

## WEDNESDAY MORNING

## Section A

Salt Palace Convention Center  
355 D

**Nanotechnology and the Environment: Emphasis on Green Nanotechnology Membrane-Based Separations and Environmental Implications** Cosponsored by INOR and NANO

D. Bhattacharya, *Organizer*

8:00 Introductory Remarks.

8:05 111. Nanostructured materials/membranes for toxic metal separations and enzyme catalysis: An overview.

**D. Bhattacharyya**, S. Datta, L. G. Bachas, D. Meyer, J. Xu, V. Smuleac

8:35 112. Efficient and scalable nanoparticle separation and deposition processing using the tunable properties of CO<sub>2</sub> expanded liquid solutions. S. R. Saunders, K. M. Hurst, W. R. Ashurst, **C. B. Roberts**

9:05 113. Nanotechnology for Hg management in CFLs. **B. Lee**, L. Sarin, N. Johnson, S. Bowers, R. H. Hurt

9:35 Intermission.

9:55 114. Single-walled carbon nanotubes:

Their impact on soil microbial community composition and functions. **R. F. Turco**, Z. Tong, M. Bischoff, L. F. Nies, N. Carroll

10:25 115. Assessment of the impact of pegylated single-walled nanotubes in an anaerobic environment. **L. M. Nyberg**, L. F. Nies, R. F. Turco

10:55 116. On the materials origin of carbon nanotube toxicity: Interactions with the physiological antioxidant glutathione.

**X. Liu**, I. Kulaots, A. B. Kane, R. H. Hurt

**George A. Olah Award in Hydrocarbon or Petroleum Chemistry: Symposium in Honor of Cynthia M. Friend**

**Bimetallics and Electrocatalysis** Sponsored by CATL (probationary), Cosponsored by COLL, FUEL, I&EC, PETR, WCC, and PHYS

**Nanotechnology in Catalysis VI** Sponsored by CATL (probationary), Cosponsored by COLL, FUEL, I&EC, PETR, and NANO

## WEDNESDAY AFTERNOON

## Section A

Salt Palace Convention Center  
355 D

**Nanotechnology and the Environment: Emphasis on Green Nanotechnology Nanotechnologies for Environmental Cleanup** Cosponsored by INOR and NANO

D. Dionysios, *Organizer*

1:00 Introductory Remarks.

1:05 117. Role of natural water matrix in the photocatalytic degradation of microcystin-LR with NF-TiO<sub>2</sub> films. M. Pelaez, A. A. de la Cruz, **D. D. Dionysios**

1:35 118. Photocatalytic transformation of chloroform by biogenic titanium oxide nanoparticles from marine diatoms. **Y. Kim**, S. Y. Kwon, G. L. Rorrer, L. Semprini

2:05 119. Effect of nano zero-valent iron on TCE degradation by a mixed dechlorinating culture. **Z. Xiu**, Z. Jin, G. V. Lowry, T. Li, P. J. Alvarez

2:35 Intermission.

2:55 120. One step "green" synthesis of Pd nanoparticles of controlled size and their catalytic activity for trichloroethene hydrodechlorination. F. He, J. Liu, C. B. Roberts, **D. Zhao**

3:25 121. Activity and stability of nanophase palladium-rhenium catalysts used for perchlorate reduction: Influence of rhenium surface speciation. J. K. Choe, J. R. Shapley, C. J. Werth, **T. J. Strathmann**

‡ Cooperative Cosponsorship

3:55 122. Application of carboxymethyl cellulose stabilized iron nanoparticles for destruction of chlorinated hydrocarbons in soil. F. He, M. Zhang, **D. Zhao**

4:25 123. Green nanotechnology for arsenic and heavy metal remediation. **A. W. Apblett**, A. P. Piquette, S. Kuriyavar

**George A. Olah Award in Hydrocarbon or Petroleum Chemistry: Symposium in Honor of Cynthia M. Friend**

**Surface Characterization and Chemistry** Sponsored by CATL (probationary), Cosponsored by COLL, FUEL, I&EC, PETR, WCC, and PHYS

**Nanotechnology in Catalysis VI** Sponsored by CATL (probationary), Cosponsored by COLL, FUEL, I&EC, PETR, and NANO

## THURSDAY MORNING

## Section A

Salt Palace Convention Center  
355 D

**Nanotechnology and the Environment: Emphasis on Green Nanotechnology Nanomaterials for Clean Energy** Cosponsored by INOR and NANO

D. R. Rolison, *Organizer*

8:30 Introductory Remarks.

8:35 124. Improving centuries-old electrical energy storage devices by rethinking multifunction on the nanoscale and in 3-D. **D. R. Rolison**, J. W. Long, J. C. Lytle, M. E. Bourg, J. L. Dysart, K. A. Pettigrew

9:05 125. Nanogenerators. **Z. L. Wang**

9:35 126. Materials discovery and development for fuel cell applications. **H. D. Abruña**

10:05 Intermission.

10:25 127. Metal fluoride conversion nanocomposites: An alternative road for lithium based energy storage. **G. Amatucci**, F. Badway, N. Pereira, F. Cosandey, A. Gmitter

10:55 128. Promotion of hydrogen release from ammonia borane with nanostructured hexagonal boron nitride. **S. M. Kauzlarich**, D. Neiner, A. Karkamka, J. Wang, J. Linehan, B. W. Arey, T. Autrey

11:25 129. Properties and theoretical aspects for photoelectrochemical water splitting materials. **J. A. Turner**, T. G. Deutsch, M. Huda

**Catalysis for Coal Conversion** Sponsored by CATL (probationary), Cosponsored by FUEL and I&EC

**Nuclear Forensics** Sponsored by NUCL, Cosponsored by I&EC<sup>‡</sup>

## THURSDAY AFTERNOON

**Nuclear Forensics** Sponsored by NUCL, Cosponsored by I&EC<sup>‡</sup>

## INOR

## Division of Inorganic Chemistry

**D. C. Crans** and **B. T. Donovan-Merkert**, *Program Chairs*

## SUNDAY MORNING

## Section A

Salt Palace Convention Center  
Combo Rooms 254 B-C

**ACS Award in Inorganic Chemistry: Symposium in Honor of Daniel G. Nocera: Multi-electron Redox Reactions: Where Transition Metals Reign**

J. C. Peters and C. C. Cummins, *Organizers, Presiding*

9:00 Introductory Remarks.

