakage


1094. More efficient synthesis of derivatized anthracene diimides for incorporation into organic electronics. **A. C. Murray**


1098. Stereoselective addition of chiral aldehydes to oxazolines. **E. M. Regan**, D. R. Haines


1100. Formyl- and vinylcarbenes from nonnitrogenous sources. **J. B. Shaum**, D. M. Thamattoor

1101. Discovery and optimization of small molecule inhibitors for the botulinum neurotoxin type E protease. **A. Burt**, Fawaz, N. T. Salzameda

1102. Peptide catalysts for the asymmetric aldol reaction. **V. T. Vu**, O. A. Karmach, N. T. Salzameda

1103. Electrochemical properties of polyaniline free radicals. **T. Hom**, D. J. Brook


1105. Polyhydroxy verdazyl radicals. **V. Gaoiran, T. Truong**, D. J. Brook


1107. Improving the synthesis of 10b-aza-10c-borapyrene. **L. B. McDermott**, E. H. Fort


1109. Isotactic polyactic acid (PLA) formation with chiral aluminum hydroxyquinolate catalysts. **S. M. Hubbard**, M. E C. K. Williams, C. M. Bakewell

1110. Synthesis of fatty acid dimethyl acetals from fatty acid methyl esters by reduction with DIBAL and methylation BF$_3$. **T. J. McDaniel**, T. W. Nalli


1114. Studies towards the synthesis of the C14–C24 polypropionate fragment of formamicin. **J. A. Vargas**, E. M. Val A. Prieto


1118. Asymmetric synthesis of chiral lactones using biocatalysis as the key step. **S. Franz**, R. Watkins, J. Elizah, M. G. Gumina, B. Feske


1121. Optimizing conditions for the reduction of aromatic and aliphatic nitro compounds to amines. **M. Holder, D. J. Swartling**


1124. Using solar energy in the green synthesis of deep eutectic solvents. **L. Monroe, D. J. Swartling**


1127. Progress towards selectively fluorinated curcumin. **B. Burdette, D. Shelman**, M. J. Campbell

1128. Efficient synthesis of diphenylacetylene for instructional use. D. Predecki, **J. Lynch**

1129. Studies directed toward the synthesis of the rupestines. **P. Shelton**, T. Eivers, M. Konev, J. R. Vyvyan


1132. Synthesis of poly(benzalacetone) polymers. **A. A. Botto**, W. Crawford

1133. Synthesis and evaluation of emulsifiers for naphthenic and paraffinic metalworking fluids from an alkenylsuccin anhydride. **I. Ettehadieh**, W. Crawford

1134. Multiple thiophene-fused aromatic compounds as electron-donor columnar liquid crystals. **K. E. Huff**


1136. Oxidative coupling of 2,6-disubstituted phenols to di-quinones. **N. Christians**, W. Crawford

1138. Synthesis of 5,6-dihydro-2,4-dimethyl-5-oxobenzo[c][2,7]naphthyridine-1-carboxylic acid ethyl ester employing o-nitrobenzaldehyde by way of the Hantzch Pyridine Synthesis. N. G. Zaibaq, W. Crawford


1140. Divergent reactivity towards nucleophiles in 1H-1-(1-alkynyl)-5-methyl-1,2,3-benziodoxathiole 3,3-dioxides. R. Carmichael, M. W. Justik


1143. Attempts at modifying diazirine glycoconjugate photocrosslinkers for efficacy and progress towards the synthesis of novel promoter of nerve regeneration. S. Witkowski, D. Siegel*

1144. Nature of bonding in planar tetracoordinate carbon species. K. M. Parsons, B. W. Hancock, E. D. Glendening

1145. TMAH-catalyzed biodiesel production for greater energy independence. R. Panter, T. Archer, A. Schroetter, J. R. B. Smith, T. A. Dooling, C. Tirila

1146. Progress towards the synthesis of a novel ethyleneglycol-thiolated hydroquinone molecule for surface modification of gold nanoparticles. O. L. Hulme, L. H. Vu, N. T. Flynn, D. Carrico-Moniz

1147. Total synthesis of functionalized acenes. R. Parikh, B. Aukszi, D. Baird


1149. Green chemistry approach to a Diels-Alder reaction. K. L. Whitfield, K. Daus

1150. Progress towards a multi-gram scale synthesis of 1,11-diaza-6,16-ditosylamidacycloicosane. D. M. Crain, P. R. Porubsky, S. E. Schmidt


1152. Effect of the remote protecting group in the cleavage reaction of 3,4-epoxy alcohols. L. A. Vazquez-Maldona-Fernández-Cuervo, E. Valentín, G. Torres, J. A. Prieto


1154. Continued investigations into the green synthesis of tertiary amines using a formate-mediated reductive amination in subcritical water. C. Hnatyk, A. Barres, J. L. Tischler

1155. Complete protection and glycosylation of 5-hydroxy-DL-lysine. L. Nowland, B. Aukszi

1156. Preparation of N-alkyl-N-(imidazol-5-ylmethyl)-benzamides as possible antimalarials. E. D. Bass, M. J. Campb

1157. Reduction of prochiral β-halogenated aryl ketone for the synthesis of chiral oxetanes. R. Laguna Carrillo, J. R. M. Padilla, I. Guzmán, V. Stepanenko, M. Ortiz


1159. TLC of over-the-counter drugs. K. Fredo, K. Cossey


1161. Production of 2,3-butanediol from biomass using a hybrid biochemical/catalytic approach. A. D. Multer, K. Hol Vadlanii, N. McGraw

1162. Synthetic efforts towards a selective photodynamic therapy agent. F. A. Venable, Q. Best, C. Scott
1163. Conjugated dimers for stabilization of aromatic donor-acceptor liquid crystals. K. J. McKnight, J. J. Reczek

1164. Chemistry of glycolaldehyde and dihydroxyacetone after high velocity impacts: Initial experiments and results. Bennett, C. Waun, N. Zellner, V. McCaffrey

1165. Convenient synthesis of 2,6-dichlorohomonicotinic acid. C. A. Buchanan, R. W. Fitch

1166. Preparation of a high strength wax-like polymerizable dental material. C. D. Hertz, K. M. Halligan


1168. Investigation into the synthetic utility of sulfone-substituted ketenes. A. Esquibel, R. Morphew, A. Knaebel, J. A. Beard

1169. Trifluoromethyl enhanced γ-silyl elimination in the bridging of cyclic systems. K. Delle Chiaie, K. Duffy, M. McGohey, M. Piquette, L. Tilley

1170. Diastereoselectivity of reductions with 2-halo-4,4-dimethyl-3-pentanones. D. Saxon, N. Eberhardt, J. Yoder Rosenberg


1172. Attempted synthesis and characterization of a new poly(ether)poly(phosphonium) salt. L. J. O'Neil, T. W. Nalli

1173. Preparation of 2-substituted indoles via solvent-assisted ring opening of styrene oxides in trifluoroethanol. B. P. Riley, C. Ballard

1174. Novel ether derivatives of 1,2,3,4-tetra- and 1,2,3-tris(pentafluorophenyl)cyclopentadiene. A. B. Hawes, W. C. P. A. Deck

1175. Computational investigations of fluoroalkene peptide mimics of the alanine tripeptide analog. R. M. Crutcher, Urban

1176. Design and synthesis of focal adhesion kinase inhibitors as potential anticancer therapeutics. G. P. Patten, L. J. Urban

1177. Use of palladium coupling reactions in the synthesis and application of verdazyl free radicals. E. Lieu, D. J. Bruck

1178. Transition metal catalyzed aerobic oxidation at sp3-hyridized carbon: Catalytic homocoupling of indene. J. A. C. Ballard


1181. Isolation of antimycobacterial compounds from marine bacterial strain UA 461. J. Do, J. A. Trischman

1182. Synthesis and analysis of potential low molecular mass gelators. C. Van Bruggen, E. A. Scharrer, J. L. Crane

1183. Investigation of hydrogen bonding in peptides. B. D. Brink, B. R. Linton

1184. Enzyme activation and stabilization in organic solvents by glutaraldehyde. R. Soto Abreu, Y. Z. Lopez Corcino, Barletta Bonanno

