
95. Intense forbidden Raman mode scattering on nanorod ends under controlled polarization. M. Hansen, J. Truong, T. Xie, J. Hahn

UMBC
Lecture Hall 7

Remsen Symposium

Award Seminar

Cosponsored by COLL
Z. Rosenzweig, Organizer, Presiding

6:30 96. On the surface of things: Chemical display on golden nanocrystals. C.J. Murphy

FRIDAY MORNING

UMBC
Lecture Hall 8

Digital Technologies in the Undergraduate Classroom

C. E. Cotton, Organizer, Presiding

8:30 Introductory Remarks.

8:35 97. Using ALEKS to reach students in a large lecture. S.M. Bass

9:00 98. Computing activities to increase engagement with chemistry concepts in the General Chemistry lecture. A.K. Sharma


9:50 Intermission.

10:10 100. Using 3D activities to supplement classroom instruction. A. Braun

10:35 101. Technology in the classroom: Lessons learned in resurrecting a semester after a catastrophe. E.M. Walters

11:00 102. Chemistry in a virtual world: Discussion of the development of a virtual reality molecular modeling kit. H.A. Facey, A.C. Davis

11:25 Concluding Remarks.

UMBC
Meyerhoff 120
Food Chemistry

Financially supported by McCormick
K. M. Morehouse, Organizer, Presiding

8:30 Introductory Remarks.


9:30 105. Method to detect biomarkers of chronic exposure to domoic acid in human seafood consumers. B.J. Yakes, K.A. Lefebvre


10:20 Intermission.


UMBC
Lecture Hall 7

Spectroscopy & Homeland Security

D. Emge, Organizer, Presiding

8:30 Introductory Remarks.

8:35 110. Detection of hazardous chemical threats using dielectric materials. J.R. Soliz

9:00 111. Higher order statistics for hyperspectral data: away from normality. E.R. Languirand, D. Emge

9:25 112. Advanced analytics for fielded systems. D. Emge

9:50 Intermission.

10:10 113. Raman peak-fitting to predict spectral variation under differing experimental conditions. E. Bowman, B. Arnold
10:35 114. Viewing surface enhanced Raman spectroscopy through the lens of thermodynamics. **E.D. Emmons**, A. Tripathi, A.W. Fountain, J. Guicheteau


11:25 116. Ionizing organic based nanocomposites for efficient γ-ray sensors. V. Dayal, B. Lee, E. Bowman, C. Cooper, S. Sova, B. Arnold, F. Choa, L. Kelly, **N.B. Singh**

11:50 Concluding Remarks.

UMBC
Lecture Hall 5

**Looking at the Opioid Crisis through Different Lenses**

Cosponsored by MEDI
T. Tsukamoto, Organizer, Presiding

9:20 Introductory Remarks.

9:30 117. The Opioid Crisis: How did we get here, and what can we do about it? **T.N. Rieder**

10:00 118. Decoding opiate receptors in five easy steps. **J. Baraban**

10:30 119. How to recognize different types of opioids from quite a long way away. **A. Coop**

11:00 120. Dissecting an epidemic: Lessons from the opioid crisis. **M. Bicket**

11:30 Panel Discussion.

UMBC
Ballroom

**Biochemistry & Inorganic Chemistry**

P. J. Smith, Organizer

10:00 - 12:00

121. Crystallization and biophysical characterization of *Saccharomyces cerevisiae* arginine tRNA transferase 1 (ATE1). **V. Van**, T. Bui, I.R. Mohamed, A.T. Smith

122. Characterization of a psychrophilic esterase from aphanizomenon flos-aquae. K.T. Root, **Z. Knepp**

123. Change in acyl-CoA substrate preference of serine palmitoyltransferase through mutagenesis. **M. Cha**, H. Choe, J.D. Stewart

125. Long-lived luminescence to study dynamic molecular interactions with improved temporal and spatial resolution. H. Rajapakse


127. In vitro hepatic clearance studies of CORCB-1. N.N. Dingra

128. Recombinant expression, purification, and refolding of a psychrophilic esterase from aphanizomenon flos-aquae. K.T. Root, A. Ghaner

129. Feo-mediated ferrous iron transport: Investigating interactions between FeoA and FeoB. A. Sestok, R. Linkous, A.T. Smith

130. The mechanism of Inhibitor of Apoptosis Protein (IAP) domain binding to an apoptotic caspase. B. Graver, M. Storm, M. Junker

131. Identification and characterization of inhibitors of the Pseudomonas aeruginosa heme oxygenase. E.A. Robinson, K. Hom, F. Xue, A. Wilks