9:05 1. C-H borylation: What's up with iridium? B. A. Vanchura, B. Ramanathan, G. A. Chotana, **M. R. Smith III**

9:30 2. Alkane, arene, and olefin oxidation at biological diiron centers. **S. J. Lippard**

9:55 3. Metal ligand triple bonds and the oxo wall. **H. B. Gray**, J. R. Winkler

10:20 4. Dipyrrolylazaallyl complexes display unusual electronic properties: Characterizations of (smif)<sub>2</sub>M (M = V, Cr, Mn, Fe, Co, Ni) and (smif)MX (smif = {(2-py)CH<sub>2</sub>N}). B. A. Frazier, E. C. Volpe, **P. T. Wolczanski**, T. R. Cundari, S. Doucette, S. Mossin, K. Meyer

10:45 Intermission.

10:55 5. Reactions of two-coordinate Ni(II) complexes supported by an N-heterocyclic carbene ligand. C. A. Laskowski, D. J. Bungum, V. M. Iluc, **G. L. Hillhouse**

11:20 6. Diiron hexacarbonyl proton reduction catalysts based on rigid naphthalene-1,8-dithiolate ligands. **T. D. Tilley**, R. J. Wright, C. Lim

11:45 7. Olefin metathesis catalysts of molybdenum and tungsten for the metathesis of alkanes. **R. R. Schrock**, B. C. Bailey, S. Miranescu, A. J. Jiang

## Section B

Salt Palace Convention Center  
255 B

**F. Albert Cotton Award in Synthetic Inorganic Chemistry: Symposium in Honor of Kenneth D. Karlin**

R. A. Ghiladi, *Organizer*

E. I. Solomon, *Organizer, Presiding*

9:00 8. Reduction of dioxygen to water by the multicopper oxidases. **E. I. Solomon**

9:30 9. Moving protons and electrons together. **J. M. Mayer**, C. R. Waidmann, V. W. Manner, J. J. Warren, T. F. Markle, T. A. Tronic

10:00 10. Copper dioxygen chemistry with diamines at low temperatures. P. Verma, P. Kang, L. M. Mirica, M. Vance, E. I. Solomon, **T. D. P. Stack**

10:30 Intermission.

11:00 11. Vibrational spectroscopic studies of NO in bioinorganic chemistry. **P. Moenne-Loccoz**, T. Hayashi, E. T. Yuki

11:30 12. Nonheme iron-alkylperoxo model complexes (Fe-OOR) with mixed N/S-ligation. **D. P. Goldberg**, F. Namuswe, G. D. Kasper, T. Hayashi, P. Moenne-Loccoz

12:00 13. Synthetic inorganic chemistry to probe biological zinc. **S. J. Lippard**

## Section C

Salt Palace Convention Center  
255 D

**Green Nanoscience** Cosponsored by COLL, POLY, and NANO

D. J. Nelson and S. S. Wong, *Organizers*

H. A. Godwin, *Presiding*

8:40 14. Bioinspired hybrid systems for the photoelectrocatalytic generation of hydrogen and natural gas. **P. Siyambalagoda Gamage**, S. H. Bossmann

9:00 15. Electrical impedance sensing approach for rapid nanotoxicity assay. **E. Hondroulis**, C-Z. Li

9:20 16. Highly efficient synthesis of gold nanorods in ionic liquid solvent systems. **M. Bockstaller**

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9:40 17. Low temperature, green synthesis of CdSe/ZnS and CdSe/CdZnS core/shell quantum dots. **H. Zhu**, A. Prakash, D. Benoit, C. Jones, V. Colvin

10:00 18. Low temperature, rapid, template-free synthesis of variety of nanorods by alkaline reduction. **C. Yan**, N. Lee, M. J. Wagner

10:20 19. Mild synthesis of zinc oxide nanoparticles via an organometallic method. **K. L. Orchard**, A. Gonzalez-Campo, M. S. Shaffer, C. K. Williams

10:40 20. NiO(111) nanosheets as adsorbents for dye pollutants removal from wastewater. Z. Song, L. Chen, **J. Hu**, R. M. Richards

11:00 21. Synthesis of Ni-based nanoalloys at room temperature. **Z. Zhang**, T. M. Nenoff, J. Huang, D. T. Berry, P. P. Provencio

11:20 22. Tailoring pure and mixed La- and Ce-oxides nanostructures for desulfurization applications. **S. Liang**, Y. Wang, G. Vesper

11:40 23. Transformations of nitrite, nitric oxide, and nitrous oxide under hydrogen: Pd-Cu catalysts in water. M. F. Fanizza, K. A. Guy, **J. R. Shapley**, C. J. Werth

12:00 24. Why go green? Incentives and challenges for the design of environmentally friendly nanomaterials. **H. A. Godwin**

## Section D

Salt Palace Convention Center  
255 A

## Coordination Chemistry: Applications

W. A. Howard, *Organizer*

A. D. Bettencourt-Dias and P. D. Battle, *Presiding*

9:30 25. Light-harvesting bifunctional ligands for luminescent platinum and palladium coordination polymers. E. G. Tennyson, **R. C. Smith**

9:50 26. Charge-transfer processes in transition metal complexes of p-quinone-based redox-active ligands. **S. S. Schueermann**, **M. Wagner**

10:10 27. Copper(I) sulfide clusters and complexes: Progress toward models of Cu<sub>2</sub> from nitrous oxide reduction. **R. P. Houser**

10:30 28. Nitrosation reaction of methyl salicylate mediated by the coordination of yttrium nitrate. Y. Liu, C. Qiu, X. Lin, L. Zhang, X. Li, Y. Li

10:50 29. Ligand design and synthesis for sensitization of Ln(III) ion luminescence. **A. de Bettencourt-Dias**, S. Viswanathan, D. T. de Lill, B. Mauil, R. M. Beeler, P. S. Barber, S. Tse

11:10 30. Novel thymidine analogs as potential diagnostic and therapeutic agents in nuclear medicine. **M. D. Bartholomá**, J. A. Zubieta

11:30 31. Single-molecule magnets: Optical switching ON/OFF the intermolecular interactions between SMMs. **T. Taguchi**, K. A. Abboud, G. Christou