1185. Progress on the total synthesis of a repeating unit of a pneumococcal serotype. N. L. Snyder, C. W. Brown, J. Thompson, M. A. Schlosser

1186. Synthesis of disubstituted 1,2,3-triazoles via copper(I)-catalyzed cycloaddition. M. I. Calvin, B. D. Hamill, J. Mueller, A. M. Schoffstall

1187. Synthesis and characterization of silver nanoparticles functionalized with a fluorescent tag. G. Reyes-Pimentel, Chambers
1188. Synthesis and phase behavior of oxadiazole based liquid crystals with lateral halogen substituents. J. H. Nguyen, R. Wonderly, E. Scharrer

1189. Progress towards the synthesis of novel 1-aryl-1-trimethylsilyl-1H-diazirino[1,2-b]phthalazine-3,8-diones. S. M. Bonser, D. V. Fraccica

1190. Utilization of phthalimide protecting groups to synthesize 6-oxoverdazyls. E. R. Gutierrez, D. J. Brook


1192. Progress towards the synthesis and chemistry of some 2-sulfobenzoyl-, and 1,2-dibenzenesulfonyldiaziridines, Bonser, H. McWilliams

1193. Substrate flexibility in stereoselectively catalyzed Michael reactions. C. R. Shugrue, B. R. Linton

1194. Identification of hydrocarbons in water by fluorescence spectrophotometry. M. Beganovic, R. Goldstein, R. Hyde

1195. Factors that control the extent of polymerization in the reaction of 1,4-bis(diphenylphosphino)butane with 1,4-bis(bromomethyl)benzene. M. J. Lindell, T. W. Nalli

1196. Synthesis of butadiyne diphenylferrocene amide for electrochemical anion recognition. L. W. Erickson, B. Cha Tuntulani


1198. Synthesis of straight-chain bolalipids with varying alkyl chain length. C. Madden, M. Fechter, P. Eugene, D. Brownholland


1200. Organic synthesis using microwave chemistry. K. Swallow, L. Farber


1202. Determination of pyrrolizidine alkaloids from Senecio mohavensis. C. M. Kee, R. B. Kelley

1203. Synthesis of 2-benzylidenecalixarenes. B. T. Turner, J. L. Fantini

1204. Facile trichloroacetylation of aniline derivatives using trichloroacetic anhydride. I. Mendoza, A. R. Goodahl, A. Gonzalez, J. J. Gutierrez

1205. Synthesis of alkylthio benzene derivatives via simultaneous diazotization and nucleophilic displacement. A. Alv J. J. Gutierrez

1206. Towards the synthesis of pyridine-based ligands as potential organometallic magnetic liquid crystals. J. Gamb Varela, J. E. Nunez

1207. Homocoupling of silyl-protected phenylacetylenes to produce glaser products through an oxidative process. C. Hanni, S. K. Jones, J. M. Kolasinski, C. G. Mikek, M. A. Saco, M. J. Mio


1209. Synthesis of a localized drug delivery system. H. Steele, L. Friauf, J. Elbert

1210. Studies on the synthesis of carbohydrate-porphyrin conjugates via 1,3-dipolar cycloaddition. N. L. Snyder, R. Rothbarth, T. P. Adams

1213. Hypervalent iodine reagents for nucleophilic addition to aromatic amines. C. D. Sanborn, A. S. Koch, S. G. DiP
1214. Elaboration of ellagic acid. T. A. Newman, L. R. Eller
1215. Synthesis and self-assembly studies of N-acetyl D-glucosamine derivatives. S. Akram, H. P. Mangunuru, G. W
1216. Alkylation of ellagic acid. S. J. Kight, L. R. Eller
1218. Bioassay-guided fractionation and analysis of secondary metabolites from marine bacterial isolate UA 323. J. L
1219. Examining hydrogen bond strength in glutamine derived peptides. B. R. Linton, M. M. Hanly
1220. Purification and identification of compounds with inhibitory activity against Mycobacteria. A. Porobic, J. A. Trischman
1221. Isolation and purification of antimicrobial metabolites from the culture extract of a Gram positive marine bacte McMichael, J. A. Trischman
1222. Purification of nonpolar antmycobacterial metabolites produced by marine bacterial strain UA 446 when challe with Mycobacterium marinum. R. Mendelsohn, P. Velasco. J. A. Trischman
1223. Synthesis of dihydropyridines and tetrahydropyridines via rhodium-catalyzed C-H bond activation. C. Lu, S. Du
1224. Characterization of copolymers of vinylbenzyl thymine (VBT) and vinylbenzyl chloride (VBC) using MALDI-TOF Thistle, N. Lee, R. Gurney, C. Chen
1225. Synthesis of alternative side-chains for novel columnar liquid crystals. A. Thompson, J. Reczek
1226. Synthesis of castoramine: Route optimization to a theoretical linear precursor. J. Moreno, R. Sher Jansen
1227. Synthesis of calcimimetic analogs derived from enantiopure primary amines. J. L. Alvarez Estrella, I. Martin
1228. Design of a tight-binding flavonoid-based caspase inhibitor. C. Crowder, J. B. White, T. Young, M. d'Alarcao
1229. Isolation and characterization of anti-mycobacterial metabolites from the extract of marine bacterial strain UA Lopez, B. T. Carney, J. Trischman
1230. Synthesis of 1,4-benzodioxanes from enamines and o-quinones. T. L. Wulff, X. Chang, J. Zhang
1231. Relative role of physical vs. chemical defenses in soft corals of the genus Sinularia. A. Chan, A. Brown, J. Roy, McFadden, K. N. Maloney
1232. Media Investigation in the search for new anti-tuberculosis compounds from marine bacteria. D. Reyes, R. E Larsen, L. Tuscano, J. A. Trischman
1233. Innovation for Cu-catalyzed azide/alkyne click chemistry: Synthesis of 4,5'-bis-1,2,3-triazoles. A. Ellison, R. E Chang, R. Miller, T. Wulff, J. Zhang
1234. Preparation of substituted 5-amino tetrazoles. M. J. Castaldi, H. Yazdekhast, C. Adorno, L. E. Morales, I. Gr D. Palacios, E. Chen
1235. Observation of solvent interactions on hydrogen bonding in F, Cl, N and Br molecules. H. K. Nguyen, B. Rosen
1236. Investigating the role of aziridinomitosene quinone substitution on DNA crosslinking. D. J. Ostrander, D. Warr
1237. Phenyl substituted bisindenylidene dications with phenyl spacers. I. Zoch, N. S. Mills
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Synthesis of chiral primary amines via reduction of oxime ethers with chiral spiroborate ester derived from diphenylvalinol and ethylene glycol. K. M. Santiago Fidalgo, V. E. Torres Claudio, M. Ortiz-Marciales

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Synthesis of Water-soluble Curcumin Derivatives. M. Karim, S. Dolai, J. A. Saltos

Synthesis and Evaluation of Curcumin bioconjugates and their potential effect against breast cancer cells. A. Schimensky, S. Dolai, J. Saltos, K. Raja

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Gold-Parker, S. Simoncelli, P. Aramendía

1257. Use of surface-enhanced Raman scattering (SERS) in the investigation of the photodegradation of Congo Red and development of improved SERS substrates. K. M. Lupo, L. H. de Lima, M. L. de Souza, P. Corio

1258. New benchmarks for calibrating methods used to simulate VCD spectra. P. J. Lestrange, J. B. Foresman

1259. Computational studies of quantum mechanical and molecular mechanical calculations using multiscale chemica simulations. M. Lam, M. R. Salazar


1261. Trapped charge dynamics depending on the length of ligands binding to the surface of solid state quantum dot. Cristarella, J. Asbury, K. S. Jeong

1262. Revealing molecular dynamics through DC slice imaging. N. A. West, M. L. Warter, M. P. Grubb, J. A. Bartz, S. North