132. One-pot enzymatic synthesis of a photocrosslinking CMP-sialic acid derivative for active site amino acids of the Neisseria meningitidis serogroup W capsule polymerase. N. Johnson, P.C. McCarthy


134. Microphthalmia with linear skin defects syndrome (MLS) on the molecular level-- probing cytochrome c heme lyase (CCHL) E133 and R199 mutants. R. Roberts, C. Sanders

135. Evaluating the fluoro-stabilization effect in superfolder green fluorescent protein. C. Henkels


138. Synthesis and characterization of air stable FeCo nanoparticles. L. Krushinski, S. Blama, B. Augustein, M. Zhukovskiyi, V. Smolyaninova, M. Devadas

139. Incorporation of Ru(BPY)3 into the vacant pore of MOF-5 via microwave synthesis. J. Kanyak, R. Klinikowski, S. Temen, T.A. Betts, D.C. Achey

140. Benefits of biological batteries: A study on the effects of biological templates as a means to enhance lithium ion batteries. S.J. Riley

141. Reactivity of Os2(CO)6(RCONH)2: mechanisms and thermodynamic properties. S. Costa

142. Peptide-templated synthesis and assembly of cathode materials for Li-ion batteries. E. Barannikova, M.A. Allen

143. Synthesis and optical characterization of gold nano-bars. M. Kancheva, E. Hobbs, M. Devadas

Bioderived protoporphyrin IX incorporation into a metal-organic framework for enhanced photocatalytic degradation of chemical warfare agents. A. Ploskonka, M. Lee, S.J. Garibay, J.B. DeCoste

Electronic support effects of single-site heterogeneous catalysts (SSHCs) on hydrotalcite supports. K. Wang, A. Voutchkova

Electrocatalytic reduction of CO$_2$ on bismuth and tin cathodes in the presence of various ionic liquid promoters. T. Kunene, A. Atifi, J. Rosenthal

Get involved with the ACS Division of Chemical Education. A.E. Martin


Phase control of europium and samarium chalcogenide nanoparticles. P. Glaser

FRIDAY AFTERNOON

UMBC
Lecture Hall 5

Combating the Opioid Crisis with Chemistry

Cosponsored by MEDI
T. Tsukamoto, Organizer, Presiding

1:30 Introductory Remarks.

1:35 151. Adenosine A$_3$ receptor as a drug target in pain. K.A. Jacobson, D. Tosh, D. Salvemini

2:00 152. Reducing abuse and aiding analgesia: Targeting the dopamine D3 receptor to address the opioid crisis. A.H. Newman


2:50 Intermission.


4:20 157. Fighting the opioid epidemic through robust testing of medical cannabis. S. Hoffman, D. Kulakowski
Digital Technologies in the Undergraduate Classroom

C. E. Cotton, Organizer, Presiding

1:30 Introductory Remarks.


2:00 159. Developing an open-source analytical chemistry classroom. J.P. Grinias

2:25 160. Exam wrappers in a large lecture course. T.S. Carpenter

2:50 Intermission.

3:05 161. Wolfram programming language applications for Chemistry education. A.K. Sharma

3:30 162. Withdrawn

3:55 163. Am I am really studying?: Promoting active learning strategies in general chemistry with technology. E.C. Wilson

4:20 Concluding Remarks.

UMBC
Lecture Hall 7

Photonic Materials

N. B. Singh, Organizer, Presiding

1:30 Introductory Remarks.


2:00 165. Hybrid plasmon-molecule states with toroidal and spherical nanoparticles dimers. M.A. Ochoa


2:50 Intermission.

3:10 167. Controllable wet-chemistry synthesis and two-dimensional self-assembly of plasmonic nanorings. X. Lin, Z. Nie

3:35 168. Microelectronics materials for devices. T. Knight
4:00 169. Development of materials for solid-state mid-infrared lasers. S.B. Trivedi

4:25 Panel Discussion.

4:55 Concluding Remarks.

FRIDAY EVENING

UMBC
Ballroom

Analytical Chemistry & Physical Chemistry

P. J. Smith, Organizer

5:00 - 6:30

170. Rapid screening of vanilla extract by the molecular ionization desorption analysis source for mass spectrometry. C.N. Pitman, J. Wilhide, W.R. Lacourse

171. Dynamic enzyme droplets in 4D glucose metabolism. P.S. Boyd, E.L. Kennedy, M. Jeon, M. Kyoung

172. Dynamic fluorescence measurements of Rose Bengal photosensitization in octanol. Y. Zhang, S.L. Neal


175. Reaction-based fluorometric analysis of N-bromosuccinimide by oxidative deprotection of dithiane. Y. Lee, S.K. Chang