## Section E

Salt Palace Convention Center  
255 C

## Organometallic Synthesis

B. T. Donovan-Merkert and D. C. Crans, *Organizers*

D. Roddick, *Presiding*

9:20 32. Synthesis of PCP acceptor complexes of iridium. **D. M. Roddick**, J. J. Adams, N. Arulsamy, A. Lau

9:40 33. Zirconium complexes of a charge-versatile pincer ligand: Reversible switching between XXX and LXL charge motifs through addition of Lewis acids. **E. S. Wiedner**, M. J. A. Johnson, J. W. Kampf

10:00 34. meta-Terphenyl anchored pincer C<sub>3</sub> complexes. L. Ma, M. Lipke, R. A. Woloszynek, R. J. Gilliard, P. Challen, M. L. Kwan, **J. D. Protasiewicz**

- 10:20 35. Nickel-silyl complexes of N-heterocyclic carbenes. **D. Y. Kim**, T. D. Tilley
- 10:40 36. Nonimidazole-based N-heterocyclic carbenes via tautomerization or C-H activation. **X. Li**
- 11:00 37. Pd(II) fluoride complexes supported by N-heterocyclic carbenes for allylic C-F bond formation: Experimental and theoretical studies. **E. Lee**, D. V. Yandulov
- 11:20 38. Gold-ethylene complexes with fluorinated 1,3,5-triazapentadienyl ligands. **J. A. Flores**, H. V. R. Dias
- 11:40 39. Mono and dinuclear corrole-complexes as synthetic enzyme models and their application in oxidation reactions. **M. Schwalbe**

## Section F

Salt Palace Convention Center  
255 E

## Chemistry of Materials

D. J. Nelson, *Organizer*K. W. Chapman and R. G. Harrison,  
*Presiding*

- 9:00 40. Beyond open reticulated geometries. **Q. Li**, W. Zhang, J. F. Stoddart, O. M. Yaghi
- 9:20 41. Enantiospecific desorption of propylene oxide from chirally modified surfaces. **W. Y. Cheong**, A. J. Gellman
- 9:40 42. Gas barrier properties of fabric films assembled from tiled layered silicate nanoparticles. **H. Shao**, T. J. Pinnavaia
- 10:00 43. Mesoporous silica with supermicroporous framework pores. **C. P. Canlas**, T. J. Pinnavaia
- 10:20 44. Silicon nanoparticles: Functionalization and applications. **L. De Cola**
- 10:40 45. Synthesis and sensing properties of mixed oxide magnetic nanoparticles. **M. Sorescu**, L. Diamandescu, A. Tomescu, S. Krupa
- 11:00 46. Anomalous thermal expansion behavior of cuprites. **K. W. Chapman**, P. J. Chupas
- 11:20 47. Gadolinium nitride endohedral fullerenes: Electronic structures and their use as MRI contrast-enhancing agents. **M. N. Chaur**, L. Echegoyen
- 11:40 48. Imaging mercury ions in living cells by fluorescence chemodosimeters based on Hg<sup>2+</sup>-induced hydrolysis. **J. Fan**, J. Du, X. Peng, H. Li, S. Sun
- 12:00 49. Structural chemistry and magnetic properties of Ln<sub>12</sub>L<sub>12</sub>M<sub>12</sub>O<sub>36</sub>. **P. D. Battle**, S. E. Dutton, F. Grandjean, G. J. Long, K. Oh-ishi

## Section G

Salt Palace Convention Center  
255 F

## Inorganic Spectroscopy

D. C. Crans, *Organizer*M. L. Kirk, *Presiding*

- 10:00 50. Linear and nonlinear optical properties of platinum containing two-photon absorbing chromophores. **J. E. Haley**, J. L. Monahan, D. M. Krein, J. E. Slagle, D. G. McLean, T. M. Cooper
- 10:20 51. Large variation of phosphorescent properties in isomeric, cyclometalated platinum complexes. **P. Djurovich**, **J. Brooks**, M. E. Thompson
- 10:40 52. Metal to ligand charge transfer transitions as probes of electronic coupling in mixed valence complexes and the criterion for a new class of mixed valency. **B. J. Lear**, M. H. Chisholm
- 11:00 53. White, tunable photoluminescence and unidirectional semiconducting behavior of trinuclear Au(I) complexes and adducts thereof with heavy-metal cations. **O. Elbjeirami**, R. McDougald, M. A. Omary

## Section H

Salt Palace Convention Center  
Combo Rooms 253 A-B

## Computational Chemistry

D. C. Crans, *Organizer*F. Maseras, *Presiding*

- 10:00 54. Platinum catalyzed C-H activation: Insight from DFT and ReaxFF. **M. Ahlquist**, W. A. Goddard III
- 10:20 55. The hydration and complexation of copper (II): New insights from density functional theory and the COSMO solvation model. **V. S. Bryantsev**, M. Diallo, W. A. Goddard III
- 10:40 56. How to accurately compute nuclear quadrupole couplings for metals in proteins. **G. S. Harbison**, X. Wu, A. Roehrich
- 11:00 57. On the accuracy of DFT and ab initio methods for transition metal compounds. **J. N. Harvey**
- 11:20 58. Structural investigation of a layered Dion-Jacobson perovskite, RbSr<sub>2</sub>Nb<sub>3</sub>O<sub>10</sub> and its acidic form, HSr<sub>2</sub>Nb<sub>3</sub>O<sub>10</sub> using density functional theory. **J. Adhikari**, L. J. Smith

**Nanotechnology and the Environment: Emphasis on Green Nanotechnology**  
Sponsored by I&EC, Cosponsored by INOR and NANO

## SUNDAY AFTERNOON

## Section A

Salt Palace Convention Center  
Combo Rooms 254 B-C

**ACS Award in Inorganic Chemistry: Symposium in Honor of Daniel G. Nocera: Multi-electron Redox Reactions: Where Transition Metals Reign**