1263. ESR studies of the molecular motion of the bis(maleonitriledithiolato)nickel trianion in diglyme. V. S. Goodwill

1264. Formation of tubular precipitation structures from seed crystals and flow control. A. D. Berkobien, B. M. Jenki Pagano

1265. Theoretical investigations on arginase inhibitors. J. Flint, J. Song, C. A. Deakyne


1268. Fabrication of a novel apparatus for simultaneous measurements of charge and fluorescence from single molecule. Barnett, E. Skibinski, A. Leggiero, J. Peterson

1269. Using confocal Raman spectroscopy to analyze nitrate structure at and near the air-water interface. H. C. Shoi, M. J. Nee, A. Celestian

1270. Thermal properties of the encapsulation of sodium azide with nitrolignin. B. D. Krejchi, M. S. Elioff

1271. Solvent effects on the excited lifetimes of natural estrogens. K. Chan, A. Stoeckel, P. M. Hare


1273. Synthesis of porous elastomeric beads for solid phase micro extraction. B. Farmer, M. Nee

1274. Effect of non-emissive molecules on fluorophore luminescence on Al₂O₃ (0001). S. W. Simonds, S. R. Gardne Martin, A. M. Nishimura


1276. Kinetic degradation study and solubility analysis comparing di-creatine maleate to commercial samples of creatine. Kuhl, T. S. Wallner

1277. Periodic and complex waveform current oscillations of copper electrodissolution in phosphoric acid in an epoxy-microchip flow cell. A. Bi, I. Z. Kiss, Y. Jia

1278. Improved line positions for the (1,1) band of the 1Σ⁻ - X 3Σ⁺ of oxygen by intracavity laser absorption spectros C. O'Brien, J. J. O'Brien, L. C. O'Brien

1279. Quadruplex DNA detection and stabilization: A detailed study using fluorescence, light scattering, UV-vis and q chemical calculations. C. M. Zerbe, S. Basu

1281. Enzymatic oxidation of biophenols. J. A. Nysather

1282. Characterization of $H_xGeN_2$ ($x = 1-3$) transient intermediates using matrix isolation infrared spectroscopy. M. J. Hoover, J. C. Amicangelo

1283. Computational exploration of mechanisms for $\sigma$-bond activation in the reactions of $Au^+(1S)$ with $CF_3X$ (X=Cl, Br). K. Ward, W. S. Taylor

1284. Near-thermal reactions of $Au^+(1S,3D)$ with $CH_3X$ (X=F,Cl). A. J. Hicks, C. C. Matthews, K. G. Fancher, L. Chen Taylor

1285. Reaction of methane with hydrogen peroxide adsorbed on a Martian soil simulant. D. Eich, H. M. Bevsek

1286. Impact of neighboring chains on defects in oligothiophenes. E. C. Vujanovich, S. E. Wheeler, J. W. Bloom

1287. Influence of protonation state of lysine adsorbed to montmorillonite surfaces on IR vibrational frequencies. M. Zekarias, L. Tribe

1288. Educational flash photolysis spectrophotometry. A. A. Schatz, B. M. Hopkins


1290. IR vibrational spectra of L-Cystine and L-Cysteine: Effect of layered double hydroxide substrate. T. Huynh, L. Mardis

1291. Computational investigation of the conformational preferences of a cytochrome $c_7$ dimer. A. Zayed, D. M. Tied Mardis


1293. Determination of the binary lyotropic liquid crystal phases formed by n-octyl-$\beta$-D-thiogluco side in water. J. C. K. K. Karukstis, G. R. Van Hecke

1294. Hydrogen/deuterium exchange and computational modeling of proline-containing peptides in the gas phase. S. Heithaus, E. M. Marzluff

1295. Atmospheric effects on EGaIn electrodes. D. M. Gooding, J. Barber, G. M. Whitesides

1296. Phosphorescence of Tb(III) in modified DNA duplexes: Determining number of bound water molecules. M. R. Hinrichsen, D. Hirsh

1297. Examining the rotational diffusion of glassy systems in the potential energy landscape ensemble. B. J. Sirovetz Kegerreis

1298. Study of charge-shift bonding using valence bond theory. A. M. James, J. M. Galbraith

1299. High spin states of small transition metal clusters: Computational study with density functional theory. C. T. N. J. M. Galbraith


1303. Identification of D, L, and DL n-acetyl methionine interactions in Zeolite NaY. L. E. Que, M. E. Ramirez, D. Cizmeciyan, R. Senter

1304. Xe NMR study of anionic hydrotropes in solution with sodium octyl sulfate micelles. A. White, Y. Choi, A. Calh

1305. Determination of the optimal conditions for bovine serum albumin using surface enhanced Raman scattering or colloids and nanoparticle films. J. Reyes, B. D. Gilbert


1307. S-Aminovaleric acid adsorbed to montmorillonite: IR vibrational frequencies. P. Balliet, L. Tribe

1308. Quasiclassical trajectory studies of the hyperthermal \( \text{N}(^4\text{S}) + \text{D}_2 \rightarrow \text{ND}(^2\Sigma^-) + \text{D} \) reaction. J. A. Ivie, R. Dawe Camden

1309. Density functional analysis of the electronic and structural properties of \( \text{C}_{20} \) – azole family exohedral systems. Smith, M. L. Urichianu, K. A. Beran

1310. Using infrared OH stretching bands to study intramolecular hydrogen bonding and ring puckering in cyclic alcol Pappas, Z. Theis, J. Lewis

1311. Raman and surface-enhanced Raman scattering of polyphenol oxidase and epinephrine on silver nanoparticles. Boedeker, B. D. Gilbert


1313. New library of 2,7- disubstituted fluorenes for liquid crystal applications. N. Hara, G. R. Van Hecke

1314. Surfactant-free dispersion systems involving diethylene glycol and o-dichlorobenzene. J. Watson, V. Kolesnich

1315. Liquid crystal detectors. B. Carlson, G. R. Van Hecke

1316. Surface adsorption behavior of oxime ether surfactants. R. Rowe, K. Kimes, H. S. Ewan, H. Palandoken, J. Ha

1317. Surface-enhanced Raman scattering of invertase on silver nanoparticles. K. L. Corp, B. D. Gilbert

1318. Reaction of methane with perchloric acid adsorbed on a Martian soil simulant. A. M. Fuzy, H. M. Bevsek

1319. Resonance and multi-center bonding descriptions of hypervalent species. C. E. East, R. J. Compton, E. D. Gle

1320. Comparison of infrared OH stretching bands in short-chain and long-chain primary alcohols. J. A. Brodlowicz, Lewis

1321. Examination of the effect of solution parameters and conformation on relaxation times of protons in aqueous s of lactate salts. T. C. Willcock, C. J. Breaux


1325. Determination of the critical opalescence of binary liquid solutions. C. Weigel, J. Dudek, T. Gehan, J. Hofstein

1326. Computational study of the catalytic decomposition of \( \text{N}_2\text{O} \) by FeFAU zeolite. U. A. Chowdhury, H. Hernandez-Soto

1327. Determining the activation energy of UV color changing beads. K. A. Lukens, J. B. Dudek, C. A. Williams, R. C


1331. Photochemical properties of several tetraphenylporphyrin derivatives and their potential photodynamic properties. **T. Campbell**, J. M. LoBue, A. Adeyemo


1333. Computational analysis of imprinting xerogels using a random docking program. **Z. M. Falls**, E. Zurek

1334. Identification of enantiomeric interactions in zeolites by solid state NMR, X-ray, and TGA. **J. J. Cardenas, A. M. Senter**


1336. Examining cyclic invariance within correlation functions. **C. E. Hoyer**, J. Kegerreis


1338. Formation and characterization of functionalized silane gradients on fused silica. **A. M. Park**, M. A. Everest


1340. Theoretical investigation of internal rotation barriers and Raman spectra of 4-(dimethylamino)cinnamaldehyde. **Namazi, J. J. Diamond, B. D. Gilbert**

