B. Arnold and T. Tsukamoto, Program Chairs

THURSDAY MORNING

UMBC
Lecture Hall 7

Atmospheric & Environmental Chemistry

C. Hennigan, Organizer, Presiding

8:30 1. Spatiotemporal analysis of contaminants of emerging concern in the Choptank River. A. Feerick, L.M. Blaney, E.R. Hain, K. He

8:50 2. LC-MS/MS analysis of UV-filter and paraben micropollutants in Potomac River sediments. T. Haji, T.B. Huff, G.D. Foster


9:50 Intermission.


10:40 6. Overview of aerosol mass spectrometry results from HOMEChem (House Observations in Microbial and Environmental Chemistry), an indoor air field campaign. E. Katz, P.F. DeCarlo, M. Vance, D. Farmer

11:00 7. Water-soluble organic carbon effects on thermodynamic modeling of aerosol pH. M. Battaglia, R. Weber, A. Nenes, C. Hennigan


UMBC
Lecture Hall 8

Inorganic Chemistry
B. Arnold, Organizer
M. A. Allen, Presiding

8:30 Introductory Remarks.


10:10 Intermission.

10:25 13. Ironing out protein-protein interactions of the ferrous iron transport (Feo) system. A.T. Smith, A.E. Sestok

10:50 14. Facile synthesis of iron(III) tris(aryloxide)amine complexes. U.J. Williams

11:15 15. Goblet shaped triazatruxene derivatives as potential qubits. M. Dailey, N. Byrne, C. Besson


THURSDAY AFTERNOON

UMBC
Lecture Hall 8

Atmospheric & Environmental Chemistry

C. Hennigan, Organizer, Presiding

1:00 17. Investigation of brown carbon formation due to the drying of ambient aerosol in eastern United States. V. Pratap, M. Battaglia, A. Carlton, C. Hennigan

1:20 18. When is chemistry important for cloud droplet formation? Understanding critical parameters for droplet growth. A. Asa-Awuku

1:50 19. Heterogeneous ice nucleation of model mineral aerosol. M. Freedman

2:20 20. Is inside out? Changes to aerosol composition from the transport of outdoor aerosol indoors. P.F. DeCarlo, A. Avery, M. Waring

2:40 Intermission.


UMBC
Meyerhoff 120

Biochemistry

T. Tsukamoto, Organizer
S. E. Stitzel, Presiding

1:30 Introductory Remarks.


2:00 25. Role of histidine residues H49 and H299 in coordinating the conformational dynamics required for efficient LThDP formation on DXP synthase. A. DeColli, X. Zhang, K. Hahnemann, F. Jordan, C.L. Meyers


2:50 Intermission.

3:05 27. Structural destabilization of mixed helical/sheet proteins by imidazolium chloride ionic liquids in aqueous solution. T.D. Vaden

3:30 28. Matrix effects on kinetics and degradation in the heme proteins/H₂O₂ catalytic cycle. U. Samuni, J. Ramos, M. Bilog, N. Shohet


UMBC
Ballroom

Organic & Medicinal Chemistry

P. J. Smith, Organizer
31. Epistemological note on hybridization. D.D. Clarke


33. Exo-cyclic enone functionalization via isoxazole or pyrazole ring formation. R. Hohol, Z.J. Witczak, R. Bielski, D.E. Mencer

34. Multi-component systems for degradation of lignocellulose to platform chemicals. R.N. Brucato

35. Role of electron transfer in carbonyl directed aliphatic fluorination. F. Ghorbani, T. Lectka


37. Exploration of a chemoselective enzymatic hydrolysis reactions on carbon-13 substrates. J. Marin, J. Ludwig, M. Donahue

38. ODOL-based prodrugs for enhanced oral bioavailability of 2 phosphonomethylpentanedioic acid (2-PMPA), a glutamate carboxypeptidase-II (GCP-II) inhibitor. V. Veeravalli, R. Rais, B. Slusher, R. Dash, L. Tenora, J. Lam, J. Alt, Y. Wu, P. Majer


41. Co-crystal of acetaminophen conjugated carboxyborate. T. Israsenaayudha

42. Synthetic entry to the 2-azatricyclo[4.3.2.0^4,9]undecane ring system: Tropone as a platform for the synthesis of bridged azapolycycles. D. Griffith, Z.K. Phelan, Z. Huang

43. Synthesis and biological activity of flexible analogues of 2'-deoxyribose nucleosides. B. Cawrse, K.L. Seley-Radtke

44. Fluorofunctionalization of C=C bonds with Selectfluor: Synthesis of β-fluoropiperazines. J. Capilato, T. Lectka

45. Distyryl-substituted BODIPY containing hererocyclic units – synthesis and near-IR fluorescence properties. S. Ansteatt, M. Ptaszek