C. C. Cummins, *Organizer*J. C. Peters, *Organizer, Presiding*

- 2:00 59. Light driven generation of hydrogen from water using platinum(II) chromophores: Recent studies on charge separation and the nature of the catalyst. **P. Du**, K. Knowles, T. Lazarides, J. Schneider, J. Zhang, P. R. Jarosz, **R. Eisenberg**
- 2:25 60. Use of unnatural amino acids to study proton coupled electron transfer in ribonucleotide reductase. **J. Stubbe**, E. Minnihhan, K. Yokoyama
- 2:50 61. Light emitting boron biomaterials for imaging and oxygen sensing. **G. Zhang**, R. E. Evans, G. M. Palmer, M. W. Dewhurst, J. Xie, S. Hamm-Alvarez, R. J. Price, **C. L. Fraser**
- 3:15 62. Spin polarization effects on electron and energy transfer reactions. **J. K. McCusker**
- 3:40 63. C1 activation at low-, mid-, and high-valent uranium complexes. **K. Meyer**, S. C. Bart
- 4:05 64. Carbene-stabilization of highly reactive molecules. **G. H. Robinson**, Y. Wang
- 4:30 65. Multielectron reductions of CO<sub>2</sub>. **C. P. Kubiak**, E. E. Benson, J. M. Smieja, A. Sathrum

**The official technical program for the 237th National Meeting is available online at [oasys2.confex.com/acs/237nm/techprogram/](http://oasys2.confex.com/acs/237nm/techprogram/).**

## Section B

Salt Palace Convention Center  
255 B

**F. Albert Cotton Award in Synthetic Inorganic Chemistry: Symposium in Honor of Kenneth D. Karlin**

E. I. Solomon and R. A. Ghiladi,  
*Organizers*J. Shearer, *Presiding*

- 1:30 66. Studies with simple compounds in microemulsions: Relevance to the current controversies regarding Overton's rule and lack of compliance with Lipinski's rule. **D. C. Crans**
- 2:00 67. Structure and reactivity of copper-Sco: An essential element of cytochrome oxidase assembly. **N. J. Blackburn**, G. S. Siluvai
- 2:30 68. Copper-oxygen and -sulfur complexes for modeling active site intermediates in copper enzymes. **W. B. Tolman**
- 3:00 69. Intermission.
- 3:30 69. Small molecule activation with light and Karlin compounds. **G. J. Meyer**
- 4:00 70. Proton pumping by cytochrome oxidases involves the conserved Tryptophan272. **S. de Vries**
- 4:30 71. Electron flow through copper proteins. **K. M. Lancaster**, J. R. Winkler, **H. B. Gray**

## Section C

Salt Palace Convention Center  
255 D

## Main Group Chemistry

D. C. Crans, *Organizer*J. D. Protasiewicz, *Presiding*

- 2:00 72. Phosphonium boranes for the detection of fluoride in water at the ppm level. **Y. Kim**, F. P. Gabbai
- 2:20 73. Reaction of carbon dioxide with main group complexes: What a difference the phosphorus makes. **D. A. Dickie**, R. A. Kemp
- 2:40 74. Substituted tetraazacyclotetradecane zinc(II) complexes: Synthesis, characterization and reaction chemistry. **C. A. Stewart**, D. A. Dickie, R. A. Kemp
- 3:00 75. Synthesis of 9,10-dihydro-9,10-diboraanthracene: A novel ditopic borane for hydroboration polymerization. **A. Lorbach**, H-W. Lerner, M. Bolte, M. Wagner
- 3:20 76. Withdrawn.
- 3:40 77. Novel sterically crowded triazenides as ancillary ligands in group 12 and 13 chemistry. **M. Niemeyer**, H. S. Lee, D. Vindus
- 4:00 78. Phospha-PPVs and phospha-OPVs: Materials featuring phosphorus as participatory element in pi-conjugation. **V. B. Gudimetla**, M. P. Washington, F. Li, **J. D. Protasiewicz**
- 4:20 79. Redox interactions among the binary sulfur nitrides S<sub>4</sub>N<sub>4</sub>, S<sub>3</sub>N<sub>3</sub> and S<sub>2</sub>N<sub>2</sub>: EPR evidence for the formation of an unstable [S<sub>2</sub>N<sub>2</sub>]<sup>-</sup> radical anion in solution phase. **R. T. Boeré**, T. Chivers, J. Konu, T. L. Roemmele, H. M. Tuononen
- 4:40 80. Synthesis and X-ray structures of aromatic dithiophosphinic acids. **J. R. Klaehn**, D. R. Peterman, M. K. Harrup, T. A. Luther, L. M. Daniels, R. J. Butcher
- 5:00 81. Tailor made silylated oligogermanes. **C. Marschner**, J. Baumgartner, H. Wagner, T. Müller

## Section D

Salt Palace Convention Center  
255 A

**Nanoscience: Characterization and Applications** Cosponsored by COLL, POLY, and NANO

D. J. Nelson and S. S. Wong, *Organizers*B. Dragnea and A. W. Applett, *Presiding*

- 1:30 82. Fluorescent microporous metal-organic frameworks for fast and reversible detection of high explosives. **K. Li**, A. Lan, Z. Hu, J. Zhang, H. Wu, D. H. Olson, T. J. Emge, W. Ki, M. Hong, J. Li
- 1:50 83. Nanometric inks for detection of improvised explosives. **A. W. Applett**, K. Barber, N. Materer
- 2:10 84. Labeling the active sites on a niobate water splitting photocatalyst. **E. M. Sabio**, N. D. Browning, F. E. Osterloh
- 2:30 85. Characterization of small molecule binding to PAMAM dendrimer nanoparticles using fluorescence spectroscopy: The effect of dendrimer size and solution composition on electrostatic and nonelectrostatic binding probes. **L. D. Margerum**, T. Frost
- 2:50 86. Dendrimer encapsulated one nanometer Rh and Pt particles: Characterization and hydrogenation studies of ethylene and pyrrole. **W. Huang**, J. N. Kuhn, C-K. Tsung, Y. Zhang, G. A. Somorjai
- 3:10 87. Inorganic nanoreactors as nonfading chromophores. **A. E. Ostafin**, Y-C. Chen, K-B. Han
- 3:30 88. pH Dependent emission of near infrared emitting gold nanoparticles. **A. E. Ostafin**, C-W. Lee, A. Elangovan, C. Takagi
- 3:50 89. Pump-probe photothermal scanning confocal microscope. **M. Vieweger**, B. Dragnea
- 4:10 90. Selective noncovalent functionalization of glassy carbon with cobalt (II) terpyridyl complexes. **J. I. Goldsmith**, H. Smith, R. Usala, E. McQueen
- 4:30 91. Shaped controlled Fe oxide shells on Pt nanoparticles. **N. Shukla**, M. M. Nigra, M. Bartel, A. Gellman
- 4:50 92. Catalytic dechlorination of trichloroacetic acid by nanoscale Pd-Fe bimetallic particles. **X. Wang**, H. Liu
- 5:10 93. Effect of force on the kinetics of ligand substitution at Si, P and S. **R. Boulatov**, Z. Huang