1341. Prediction of the equivalent conductance at infinite dilution to high temperatures and pressures for ions. **J. D. Roscioli, G. Zimmerman**

1342. Preparation of model membranes to study the interaction between cell-penetrating compounds and proteoglycans. **J. Braden, J. Sisombath**, L. E. Prevette


1347. Determination and verification of the o-nitrobenzaldehyde quantum yield. **M. D. Martinez**, K. L. Foster

1348. Comparison of two recently described procedures to effectively calculate the heat of formation values of energetic compounds. **J. M. Hoy, J. A. Bumpus, M. S. Elioff**

1349. Free energy perturbation of AEA and AKA to AAA in salt solutions. **E. A. Litzenberger**, T. J. Gaborek, J. D. Ma


1353. Gas phase conformations and reactivities of histidine and histidine dipeptides in the presence of alkali metals. M. Calenberg, E. Marzluff

1354. Comparison of the pH data using Pitzer model, Bates-Guggenheim convention, and extended Debye-Hückel equation for the calculation of the single-ion activity coefficient, $\gamma^{-1}_{Cl}$ for biological standard buffer solutions of ACES, TRICINE, and MOPS at 25 and 37 °C. L. N. Roy, R. N. Roy

San Diego Convention Center
Hall D

Undergraduate Research Poster Session

Polymer Chemistry

Cosponsored by PMSE, POLY, and SOCED
Financially supported by Applied Chemical Technology Subdivision of the Industrial and Engineering Chemistry Division
M. Adams, Organizer

12:00 - 2:30

1355. Studies of lower critical solution temperatures of thermally-responsive poly(N-isopropylacrylamide), poly(N,N-dimethylacrylamide), and their respective copolymers. M. Harrell, K. J. Tan, D. E. Bergbreiter

1356. Preparation of covalently cross-linked polymers with thiuram disulfide units toward self-healing materials. M. Martin, Y. Amamoto, K. Matyjaszewski


1359. Effect of pressure on a polystyrene-block-poly(ethylene oxide) series. L. M. Miceli, C. M. Averback, J. L. Logan

1360. Esterification and polymerization kinetic studies of Pantothenol by enzymatic catalysis for biomedical applications. E. Green, A. F. Naves, L. H. Catalani

1361. Synthesis and purification of 2,7-acetyloxy-3,6,10,11-tetrahexyloxy triphenylene copolymer. A. A. Leavesley, Cecchi, F. Cecchi

1362. Structural determination of a phenolic polymer produced using the Fe$^{III}$-TAML system. K. Entwistle, T. J. Collier, Tshudy


1364. Synthesis and characterization of eight-armed calixarene-core polylactide star polymers. A. C. Falls, P. S. Cort


1369. Effects of the glass transition temperature on the impact resistance of armor coatings. J. A. Herrera, M. J. Sc...
1370. Polymer-nanoclay composites as self-sealing protective coatings. **J. A. Balent**, M. J. Schroeder


1373. Synthesis and free radical polymerization of bromoacylated FAMEs. **Y. G. Fakhro**, S. P. Callahan, M. F. Page


1376. Synthesis and characterization of four- and six-armed calixarene-core polylactide star polymers. **M. Li**, C. M. H S. Corbin

1377. Facile and effective approach to synthesizing a novel library of organogelators. **C. R. Igert**, A. D. Richardson, I Savin


1385. Mesoporous carbon fibers via electrospinning. **H. Kam**, D. N. Tran, K. J. Balkus


1387. Ultraviolet radiation exposure study of a select polymeric material using commercial sunscreens. **T. Mazlout**, T.

1388. Preparation of polyelectrolytes chemisorbed to a silica surface. **D. Bryce**, D. Rivera


1391. Spectral broadening via vinylene copolymers for bulk heterojunction polymer solar cells. **T. A. Hicks**, A. Ruder Burkhart, B. Thompson

1392. Synthesis of block copolymers containing poly(3-alkenythiophene) for OFETs. **M. K. Huynh**, M. C. Stefan

1393. Synthesis and characterization of dicarboximide-functionalized oxanorbornyl homopolymer and diblock copolyn **Posselt**, D. Waldow

Bakewell

1395. Validation for undergraduate experiments of the corrosion resistance by a molecular dynamic simulation. M. Ji Lin, L. Hu

Active Learning in the Undergraduate Analytical Chemistry Curriculum

Sponsored by ANYL, Cosponsored by CHED

Inspiring Science Education: Readiness for the Global Enterprise

Sponsored by IAC, Cosponsored by CHED, PRES, and SOCED

San Diego Convention Center
Hall D

Sci-Mix

I. Levy, Organizer

8:00 - 10:00


1533, 1599, 1607. See subsequent listings.

San Diego Convention Center
Hall D

Successful Student Chapter Posters

Cosponsored by SOCED
M. Adams, L. Betsock, N. Di Fabio, R. Lindsey, C. Zeigler, Organizers

8:00 - 10:00

1396. Bringing chemistry to the masses: Evergreen State College Chemistry Club. H. R. Osborne, F. M. Reynolds, Dodwell

1397. Celebrating the international chemistry year at Ponce, Puerto Rico. N. Yordan, L. Santos, I. P. Torres


1399. Southeast Missouri State University Student Chapter of the American Chemical Society. J. Long, J. Pratt

1400. The mole enchilada: Missouri State University student affiliates 2010-2011. E. Tague, J. Davis

1401. ChEmory: Emory University's undergraduate ACS affiliate. C. Chan, A. Mui, J. Weaver, D. Mulford

1402. What is your element? M. Chong-Macias, S. Chong-Macias, W. George, K. Juarez, K. Laskowski, P. Mendez,
1403. Bringing chemistry to our community. S. Wagner, E. Salz, J. Sullivan
1404. American Chemical Society Student Chapter at The University of Texas at Tyler. M. Jenkins, M. McGraw, M. Fo E. Boyd, J. J. Smee
1405. Chemical interactions: Student affiliate chapter. K. Patel, A. Moriarty, J. Paraiso, A. Cordoba, S. Cordova, Sandoval
1406. Chemistry - our health, our future. K. J. Gillespie, M. J. D’Souza
1408. American Chemical Society at the University of Central Florida: Outreach and innovation for undergraduate ch A. A. Taraboletti, S. Sullivan, D. Strohecker
1411. Otterbein University Chapter for the American Chemical Society. M. H. Evert, M. E. Lucius, Z. P. Niday
1412. Northeastern University student affiliates of the American Chemical Society: Mentoring in a new year. C. Dunn Klosowski, J. Roberts, V. Berger, R. Lewis
1414. Saint Louis University strives to serve the community through chemistry. P. Vallot, V. Goodwill, A. Bi
1417. Expansion of a fundraising initiative to support student travel and research grants at Illinois State University. A Howard, V. H. Nguyen, J. E. Baur, M. A. Jones, J. D. Driskell, J. Kim
1418. Synthesis and properties of 8,8-(1,3-dioxolane)camphoryl)sulfonyl oxaziridine. Z. M. Herbst, A. H. Hill, D. M.
1419. NKU SAACS: Building on a strong chemical foundation. M. Henry, K. Y. Chan, E. Amato, A. Morris, S. Sutkamp Talbert, L. Ma, P. M. Hare
1420. [A]^4: Adams Atoms ACS activities. R. Reyes, R. Beeton
1421. Chemistry and community: Students members mix it up. K. Whitfield, A. Moore
1422. Morehead State University SMACS. A. Sullivan, D. Patterson, J. Bradley, B. Cantrell, K. Renyer, C. Roe, M. Blankenbuehler
1423. Chemistry for all ages at Carroll University. E. F. Ebensperger, M. D. Harland, K. Hall, J. Platz, G. T. Marks
1426. Activities of the Texarkana College Chemistry Club, TC3: A successful student chapter. K. Chase, M. Guillory, C
Wisdom