176. Thallium(III) selective colorimetric and fluorescence signaling system using rhodamine–dansyl dyad. Y. Lee, J. Yoo, S.K. Chang

177. Generation of reactive oxygen species (ROS) by transition metals in PM$_2.5$. J. Yalamanchili, C. Hennigan, B. Reed

178. Brix vs. anthocyanins trends in Aronia mitchurinii super-fruit over the ripening period as a key for best nutritional quality. B.V. Green, A.G. Ristvey, V. Volkis

179. Measurement of sugar concentration in American coffee commercial drinks using portable refractometer for development the STEM program (III). K. Young Tae

180. Measurement of fine dust concentration in Korean House for Development of STEM Program (III). K. Young Tae

182. Efficiency of the imidazole plus RNO method for singlet oxygen detection under biorelevant conditions using time-resolved, broadband UV-Vis absorbance measurements. J. Ray, S.L. Neal


184. Capture of hot electrons at metal interfaces. J. Harrell, P.G. Piotrowiak

185. In search of three-body singlet fission. L. Fang, Y.V. Aulin, P.G. Piotrowiak

186. Controlled self-assembly of water-soluble, "hairy", inorganic nanoparticles (HINPs) into supracolloids with defined valence. K. Webb, Z. Nie

187. Comparative analysis of structures and compositions of different raw lignocellulose materials. E. Ochieng, I. Mobley, J. Hayes

188. Exploration of the photocatalytic activity of Eosin Y in benzylic peroxidation reactions. R. Eldabagh, J.J. Foley, Y. Xing


192. Atmospheric decomposition of hydrofluoroethenes: Implications of hydrofluoroolefin oxidation for global warming. H. Li, A.C. Davis

193. Analysis of charge-transfer free energies and reorganizational energies with respect to solvent polarity function. C.E. Cooper, B. Arnold


195. Molecular dynamics investigation of the effect of glycerol implicit solvent effect on the structural properties of polyacrylamide oligomers. S. Hopkins, R. Handler, E. Blaisten-Barojas

196. Computational characterization of three multi-shell gold nanoparticles. N. Pollard, A. Frojd, A. Schnepf, A. Clayborne

197. Epoxy grafted graphene oxide: A unique strategy to tailor the interface and improve the mechanical properties in epoxy-based nanocomposites. P. Katti

198. Photoelectron spectra of multipole & weakly bound negative ions made by Rydberg electron transfer (RET). S. Ciborowski, G. Liu, R.M. Harris, C.J. Martinez-Martinez, C.R. Pitts, J.D. Graham, A. Buystendyk, T. Lectka, P. Skurski, K.H. Bowen

199. Photoassisted dehalogenation of CFC-11(CCl₃F) in SPEEK system. M.S. Islam
200. Formation of wormlike micelles with tetradecyltrimethylammonium bromide and 4-halogenbenzoates. **M.Z. Jora, R.N. de Souza, E. Sabadini**

201. Computational and experimental approaches to understand a living biotic-abiotic interface using gold binding peptides. **M.C. Small, D.A. Sarkes, H. Dong, D.N. Stratis-Cullum, M. Hurley**

**SATURDAY MORNING**

UMBC
Lecture Hall 5

**Emerging Investigators: Early Career Organic Chemists**

Cosponsored by ORGN
W. Farrell, Organizer, Presiding

8:30 Introductory Remarks.

8:35 202. Mechanistic studies of Fe-catalyzed cross-coupling reactions as a platform for reaction discovery. **O. Gutierrez**

9:00 203. Alcohols coupling to alkenes via deoxygenative coupling. **A. Voutchkova**

9:25 204. Using electricity to amp up organic synthesis: Electrocatalytic alkene difunctionalization. **S. Lin**

9:50 Intermission.

10:00 205. New Directions in olefin metathesis and polyhomologation. **W. Farrell**

10:25 206. Poly(arylenevinylene)s through ring-opening metathesis polymerization of an unsymmetrical ‘electronically-ambiguous’ cyclophane. **E. Elacqua**

10:50 207. Chemoenzymatic strategies for optimizing bacterial glycosyltransferase activity for controlled carbohydrate synthesis. **P.C. McCarthy**


UMBC
Lecture Hall 8

**Humanizing Science: The Key Roles of Mentoring & Building Community**

E. Sesmero, Organizer, Presiding

8:30 Introductory Remarks.

8:35 209. Creating a motivating environment in your class: The courage of vulnerability. **E. Sesmero**

8:45 210. Building community and growing success in chemistry through a Learning Assistant program. **C.P. Schick**