## Section E

Salt Palace Convention Center  
255 C

## Organometallic Chemistry

B. T. Donovan-Merkert and D. C. Crans,  
*Organizers*C. Jones, *Presiding*

- 2:00 94. Synthesis and catalytic investigation of Rh(I) and Ir(I) complexes supported by new C<sub>2</sub> symmetric di-N-heterocyclic carbene (NHC) ligands. **R. J. Lowry**, M. K. Veige, K. A. Abboud, I. Ghiviriga, A. S. Veige
- 2:20 95. Kinetic vs. thermodynamic products in the activation of aryl C-H and C-X bonds: The influence of "Directing" groups. **D. A. Laviska**, A. S. Goldman
- 2:40 96. Catalytic bond formation at low valent iridium by a double C-H activation-group transfer process. **M. T. Whited**, R. H. Grubbs
- 3:00 97. Mechanistic investigations of the iridium(III) catalyzed aerobic oxidation of primary and secondary alcohols. **E. A. Ison**, B. Jiang, Y. Feng
- 3:20 98. Formation of a trinuclear oxo complex from the reaction of a tungsten alkylidyne with water. **B. A. Dougan**, **Z-L. Xue**
- 3:40 99. Transition metal complexes containing bulky tin ligands. **B. Captain**, L. Zhu, D. Isrow, V. Yempally, G. C. Fortman, C. D. Hoff

- 4:00 100.** Carbyne complexes of ruthenium: Synthesis, structure, and reactivity. **M. J. A. Johnson**, M. L. Macnaughtan, J. W. Kampf
- 4:20 101.** Verifying an ortho fluorine effect through M-C/H-C bond energy correlations of fluorinated aromatic hydrocarbons. **M. E. Evans**, W. D. Jones
- 4:40 102.** Synthesis and catalytic activity of Bis-dimimidazolylidene complexes of nickel. **T. A. P. Paulose**, J. W. Quail, S. R. Foley
- 5:00 103.** Electron-rich ruthenium hydride complexes: Potential catalysts for regio-selective reductions. **A. P. Shaw**, J. R. Norton

## Section F

Salt Palace Convention Center  
Combo Rooms 253 A-BChemistry of Materials  
Crystals, Light, and SensorsD. J. Nelson, *Organizer*M. H. Bartl and Y. Sun, *Presiding*

- 2:00 104.** Atomic layer deposition of tantalum oxide using a new amidinate-based precursor. **M. K. Wiedmann**, C. H. Winter
- 2:20 105.** Directed syntheses of noncentrosymmetric materials. **A. J. Norquist**
- 2:40 106.** Nanostructural investigation of thorium incorporated UO<sub>2</sub> and UN<sub>2</sub>. **G. W. C. Silva**, K. Czerniewski
- 3:00 107.** Polar and ionic liquid crystals incorporating the [closo-1-CB<sub>9</sub>H<sub>10</sub>] cluster. **P. Kaszynski**, B. S. Ringstrand
- 3:20 108.** Strong optical second harmonic generation from the tantalum thioarsenates A3Ta2AsS11 (A = K, Rb). **T. K. Bera**, J. I. Jang, J. B. Ketterson, M. G. Kanatzidis
- 3:40 109.** Synthesis, structures and physical properties of double metal cyanides. **P. J. van Koningsbruggen**, E. J. M. Vertelman, H. Tchouka, A. Noble
- 4:00 110.** Using precursor-controlled microstructures for preparing selective gas microensors by chemical vapor deposition. **C. J. Taylor**, J. A. Beardslee, A. K. Mebust, A. S. Chaimowitz, C. R. Davis-vanAtta
- 4:20 111.** Vapor phase synthesis of upconverting nanocrystals to generate red, green, blue and white light. **G. P. Gaspellii II**, J. Anderson, J. R. Wilkins, M. S. El-Shall
- 4:40 112.** Lanthanide-based polymers and ionic liquids. **R. E. Del Sesto**, D. Ortiz-Acosta, G. M. Purdy, E. A. McKigney, R. D. Gilbertson, R. Muenchhausen, T. M. McCleskey, B. L. Scott, B. L. Bennett, A. H. Mueller
- 5:00 113.** Molecular based thin films: Structures, materials and devices. **T. Gupta**

## Section G

Salt Palace Convention Center  
255 F

## Inorganic Spectroscopy

D. C. Crans, *Organizer*S. Ciurli, *Presiding*

- 2:00 114.** FT-IR investigations of carbon dioxide adsorption in flexible coordination polymers. **J. T. Culp**, A. L. Goodman, C. Matranga
- 2:20 115.** Spectroscopic and computational studies of peroxomanganese(III) adducts. **T. A. Jackson**, R. Geiger, S. Chattopadhyay
- 2:40 116.** Cooperative dual donor sensitization in lanthanide system. **Z. Assefa**, C. Crawford, N. Beedoe, B. Maynard, P. Smith, L. Ladner, R. E. Sykora
- 3:00 117.** Spin delocalization and spin polarization in a triplet donor-bridge-acceptor biradical system. **M. L. Kirk**, D. Habel-Rodriguez, D. A. Shultz, R. D. Schmidt
- 3:20 118.** Structural and spectroscopic evidence of electron delocalization in a cyanide bridged trinuclear compound. **L. M. Baraldo**, M. B. Rossi, P. Alborés