1427. Chemistry in the community: The blueprints of life. A. McGettigan, D. Kwasniewski, C. Borror, B. Loga, A. A
1428. Niagara University’s student American Chemical Society chapter. E. G. Stoutenburg, V. L. Campanella, C. L. J. Leistner, S. Fuest, C. Clugston, R. Prieler
1430. University of Minnesota, Morris ACS chapter: Chemistry beyond the classroom. G. M. Ziegler, A. W. Rooney, THein
1432. Strengthening the community through chemistry. L. Coronel, G. Soriano, D. Hecht, D. Brown
1435. University of Colorado Denver chemistry club: A proud chapter of the ACS. C. Huynh, J. Bui, A. Miller
1436. PLNU chemistry club develops enthusiasm for chemistry in the greater San Diego area. T. Kurz, S. Simonds, Vickers, A. Gillett, R. Vasquez, K. Kendric, S. Bunting, S. Y. Choug
1438. Science sensations: An educational program by the University of Minnesota Morris chapter to teach and stimulate grade-school children's interest in science. J. A. Schmidt, K. B. Schliep, J. J. Yasosky
1439. Canisius College student chapter of the American Chemical Society. J. L. Stachowski, A. C. Forrestel, P. M. Sheridan
1440. UC Santa Barbara chemistry club. J. G. Stanfill, R. F. Hock
1442. SAACS at Georgia Southern University: A chapter thriving. C. L. Swain, K. A. Lanier, H. J. Martin, S. N. Crooke, Davis-McGibony
1444. Chem crew extreme IYC 2011...Forever in history! D. Galarza, J. Rodríguez, A. Ramírez, N. Caraballo, A. Gonz
1445. Professional development and outreach activities in the Western Kentucky University student affiliate chapter c ACS. S. Ward, A. Patel, N. Wright, A. Fields, J. B. Maddox
1448. Using educational outreach and tutoring to boost students' confidence in chemistry. A. Kwasicroh, K. Shelnu Boyd, R. Johnston
1449. Student members of the ACS: University of Kentucky. A. Guthrie, R. Harper, S. Beavin, L. Gray, R. Duerr, B. S
1450. Idaho State University student chapter: Continued success in club activities. R. M. Malamakal, J. L. Elliot, J. F
Palmer, J. M. Majewski

1451. San José State University student affiliates of the American Chemical Society. C. Crowder, B. Le, A. Bortolazzo

Nguyen, T. Hom


1453. ACS-UPRA: Chemistry in our lives! J. L. Rivera, K. M. Bracero, N. Arroyo, M. Ramos

1454. UT StACS chemistry summer camp. A. L. Hall, E. Kippenhan

1455. Involvement of the American Chemical Society student chapter at the University of Central Missouri. B. Hagen

Lasisi, R. Ransdell, S. Becker, I. Pumure, G. Gome

1456. Increasing educational oppotunities in the campus and community. T. Q. Van Riper, B. Crawshaw, T. Onifer, E. LeCain, E. Baldauff, R. LaCount

1457. American Chemical Society Student Chapter at the University of St. Thomas, Houston, TX. N. Zaibaq, A. Alrawi

Botto, I. Ettelhadieh, N. Christians, H. Vu, E. Ledesma


1459. Georgia College’s ACS student chapter: Our synthesis for success. A. Barfield, T. Ivey, B. Stone, D. Wilder, I. McKinnon, K. Fredo, C. Williams, E. Lisse

1460. Eastern Oregon University ACS Student Member Chapter: Promoting community outreach and professional networking. T. Gluth-Hampton, P. Kelsey, S. Zungul, C. Kee, A. Cavinato

1461. Connecting Dallas-Fort Worth with chemistry through the Fort Worth Museum of Science and History. S. B. Dai

S. Zimmermann, K. N. Green


1463. The University of Texas of the Permian Basin: Students in chemistry. M. A. Smith, B. Garcia, A. Wadle, A. Wri, Vale, B. Moore, K. A. Beran

1464. UMF+IYC=C3: University of Michigan-Flint’s formula for celebrating chemistry with community. C. M. McCarth

Tischler, M. Wilhelm, A. Barres, K. Keipert, S. Grathoff, A. Fray, S. Limberg, S. Tinnin

1465. FIU ACS student chapter: Promoting chemistry at South Florida. M. Nogueria, A. Bolhassani, T. Overstreet, E. Dacosta-Calheiros, J. Mikosvksa

1466. Introduction through outreach: Chemistry in the community. K. Bejarano, J. O’Donnell

1467. Bunsen burners: Sparking interest in chemistry. K. Cooper, H. McCarty, M. Perry


1469. Priory of biology and chemistry at East LA College. A. Tinoco, L. London, A. Rivera-Figueroa, V. Jaramillo

1470. NDSU ACS student chapter: Gateway to the future in chemistry. M. Mann, A. Sommer, N. Grosz, S. Rasmuss

1471. Inside outreach: The University of Kansas ACS student chapter’s on-campus activities. M. D. Newby, A. D. Sp S. Black, P. R. Hanson


1474. Park University ACS student chapter: Raising public awareness to the role of chemistry in health and wellness. **Venable, S. Hansen**, B. Barr, T. Lees

1475. Getting involved and staying "green". **E. Wolfe**, T. Hippeli, J. Khalil, D. Mencer, S. Anderson


1478. University of Southern Maine ACS student chapter incorporates principles of green chemistry into educational demonstrations performed for children. **L. Venturini**, J. Barilone, Z. Chopchinski, M. Neidig, R. Sawyer, P. Woodruff


1481. Chemistry outreach at Iota Sigma Pi - Hydrogen chapter at the University of California at Berkeley. **P. J. Klem** Murph, H. M. Kieler-Ferguson, J. Kisunzu, L. Rubin

1482. Making a connection: Chemistry and the community. **C. Finlay, C. Costa, J. Hartman, E. Cisler**


1484. Green chemistry at Roger Williams University. **D. N. Weiss**, S. O'shea, **R. Cotta, L. Salerno**, L. Silva

1485. Interactive podcast of University of Southern Maine chemistry club ATPase demonstration provides insight into chemistry. **N. Mahoney**, A. Blanchard, D. Ambrose, P. Woodruff


1487. South Dakota School of Mines and Technology ACS outreach efforts. **R. S. Boosinger**, J. Podoll

1488. Student member activities at Tennessee Tech University. **B. Davis, J. Pinto, M. Holder, J. Barrett, C. Beck, Swartling**

1489. Truman State University: Successful student chapter. **C. E. Lee, L. E. Marolt**, A. L. Roth

1490. Roanoke College student affiliates. **J. C. Perkins**, J. Johnson, S. Watkins, **K. E. Anderson**


1494. Alumni speakers: The benefits they provide for ACS student chapters. **K. M. Watson**, S. Gates, K. Daykin, B. :


1496. Making chemistry cool (almost): Tales from a successful student chapter. **S. J. Murphy**, M. C. Martin, S. Majors

1497. Activities of the science club at the College of Mount Saint Vincent. **C. Modafferi, V. Mangal**, C. Malerba, P. K Kerrigan

1498. Suffolk University's successful ACS chapter. **E. P. Naveo**, D. Lewis

1499. High school chemistry day: A long standing CSU Chico SAACS event. **K. Almlie, J. Wenham, K. Siders**, M. Sc
D. McBain, R. Barnes, J. Zhang, D. J. Edwards

**1500.** Where in the world is Carbon San Diego: Sacred Heart’s sojourn to San Diego. J. Ferrantelli, K. Rutledge, B. Carter, J. Shearin, C. Carvahlo, M. Mastell, K. Swallow, L. Farber

**1501.** Texas Christian University celebrating National Chemistry Week 2011. K. E. Poole, S. B. Dang, E. S. Zimmern

**1502.** Florida Southern College: A successful student chapter. M. Leonard, A. M. Scott

**1503.** Celebration of the International Year of Chemistry at UPR Humacao. S. J. Moreno Fuentes, L. Sostre Maldonado Velazquez, B. Rossello, I. Lebron, J. Suarez, L. Palacios