46. Synthesis, photophysical and photochemical properties of directly-linked asymmetric hydoporphyrin dyads. N.A. Esemto, M. Ptaszek

47. Developing and designing RelA/RSH inhibitors for the treatment of medical biofilms. D.C. Hall, J. Krol, G. Ehrlich, H. Ji

48. Microwave synthesis of novel imidazoles to investigate cellular repair. J.A. Smith, B. Tankeu, I. Nwadike, M. Osunsanya


51. Microwave synthesis of FAC-tricarbonyl (pentylcarbonato) (α-diimine) rhenium complexes. A. Culmer-Gilbert, A.J. Winstead


54. Trans-cis isomerization of endyne linked hydroporphyrin dyads results in slipped co-facial orientation with extensive electronic coupling. A. Meares, Z. Yu, A. Satraitis, G. Bhagavathy, M. Ptaszek


56. Facile rhodamine-based fluorescent and colorimetric chemosensors for sequential detection of metal ions. P.L. Perkins


58. Alkane chain-extended pterin through a pendent carboxylic acid acts as triple functioning fluorophore, \( ^1\text{O}_2 \) sensitizer, and membrane binder. N. Walalawela, M.N. Urrutia, S. Belh, A.H. Thomas, A. Greer, M. Vignoni


60. Non-precious metal catalyzed direct synthesis of Guerbet alcohol. M. Chavez, E. Sehovic, P. Kaur


UMBC  
Lecture Hall 7

Remsen Symposium

Cosponsored by COLL  
Z. Rosenzweig, Organizer, Presiding

1:30 Introductory Remarks.
1:35 63. Quantifying wavelength-dependent plasmonic hot carrier energy distributions at metal/semiconductor interfaces. **K.A. Willets**

2:10 64. Chronic exposure to complex metal oxide nanoparticles elicits rapid bacterial resistance. **E.E. Carlson**

2:45 65. Controlling energy transport with DNA-chromophore assemblies. **G. Schlau-Cohen**

3:20 Intermission.

3:40 66. Multifunctional inorganic nanoparticles for medical and materials applications. **M. Daniel**

4:15 67. Surface chemistry controlled synthesis and performance of metal and metal-like nanoparticles. **J. Millstone**

**THURSDAY EVENING**

UMBC
Ballroom

Nano & Environmental Chemistry

P. J. Smith, **Organizer**

5:00 - 6:30

68. Investigations of the acidity and liquid water content of Chesapeake Bay aerosols during the OWLETS-2 campaign. **N. Balasus**, K. Ball, M. Battaglia, R. Delgado, C. Hennigan


70. Study of microporous aluminum metal-organic frameworks (Al-MOFs) for protection against environmental corrosion. **E. Kodjo**, T. Bakupog, **A. Samokhvalov**


72. Click chemistry-enabled combinatorial synthesis of poly(amino acid) amphiphiles as candidate micellar drug carriers. **Y. Itzkowitz**, T. Lee, Y. Zhu, V. Coble, A.S. Ishizuka, G. Lynn

73. Superhydrophobic microtips: Singlet oxygen delivery to biological sites without direct sensitizer contact. **S. Behb**, G. Ghosh, N. Walalawela, Q. Xu, A. Rastelli, T. Hasan, A.M. Lyons, A. Greer

74. Determination of eight UV-filters in surface water samples using dispersive liquid-liquid microextraction with high-performance liquid chromatography and UV detection. **J. Batista Andrade**, E.R. Hain, K. He, L.M. Blaney

75. Star polymers displaying peptide-based immunogens as vaccines for inducing protective antibody response. **J. Holechek**, V. Coble, S. Nichols, J. Francica, R. Laga, R.A. Seder, Y. Zhu, G. Lynn

77. Discovery of FAZnF$_3$, a hybrid organic-inorganic perovskite for photocatalytic water splitting through machine learning and density functional theory. **K. Yang**

78. Facile green synthesis of Degraded-PVA coated TiO$_2$ nanoparticles with enhanced photocatalytic activity under visible light. **S. Li**, G. Li, Q. Chen, F. Wang


80. The Impact of the bay breeze on ammonia and ammonium nitrate concentrations in the Baltimore-metropolitan area. **K. Ball**, N. Balasus, R. Delgado, M. Battaglia, C. Hennigan


86. Synthesis of magnetic iron nanoparticles gels of n-(2-aminoethyl)-3-aminosilanetriol. **B.P. Chauhan**, **Z. Perez**, Q.R. Johnson


91. Non-covalent interactions of n-alkylenes at infinite dilution with silica nanoparticles during hydrolysis of triethyl orthosilicate (TEOS). **T.G. Moon**, A. Hussam


93. Revealing protein interactions with nanoscale, chemically varying polymer surfaces at the single biomolecule level for biomedical applications. **T. Xie**, D. Cho, J. Hahn

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