- 3:40 119.** Luminescent  $\beta$ -diketones: Photo-physical properties and magnesium binding. **G. Zhang**, S. H. Kim, R. E. Evans, B. H. Kim, J. N. Demas, C. L. Fraser
- 4:00 120.** Two color reversible photochromism. **B. A. McClure**, J. J. Rack
- 4:20 121.** Photochemistry and photophysics of photochromic ruthenium sulfoxide complexes. **J. J. Rack**, B. A. McClure, D. A. Lutterman, C. Turro
- 4:40 122.** Homoleptic and heteroleptic Fe(III) and Fe(IV) complexes stabilized by sulfur-donor ligands. **S. Sproules**, C. Milsman, S. DeBeer George, K. Wieghardt

## Section H

Salt Palace Convention Center  
Combo Rooms 253 A-B

## Bioinorganic Chemistry: DNA and RNA

D. C. Crans and S. L. J. Michel,  
*Organizers*J. B. Vincent, *Presiding*

- 2:30 123.** DNA binding and cleavage and anticancer activities of dinuclear mixed ligand copper(II) complexes of dimines. **M. Palaniandavar**, S. Ramakrishnan, M. A. Akbarsha, V. S. Periasamy
- 2:50 124.** Size and distance dependent NSET ruler for selective sensing of hepatitis C virus RNA. **P. Ray**
- 3:10 125.** Sulfur oxygenates of biomimetics of the diiron subsite of the [FeFe] hydrogenase active site: Structures, reactivity and oxygen damage repair possibilities. **T. L. Liu**, M. L. Singleton, B. Li, M. B. Hall, M. Y. Darensbourg
- 3:30 126.** Identification of a gold nanorod forming RNA aptamer via in vitro selection on surfaces. **A. E. Mahady**, S. E. Lohse, S. F. Sweeney, J. A. Berglund, J. E. Hutchison
- 3:50 127.** Interaction of cytidine and deoxycytidine with Li<sup>+</sup>, Na<sup>+</sup>, K<sup>+</sup>, Mg<sup>2+</sup>, Ca<sup>2+</sup>, Zn<sup>2+</sup> and Cu<sup>+</sup> in gas phase observed through theoretical study: Effects of metal cationization on sugar puckering and stability of the N-glycosidic bond. **A. Fattahi**, Z. Aliakbar Tehrani
- 4:10 128.** Luminescence studies of dinuclear lanthanide ion complexes interactions with phosphate esters and DNA. **C. M. Andolina**, K. Nwe, J. R. Morrow
- 4:30 129.** Specific recognition and photocleavage of abasic sites and single base bulges in DNA by a sterically expansive metalloinsertor. **B. Zeglis**, J. K. Barton
- Nanotechnology and the Environment: Emphasis on Green Nanotechnology Sustainable Synthesis of Nanomaterials**  
Sponsored by I&EC, Cosponsored by INOR and NANO

## SUNDAY EVENING

## Section A

Salt Palace Convention Center  
Hall 5

## Bioinorganic Chemistry: DNA and RNA

D. C. Crans and S. L. J. Michel,  
*Organizers*

## 7:00–10:00

- 130.** Binding, storage and delivery of nitric oxide for biomedical applications. **K. Balkus Jr.**, H. A. Liu, H. Osuna, C. Miller
- 131.** Cobalt phenanthroline complexes: Synthesis, characterization, and intercalation with DNA. **T. C. Sweigart**, S. K. Hurst
- 132.** DFT and ONIOM(DFT:MM) studies on enzymatic mechanism in B12-dependent methylmalonyl-CoA mutase. **X. Li**, L. W. Chung, P. Paneth, K. Morokuma
- 133.** Examining the structure of the nutritional supplement chromium nicotinate. **J. B. Vincent**, N. R. Rhodes, T. A. Konovalova, C. J. Cassidy

‡ Cooperative Cosponsorship

- 134.** Short term effects of Cr3 on glucose metabolism in rats. **J. B. Vincent**, C. M. Goodwin, N. R. Rhodes
- 135.** Paramagnetic <sup>19</sup>F NMR and ESI MS studies of substituted pyridine complexes of chromium(III): Models for potential use of <sup>19</sup>F NMR to probe Cr(III)-nucleotide interactions. **J. B. Vincent**, N. R. Rhodes, K. Belmore, C. J. Cassidy
- 136.** Comprehensive conformational analysis of guanosine and deoxyguanosine, canonical DNA nucleosides, by DFT calculation. **M. A. Ahmadi**, A. Fattahi
- 137.** Defining lanthanide ion binding sites in nucleic acids. **C. M. Andolina**, M. A. Fountain, J. R. Morrow
- 138.** Development of water-soluble organometallic ruthenium(II)-arene piano stool complexes. **L. Regali**, S. Schreiner
- 139.** DFT studies of the interaction of thymine and deoxythymidine with various mono- and divalent metal cations (Li<sup>+</sup>, Na<sup>+</sup>, K<sup>+</sup>, Mg<sup>2+</sup>, Ca<sup>2+</sup>, Cu<sup>+</sup>, Zn<sup>2+</sup>). **M. Shakorianfard**, A. Fattahi
- 140.** Interaction of guanine, guanosine and deoxyguanosine with some biological anions and formation of anion-anion clusters. **M. A. Ahmadi**, A. Fattahi
- 141.** Interactions of thymine with divalent metal ions. **M. K. Aitha**, M. K. Mameni, E. A. Waddell, S. Shreeves, A. Sunda Meya, N. Phambu
- 142.** Carosine analogs and their properties and metal complexes. **N. G. Nair**, V. P. Reddy, E. Sinn
- 143.** Electrochemical study of G quartet structures. **J. Kim**
- 140-141.** Metallobioconjugate of pyruvic acid as potential antibacterial agent. **D. Shingnapurkar**, S. Padhye, Z. Afrasiabi, E. Sinn, S. G. Franzblau
- 145.** Rhodium-centered supramolecular complex exhibiting DNA photocleavage and antibacterial properties. **L. Stepanyan**, A. Jain, B. Okyere, B. T. Thelwell, B. S. J. Winkler, K. J. Brewer
- 146.** Withdrawn.