**1504.** ACS student chapter at UMBC: A reactive community. M. A. Kelly, K. Erickson

**1505.** ACS student chapter at South Texas College celebrates the International Year of Chemistry. L. Avila, J. Tangu Hakim, D. R. Brown


**1507.** Various methods of promoting chemistry in the community. C. Tooley, H. Y. Cheng, D. Cheung, C. Bentzley, Jones

**1508.** Student Chemists Association at TCNJ. M. Sanders, A. Judilla, D. Pesce, K. DeMeester, J. Powers, B. Chan, A. O’Connor

**1509.** Chemistry club on campus and in the community. J. M. Camp, M. Johnson, H. Sheley, L. Martin, E. Navarre

**1510.** Women in science extravaganza: Successful celebration of women in the sciences. Q. Nguyen, J. C. Bohannan Watson

**1511.** Shaping young minds: Helping create the chemists of tomorrow. V. E. Meadows, K. Koch, D. Watson

Westin San Diego
Crystal I Ballroom

**NSF-Catalyzed Innovations in the Undergraduate Curriculum**

S. Hixson, Organizer
P. Brown, Presiding

**8:30** Introductory Remarks.

**8:35 1512.** Supporting chemistry with the Division of Undergraduate Education at the NSF. J. J. Grabowski, P. A. Br H. Hixson

**8:55 1513.** Chemistry XXI: A new curriculum for a modern era that focuses on teaching how we think instead of what we know. J. Pollard, V. Talanquer

**9:15 1514.** Supporting and driving innovative pedagogies through valid, reliable, course-specific student course evaluations. S. Carroll

**9:35 1515.** Visualizing the chemistry of climate change. M. Towns, P. Mahaffy, B. Martin, L. Martin-Visscher, M. Kir L. McKenzie
9:55 Intermission.

10:10 1516. High altitude research platform with real-time sensors for engaging undergraduates in STEM. **D. Takeh** Voss, J. Dailey, S. Snyder, S. Gavin, J. Krueger, R. Tomasik, B. Smith

10:30 1517. Advancing chemistry by enhancing learning in the laboratory: The ACELL project. **M. Orgill**, N. Barrows Bodner, B. L. Gonzalez, T. Bussey, M. Asif


11:10 Concluding Remarks.

Westin San Diego
Crystal II Ballroom

**Process Oriented Guided Inquiry Learning (POGIL)**

R. Moog, *Organizer*
B. Gilbert, *Presiding*

8:30 Introductory Remarks.

8:35 1519. POGIL: A student-centered approach to learning chemistry at all levels. **R. Moog**

8:55 1520. POGIL: A tool to engage underprepared students. **A. Mahoney**, N. Coons

9:15 1521. Effect of POGIL on students' scientific literacy skills and achievement in chemistry. **C. A. Talib**, Z. H. Isn

9:35 Intermission.

9:50 1522. Effectiveness of process oriented guided inquiry learning (POGIL) to reduce alternate conceptions in secondary chemistry. **M. J. Barthlow**

10:10 1523. Implementing POGIL in a dual credit liberal arts chemistry course: Trials and triumphs. **C. A. LaBrake**

10:30 1524. Implementing guided-inquiry chemistry laboratories in the AP chemistry laboratory curriculum: Does it what is being done in the general chemistry laboratory courses at universities and is it POGILish? **T. J. Greenbowe**, M. DeWane

10:50 Panel Discussion.

Westin San Diego
Opal Room

**Research in Chemistry Education**

**Technology as a Learning Tool**

C. Russell, G. Bhattacharyya, *Organizers*
M. Grunert, *Presiding*

8:30 Introductory Remarks.
8:35 1525. iPad project: Behind the scenes and lessons learned. **G. R. Shelton**, R. M. Jones

8:55 1526. Comparison of students' and teaching assistants' successes and challenges in assessment, review and instruction (ARIS) program. **V. Wong**, F. Mumba, G. Kinsel

9:15 1527. Undergraduates benefit from online tutorial explicitly addressing concept transfer between math and chemistry domains. **M. Barker**

9:35 Intermission.


10:10 1529. Effect of computer simulations on elementary and middle school science teachers' understanding of Chemical equilibrium. **F. Mumba**, A. Banda

10:30 1530. Incorporation of the talking Labquest with organic chemistry lab curriculum for students with visual impairments. **C. A. Supalo**, J. L. Grutsch, G. M. Bodner

10:50 Concluding Remarks.

Westin San Diego
Diamond I

**Advances in Teaching Organic Chemistry**

S. Hornbuckle, **Organizer, Presiding**

8:30 Introductory Remarks.

8:35 1531. Student-generated materials lead to improved student performance in Organic Chemistry. **J. C. Gullett**


9:35 1534. Teaching fatty acid and fat chemistry by combining experiments, 2D animations and a WebQuest. **V. Pietzner**

9:55 Intermission.

10:10 1535. Applied theme-based learning activities for students in organic and introductory courses. **K. J. Graham** Jones, A. A. Peterson, C. P. Schaller

10:30 1536. Organic chemistry course for biology and pre-med majors. **R. Swisher**

10:50 1537. Active learning in organic chemistry: Cell phones as classroom response systems. **J. H. Penn**

11:10 Concluding Remarks.

Westin San Diego
Crystal I Ballroom

ACS Award for Achievement in Research for the Teaching and Learning of Chemistry: Symposium in Honor of Loretta L. Jones
Cosponsored by WCC
R. Kelly, Organizer, Presiding
S. Madden, Presiding

1:30 Introductory Remarks.

1:35 1538. Deep understanding of chemical concepts through simulations at the observable and molecular levels. R. Tasker

1:55 1539. World in a raindrop. B. Tversky

2:15 1540. Molecular manga: Telling stories about molecules. J. E. Honts

2:35 Intermission.

2:45 1541. Organic chemistry flashware: Lessons from the GRC on visualization in science and education. G. Deslongchamps

3:05 1542. Visualizations to promote student understanding: Influences of Loretta Jones. V. M. Williamson

3:25 1543. How do students show motion: A comparison of static and dynamic mental models of atomic structure. S. Akaygun

3:45 Intermission.

3:55 1544. Visualization design: The goal is clarity, but the challenge is growth. R. M. Kelly

4:15 1545. Dr. Loretta Jones: Recipient of the 2011 ACS Award for Achievement in Research for the Teaching and Learning of Chemistry. S. P. Madden

4:35 1546. Award Address (ACS Award for Achievement in Research for the Teaching and Learning of Chemistry sponsored by Pearson Education). How multimedia and molecular visualization change the landscape of chemistry education rest L. Jones

5:15 Concluding Remarks.

Westin San Diego
Crystal II Ballroom

Process Oriented Guided Inquiry Learning (POGIL)

R. Moog, Organizer, Presiding

1:30 Introductory Remarks.

1:35 1547. POGIL in an upper division non-majors course: The art, science, and culture of brewing. B. D. Gilbert

1:55 1548. Completing the learning cycle: The refinement phase is integral. L. D. Frost

2:15 Intermission.

2:30 1549. POGIL ChemActivities for surface topics in physical chemistry courses. L. Tribe, M. Soriano, D. Barbiric, A. M. Garcia

2:50 1550. Development and implementation of guided inquiry experiments for physical chemistry. A. Grushow, S. Hunnicutt, R. M. Whitnell

3:10 1551. Development of a guided-inquiry laboratory activity to introduce major concepts in chemical equilibrium to general chemistry. T. Longin
3:30 1552. Undergraduate inquiry into cyclic voltammetry. **B. Hillery, J. Zheng, C. Wynter, S. Andreescu**

3:50 Panel Discussion.

Westin San Diego
Opal Room

**GEMs for Chemists: Integrating Green Chemistry into First Year and Introductory Chemistry Courses**

Financially supported by Green Chemistry and Engineering Subdivision of the Industrial and Engineering Chemistry Division and Applied Chemical Technology Subdivision of the Industrial and Engineering Chemistry Division

J. Haack, **Organizer**
J. Hutchison, **Presiding**

1:30 Introductory Remarks.