## Section B

Salt Palace Convention Center  
Hall 5

## Chemistry of Materials

D. J. Nelson and C. N. Brammer,  
*Organizers*

## 7:00–10:00

- 147.** Highly porous metal-organic framework: Crystal dynamics and gas storage. **M. P. Suh**, **W. S. Yang**, T-R. Oh, H. J. Park
- 148.** Synergistic enhancing role of simple inorganic electrolytes with sodium hexametaphosphate in ceria slurries for the material removal rate on chemical mechanical polishing of ZF7 glass. **L. Wei**, **M. Fu**, **Y. Li**, **X. Zhou**, **X. Zhou**, **Y. Li**
- 149.** Metal-organic frameworks as tunable materials for the sensitization of near-infrared emitting ytterbium cations. **K. A. White**, D. A. Chengelis, M. Zeller, S. J. Geib, S. Petoud, N. L. Rosi
- 150.** Metal-organic frameworks constructed from biomolecular building blocks: Synthesis, characterization, and emerging properties. **J. An**, R. Fiorella, S. J. Geib, N. L. Rosi
- 151.** Mixed-ligand metal-organic frameworks with large pores. **M. P. Suh**, **H. J. Park**
- 152.** Nanosizing thermoelectric oxides: New precursors and their conversion to n-type SrTi<sub>1-x</sub>(Nb)<sub>x</sub>O<sub>y</sub> and p-type CaCO<sub>3</sub>O<sub>4</sub>. **C. K. Narula**, F. C. Montgomery, L. F. Allard
- 153.** Using chemical vapor transport in the synthesis of doped titanium dioxide materials. **J. R. Perodeau**, S. T. Munie, J. L. Hunting
- 154.** Novel approach to the formation of copper nanowire patterns on silica substrates. **H-Y. Liao**
- 155.** Preparation and characterization of cuprous oxide nanowires in organic solvents. **K-J. Lo**

- 156.** Visible light insensitive silver(I) cyanoximates. **N. Gerasimchuk**, **G. Glover**
- 157.** Chemical routes to photocatalysts: Nano-sizing RuO<sub>2</sub>/GaN:ZnO. **M. Moses DeBusk**, C. K. Narula
- 158.** Strategic synthetic color tuning of simple azole based luminescent organoboron compounds. **J. C. Carlson**, D. Anderson, P. Kiprof
- 159.** Synthesis and characterization of dendrimer modified controlled pore glass (CPG) beads for immobilized Ni<sup>2+</sup> indicator release assays. **M. J. Greaney**, C-C. Chang, A. P. Good, L. D. Margerum
- 160.** Temperature dependent diffusion of the cation and anion of ionic liquids. **A. M. Kortan**, T. A. Moblely, L. Lyons, L. Zhang, R. West
- 161.** Ionic conductivity and NMR studies of plastic crystal electrolytes. **L. Lyons**, C. Kruse, A. Albright, L. Zhang, R. West

## Section C

Salt Palace Convention Center  
Hall 5

## Coordination Chemistry: Synthesis

D. C. Crans and W. A. Howard,  
*Organizers*

## 7:00–10:00

- 162.** A hexanuclear Ni(II) enediolate cluster complex. **L. M. Berreau**, K. Rudzka, A. M. Arif
- 163.** Synthesis and characterization of Cu(II) and Ni(II) complexes of some N,N-dialkyl-N'-(4-bromobenzoyl)thiourea derivatives. **H. Arslan**, G. Binzet, N. Külcü, U. Flörke
- 164.** Accessing of the multiple mixed-valence states in tetraferrocenyl-porphyrins. **G. T. Rohde**, V. N. Nemykin, B. Floris, G. Reina, R. H. Herber, I. Nowik
- 165.** Bifunctional coordinative binding ability of a newly synthesized series of phenanthroline-dione semicarbazone and thiosemicarbazone ligands. **C. Steelman**, E. C. Liscic
- 166.** Bimetallic nickel complexes bridged by non-innocent phosphine-quinone ligands. **L. Pignotti**, E. Urnezis
- 167.** Binuclear and tetranuclear copper(II) complexes with pyridylimidophenol ligands. **Z. Wang**, R. P. Houser
- 168.** Synthesis and characterization of a cyclic, trinuclear copper(II)-thioacetamide hydro-sulfide complex. **J. M. McClain II**, R. P. Houser
- 169.** Bridge modulation of superexchange in Ni(II/Co(II) tris(pyrazolyl)borates – oxalate vs. dithioxamidate. E. A. Mikhal'yova, **A. W. Addison**, S. V. Koltitov, V. V. Pavlishchuk, O. Cador, M. Zeller, W. G. Dougherty Jr., L. Ouahab, A. D. Hunter, S. Trofimenko
- 170.** Chemistry of organically templated iron phosphate complexes. **N. Gogoi**, R. Murugavel
- 171.** Coordination chemistry of a new bulky bis(thione) ligand. **N. Ahuja**, L. Hernandez, D. Rabinovich
- 172.** Homoleptic bis(selenone) complexes of lead(II). **S. V. John-Rajkumar**, G. P. A. Yap, D. Rabinovich
- 173.** Developments in the syntheses of a series of bis-bidentate ligands utilizing 4,4'-methylene-dianiline. **M. Mouyilians**, C. Hsu, J. Kubert, N. Datien, M. Benvenuto
- 174.** Effects of Group 15 donor ligands in platinum thiocrown complexes. **D. A. Biggers**, G. J. Grant
- 175.** Progress toward self-assembled platinum(II) and palladium(II) molecular squares. **R. D. Naik**, G. J. Grant