2:00 1554. Why Berkeley supports the open-access distribution of green chemistry curriculum. **M. J. Mulvihill**


2:40 1556. Development of a green general chemistry laboratory program. **D. Exton**

3:00 Intermission.

3:10 1557. Ion chromatography: Green analysis for our greenest chemists. **L. U. Gron**

3:30 1558. Greener chemiluminescence demonstration. **M. O. Mitchell**

3:50 1559. Chemistry curriculum development on the other side of the world: Asian University for Women in Bangladesh. **A. R. Wise**

4:10 1560. Green chemistry in general chemistry and COR at Edgewood College. **J. G. Goll**

4:30 Intermission.

4:40 1561. Blending sustainability and additional green chemistry into Chemistry in Context. **M. C. Cann**

5:00 1562. Green experiments for non-majors: Incorporating sustainability into the Chemistry in Context laboratory. **J. A. Tripp**


5:40 Concluding Remarks.

Westin San Diego
Diamond I

**Advances in Teaching Organic Chemistry**

S. Hornbuckle, **Organizer, Presiding**
1:30 Introductory Remarks.

1:35 1564. Integration of computational chemistry into organic chemistry lecture and laboratory to help students "see invisible. J. Bennett, A. Marmet, M. Linder

1:55 1565. Use of tablet monitors and computers in the organic chemistry classroom. L. J. Tucker

2:15 1566. Development of modified multiple choice questions and checklists for diagnosing students' difficulties in chemistry. J. E. Quirke

2:35 Intermission.

2:50 1567. Transitioning to the paperless laboratory: Utilization of the cloud to maximize the undergraduate laboratory experience. S. P. Mulcahy, J. A. Bishop, S. E. Schaus, J. K. Snyder


3:30 1569. Use of rogues' galleries as a teaching tool in organic chemistry laboratories. J. C. Quirke, L. San Miguel, I. Sacasa, M. Exposito, J. E. Quirke

3:50 Concluding Remarks.

Westin San Diego
Crystal I Ballroom

Chemistry Education: International and Multicultural Perspectives

Cosponsored by IAC
S. Sandi-Urena, S. Raje, Organizers, Presiding

8:30 Introductory Remarks.


9:15 1572. Institutionalizing instructional formats - two-worlds apart. M. T. Oliver-Hoyo

9:35 1573. Withdrawn.

9:55 Intermission.

10:10 1574. Role of U.S. Hispanic Serving Institutions and other stakeholders in the global readiness of Latino STEM students: Undergraduate research in the context of U.S. Hispanic culture. L. E. Echegoyen, A. Nunez


10:50 1576. Professional development of graduate TAs: Pathways and perspectives. S. Brydges

11:10 Intermission.

11:25 1577. What's missing from graduate education? Recommendations for graduate student professional development. L. Grunert

11:45 1578. Challenges facing chemistry education in a diverse and multicultural world. Z. M. Lerman
12:05 1579. Contrasting pedagogical training and practices in tertiary education in European and American institutions.

Lykourinou

12:25 Concluding Remarks.

Westin San Diego
Crystal II Ballroom

Connecting Chemistry to the Public with Informal Science Education

B. Dickow, J. Falk, Organizers, Presiding

8:30 Introductory Remarks.

8:35 1580. Connecting chemistry to the public: How the Center for Advancement of Informal Science Education (CAISE) can help. B. Dickow

8:55 1581. When, why, and where does the public learn science and what resources do they use? J. H. Falk

9:15 1582. Connecting art and science to engage the public with chemistry. M. Salaita

9:35 Intermission.

9:50 1583. Chemists – Catalysts for change: Partnering with the Pacific Science Center to bring current chemistry research to public audiences. E. Perara

10:10 1584. NSF support of informal science education opportunities. P. Jennings

10:30 Concluding Remarks.

Westin San Diego
Opal Room

Research in Chemistry Education

Visualization and Problem-Solving in Organic and Biochemistry

G. Bhattacharyya, Organizer
C. Russell, Organizer, Presiding

8:30 Introductory Remarks.


8:55 1586. Investigating knowledge transfer between chemistry subdomains. J. M. Goerdt, D. P. Cartrette


9:35 Intermission.

9:50 1588. What do biochemistry instructors think students should learn from some common external representation
protein translation? The intended object of learning. **T. Bussey**, M. Orgill

**10:10 1589.** Curriculum changes for enhanced conceptual understanding in Biochemistry. **S. Raje**


**10:50** Concluding Remarks.

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Westin San Diego  
Crystal I Ballroom

**Meaningful Learning from Laboratory Work: Evidence and Assessment**

J. D. Schroeder, **Organizer**  
T. Gatlin, S. Sandi-Urena, **Organizers, Presiding**

**1:30** Introductory Remarks.

**1:35 1591.** Current state of research in chemistry learning in the academic college laboratory. **S. Sandi-Urena**, D. Jayawardana, A. Villalta-Cerdas

**1:55 1592.** Analogy/learning xycle labs used in introductory chemistry. **M. R. Bruce**, F. G. Amar, S. Fiouzian, T. M. W A. E. Bruce, M. C. Wittmann

**2:15 1593.** Prediction of student retention in STEM by participation in chemistry course-embedded research experier **A. Szteinberg**, G. C. Weaver

**2:35** Intermission.

**2:50 1594.** Learning from teaching: Epistemological development of chemistry graduate teaching assistants. **T. A. G** Sandi-Ureña

**3:10 1595.** Teaching innovations: Using technology to enrich the traditional. **P. Wyatt**

**3:30 1596.** Assessment of student learning outcomes within the general chemistry laboratory using laboratory practi examinations. **S. J. Pilkenton**, C. F. Dignam

**3:50** Concluding Remarks.

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Westin San Diego  
Crystal II Ballroom

**Chemistry for Engineers**

D. Phillips, **Organizer, Presiding**

**1:30** Introductory Remarks.

**1:40 1597.** Understanding factors that influence engineering students performance in a one-semester vs. two-semes general chemistry course. **H. Caruthers**, J. R. Raker, T. Holme
2:10 1598. Formative assessment and the role of context in a one-semester general chemistry course for engineering students. **T. Holme**

2:40 1599. Engineering the central science: An inventive approach to chemistry for engineers. **L. W. Fine, J. E. Stue**

3:10 1600. General chemistry for engineers: A four year journey and still traveling. **J. R. Pribyl**

3:40 1601. Are we teaching the chemistry that engineers need? **D. A. Phillips**

4:10 Concluding Remarks.

Westin San Diego
Opal Room

**Research in Chemistry Education**

**The Science of Assessment**

C. Russell, G. Bhattacharyya, *Organizers*
K. Linenberger, *Presiding*

1:30 Introductory Remarks.

1:35 1602. Results of a national survey of faculty familiarity with assessment terminology. **J. R. Raker, M. Emenike, Murphy, T. Holme**


2:15 Intermission.

2:30 1604. University of Utah baseline general chemistry IRT assessment data. **C. H. Atwood, L. Jacobson, N. Shah**


3:10 1606. National study of Science Faculty with Education Specialties (SFES) in the U.S. **J. A. Rudd, S. D. Bush, N Pelaez, M. T. Stevens, K. D. Tanner, K. S. Williams**

3:30 Concluding Remarks.

Westin San Diego
Topaz Room

**General Papers**

**International and Broader Issues**

J. Montgomery, *Organizer*
M. Stains, *Presiding*

8:00 Introductory Remarks.
8:05 1607. Measuring of amount of radiation at University of Tsukuba Senior High School at Sakado in Sakado City, Saitama Prefecture, Japan by students. H. Katsura

8:25 1608. Perspective of chemical education from KAIST, an engineering and science research university of excellence in South Korea. D. G. Churchill

8:45 1609. Visual detection of cholera via modified E. coli. S. Johnson, E. Heckmann, J. Gifford, W. McCalmon, J. Wickiser *

9:05 1610. Evaluating the level of inquiry of laboratory experiments published in peer-reviewed science education journals. M. Stains

9:25 Intermission.

9:40 1611. Chemistry programs for the 21st century workforce in the chemical sciences: Challenges and opportunities. I. T. Urasa

10:00 1612. Withdrawn.

10:20 1613. Video journals increase productivity in chemical research and education. M. Pritsker

10:40 Concluding Remarks.

Westin San Diego
Diamond II

General Papers

General Chemistry and Problem Solving

J. Montgomery, Organizer
A. G. Mc Kenna, E. McIntee, Presiding

8:00 Introductory Remarks.

8:05 1614. Assessment of the mathematical and science backgrounds of general chemistry students at Central Washington University and how that correlates to success in the general chemistry sequence. D. Rivera

8:25 1615. Exploring students’ perceived understandings in General Chemistry lectures. J. Velasco, M. Stains

8:45 1616. Withdrawn.

9:05 Intermission.

9:20 1617. Silly questions. H. H. Harris

9:40 1618. Use of pre-class assignments to encourage student preparation. A. G. McKenna, B. J. Johnson, E. J. McI A. Peterson

10:00 1619. Exploratory study on the use of various question sequences in General Chemistry online homework. C. Groff, A. K. Szeto


10:40 Intermission.

11:15 1622. Overcoming barriers to radical change in your chemistry curriculum. T. N. Jones, L. B. Seballos, K. J. Graham, H. V. Jakubowski, B. J. Johnson, E. J. McIntee, A. A. Peterson, C. P. Schaller

11:35 1623. Impact of combining online-homework and peer-assisted learning on general chemistry. I. I. Salame, I. Hershberger, O. Ivashkiv

11:55 Concluding Remarks.

Westin San Diego
Opal Room

General Papers

Upper Level Courses: Organic and Biochemistry

J. Montgomery, Organizer
B. Goess, T. Woerner, Presiding

8:00 Introductory Remarks.

8:05 1624. Joining forces: Using organic chemistry and chemical biology to teach biochemistry. M. K. Mann

8:25 1625. Using undergraduate biochemistry as a platform for introducing responsible research practices. M. K. Mann, T. E. Woerner, M. B. Newcomb, A. C. Hilliard

8:45 1626. Capillary electrophoresis in the advanced undergraduate laboratory. T. E. Woerner, M. B. Newcomb, A. C. Hilliard

9:05 Intermission.

9:20 1627. Photographically friendly reactions: A potentially valuable tool for POGIL. J. C. Quirke, J. E. Quirke

9:40 1628. Dedicated undergraduates, a multi-disciplinary approach, and small grants activate a successful PUI research program. S. A. Kennedy

10:00 1629. Group presentations in biochemistry: Assessing the development of critical thinking skills and student attitudes. S. M. Tremain


10:40 Intermission.

10:55 1631. Redesign of integrated inorganic, organic, and biochemistry foundation courses and laboratories. C. P. Schaller, K. J. Graham, B. J. Johnson, T. N. Jones, E. J. McIntee, A. G. McKenna, A. A. Peterson

11:15 1632. Acquire, interpret, and present: An organic chemistry laboratory practical final exam. R. Isovitsch

11:35 1633. Two new multi-step syntheses for the advanced organic chemistry laboratory. B. C. Goess

11:55 Concluding Remarks.

Westin San Diego
Diamond I

General Papers
Precollege

J. Montgomery, Organizer
I. I. Salame, J. Czworkowski, Presiding

8:00 Introductory Remarks.

8:05 1634. Using cyberlearning to improve teaching of prospective science teachers. I. I. Salame, D. Krauss


8:45 1636. "You want me to draw what?": Examining elementary teachers' representations of matter. J. K. Weller, I Nakhleh


9:25 Intermission.

9:40 1638. Courses in a science teacher education program may be improving performance and learning in STEM major courses. J. Czworkowski, S. Seethaler

10:00 1639. Understanding the revised AP Chemistry course: Increasing student depth of understanding through the science practices. S. F. Magrogan

10:20 1640. Improving science communication in the high school classroom: NSF GK-12 Connections in the Classroom. L. Wingo, S. E. Morgan

10:40 1641. Shedding light on a well-worn teaching paradigm: Asking students to think about how to design a successful experiment and watching them learn why research in chemistry is valuable, creative, and fun. D. A. Laviska, K. D. Fi S. Goldman

11:00 Concluding Remarks.

Westin San Diego
Topaz Room

General Papers

Nonscience Majors

J. Montgomery, Organizer
M. Bishop, Presiding

1:00 Introductory Remarks.

1:05 1642. Food chemistry themed physical science course and laboratory experiments for nonscience majors. P. Be

1:25 1643. Grading smarter not harder: Revision of laboratory assessment for health science majors. C. Lavoie, N.

1:45 1644. The Science and Business of Medicinal Chemistry: A science course for undergraduate nonmajors. A. G. 1 S. Casper

2:05 1645. Education for sustainable development (ESD): Introducing the undergraduates to analysis of biofuels anc

**2:25 Intermission.**

**2:40 1646.** Application of collaborated and game-based theory of cosmetic chemistry in the Facebook platform. **Z. B. Own**

**3:00 1647.** Science and science fiction in the classroom: An update. **D. A. Katz**

**3:20 1648.** Explosives, chemical weapons, terrorism, and introductory chemistry. **M. Bishop**

**3:40 Concluding Remarks.**

Westin San Diego
Diamond II

**General Papers**

**First Year Laboratory**

J. Montgomery, Organizer
A. Peterson, t. saleh, Presiding

**1:00 Introductory Remarks.**

**1:05 1649.** Impact of the implementation of pre-laboratory quizzes on student performance in a general chemistry laboratory course. **L. J. Buchnoff**, E. Person

**1:25 1650.** E-Learning in the chemistry laboratory: A case study of undergraduate chemistry laboratory. **T. A. Saleh**

**1:45 1651.** Determining levels of multiple metals in wild and cultivated mushrooms. **J. H. MacNeil**

**2:05 Intermission.**


**2:40 1653.** Employing magnetic levitation to measure reaction kinetics: A novel undergraduate laboratory experimer Benz, K. E. Cesa, T. Le, A. Park, D. Malicky

**3:00 1654.** New sublimation experiment for introductory labs. **A. J. Onorato**, A. Abukar, D. Rolle, K. J. Graham, A. Peterson, C. P. Schaller

**3:20 Intermission.**

**3:35 1655.** Purification of unknowns as the theme for the first foundation laboratory. **A. A. Peterson**, K. J. Graham, Jones, C. P. Schaller

**3:55 1656.** Transition metal-ion chloro complexes and anion exchange chromatography. **R. Indralingam**

**4:15 1657.** Using an innovative experiment to teach a "difficult" concept. **R. Indralingam**

**4:35 Concluding Remarks.**

Westin San Diego
Opal Room

**General Papers**
Upper Level Courses: Physical Chemistry, Inorganic, and Graduate

J. Montgomery, Organizer, Presiding
J. Stankus, Presiding

1:00 Introductory Remarks.

1:05 1658. Bioinorganic chemistry experiment: A model catecholate siderophore with Fe$^{3+}$. S. Moslet, D. Shuster, R. Henry


1:45 1660. Releasing stored solar energy within pond scum: Biodiesel from algal lipids. J. L. Blatti, M. D. Burkart

2:05 Intermission.

2:20 1661. Using vendor application notes as a foundation for relevant upper division laboratory experiments. J. J. S

2:40 1662. Crystallography for chemists (and others!): Theory, methods and practical applications in structural science for PUI faculty. K. A. Kantardjieff, E. W. Reinheimer

3:00 1663. Scientific communication using wiki enabled peer assistance in a physical chemistry laboratory course. J. Stankus

3:20 Intermission.

3:35 1664. Study of miscibility of liquid mixtures with a critical point. F. Califano


4:15 1666. Graduate-level cheminformatics course for chemical biology students. A. D. Fant, A. Tropsha

4:35 Concluding Remarks.

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