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176. Interdigitated metalloporphyrin framework. **W. Choe**, L. D. DeVries, E.-Y. Choi
177. Metal saccharide complexation: Investigation into the binding of monosaccharides to metal cyclen complexes. **S. C. Haefner**, L. T. McDonald
178. New chelating ligands for NIR lanthanide ion luminescence. **R. M. Beeler**, S. Tse, A. de Bettencourt-Dias
179. Nitro-pyridine based sensitizers for lanthanide luminescence. **B. Maull**, S. Viswanathan, A. de Bettencourt-Dias
180. PyboxOMe as efficient sensitizer of Eu(III) and Tb(III) luminescence. **P. S. Barber**, A. de Bettencourt-Dias, S. Viswanathan
181. Polynuclear dicyanamide copper(II) and nickel(II) complexes. F. R. Louka, F. A. Mautner, M. Mikuriya, **S. S. Massoud**
182. Design and synthesis of metal organic frameworks based on mesitylene templated phosphonic acids. **M. P. Singh**, R. Murugavel
183. Novel iron (II/III) and lithium iron alkoxide precursors for lithium ion battery cathode materials. **L. A. M. Ottley**, T. J. Boyle, H. D. Pratt III
184. Reactions of copper(II) complexes of tridentate Schiff base ligands. **G. M. Mockler**, R. Kanitz, S. Cody
185. Self-assembly of heterotrimetallic Pt6-Co6-Fe6 and Pt6-Mo6-Fe6 hexagons. **L. Zhao**
186. Biologically important compounds: Reactions of 2-mercapto nicotinic acid, 4-mercapto salicylic acid and pyrimidine thiols with copper and silver. **A. K. F. Rahman**, F. Han, M. Wang
187. Synthesis and characterization of volatile, amidodboranato lanthanide precursors for chemical vapor deposition. **S. R. Daly**, D. Y. Kim, G. S. Girolami
188. Synthesis and crystal structures of Ni(II), Cu(II) and  $\mu$ -oxo-Fe(III) complexes of a salen type ligand: Mononuclear vs. multinuclear complex formation based on the identity of the metal center. **L. Rusere**, J. M. Tanski, L. A. Tyler
189. Synthesis of coordination chemistry of water-soluble PTA derivatives. **W.-C. Lee**, B. J. Frost
190. Synthesis of novel chelating complexes for uranium capture and detection. **H. R. Schulhauser**, T. C. Sweigart, S. K. Hurst
191. Synthesis, structures, and spectroscopic properties of a novel class of lanthanide cyanometalates. R. K. Burt, A. Jaleel, P. M. Vogel, C. Crawford, N. Beedoe, Z. Assefa, **R. E. Sykora**
192. Titanium complexes of redox-active tripodal tris(aryloxide) ligands. **D. Lionetti**, S. N. Brown, V. Ugrinova, B. C. Noll
193. Toward water-soluble macrocyclic phosphine ligands: Synthesis and coordination chemistry of water-soluble secondary bisphosphines, their functionalized derivatives, and their complexes. **C. D. Swor**, D. R. Tyler
194. Zinc complexes of ditopic hydrazone ligands with a pyrazine core. **D. J. R. Brook**, **J. Wong**

## Section D

Salt Palace Convention Center  
Hall 5

## General Inorganic Chemistry

J. J. Smee, *Organizer*

## 7:00–10:00

195. A water-soluble QD porphyrin complex. **J. E. Bradshaw**, K. Singleton
196. Grafting of lanthanide complexes on silica surfaces: A theoretical investigation. **I. del Rosal**, R. Poteau, C. Copéret, L. Maron
197. New modes of reactivity for cationic terminal borylene complexes. G. A. Pierce, D. Vidovic, **S. Aldridge**
198. Studies of the structures and transition metal mediated dehydrogenation of ammonia-borane and related methylamine derivatives. C. Y. Tang, W. Smith, **S. Aldridge**

199. Synthetic, structural, and physicochemical studies on amon-templated polyeuropium(III) complexes of  $\alpha$ -amino acids. **D. A. Rotsch**, D. C. Swenson, L. Messerle
200. Gamma radiation effects on the performance of NOPOPO for trivalent actinide/lanthanide separations. **L. R. Martin**, R. S. Herbst, R. D. Tillotson, M. R. Greenhaigh, R. T. Paine
201. Synthesis and characterization of photoluminescent terbium-containing polymer precursors. C. Yan, H. Hu, C. Xu, W. Zhu, M. Zhang, **X. R. Bu**
202. Luminescence, NMR, and structural characterization of an amide based polydentate ligand with coordinated lanthanide(III) ions. **J. D. Dorweiler**, A. N. Ley, R. D. Pike, S. M. Berry
203. Synthesis and characterization of oxovanadium(IV) biomimetic complexes. **A. M. Pacheco-Laracunte**, **T. Chavez-Gil**, C. G. Hamaker, D. L. Cedeño
204. Synthesis, characterization and coordination behavior of a new nitrogen and sulfur-containing cyclononane ligand. **D. Gonzalez-Morales**, J. A. Dopke, K. K. Klausmeyer
205. Model complexes for the A-cluster of CODH/ACS: New complexes featuring amine/imine and thiolate donation to nickel(II) centers. **J. R. Zimmerman**, D. M. Eichhorn
206. Organo-cobalt complexes formed from reactions of cobalt porphyrin with organic radicals in the presence of methyl acrylate and vinyl acetate. **C.-H. Peng**, S. Li, B. B. Wayland
207. [EMIM]CrCl<sub>3</sub>: Synthesis, characterization, and spectroscopic studies of reactions involving the conversion of glucose to HMF. **J. J. Danford**, A. M. Arif, L. M. Berreau
208. Multizonal crystalline systems based on copper, zinc, manganese, and cobalt. **S. R. Seidel**, K. Dorst, R. T. Wilkens
209. Heavy metals and arsenate extraction from water using molybdenum oxide and capped magnetic nanoparticles. **M. Chehbouni**, T. M. Trad, A. W. Apblett
210. Synthesis and characterization of phenanthroline polymer precursors. **S. Khoury**, G. Peterson, D. J. Casadonte Jr.
211. Copper coordination polymers with 1-D single chain, 2-D sheet, and 3-D-structures involving dinuclear and tetranuclear copper(II) units: Synthesis, structures, and magnetism. **S. S. Tandon**, S. D. Bunge, D. H. Motry, L. K. Thompson, J. Reedijk, J. S. Costa
212. Synthesis, characterization and crystal structure of [Cu-(3, 5-Ph<sub>2</sub>P<sub>2</sub>)<sub>3</sub>]Cl, an unusual trigonal planar complex. **T. Chavez-Gil**, J. Lugo, C. G. Hamaker, D. L. Cedeño
213. Investigating the binding of alkenes to copper centers: Impact of alkene substitution and ligand donor strength. **J. T. York**
214. bis-(Hinokitiolato)copper(II) complexes with amines. G. Arvanitis, M. E. Berardini, **R. Pavlick**, K. Nagy
215. Investigating the reactivity of a series of ruthenium and platinum complexes by comparison of their ability to oxidize neopentyl alcohol. **M. J. Laurain**, N. C. Dopke
216. Synthesis of dinuclear ruthenium (II) diphen complex of TAP and HAT. **T. Marutharaj**, B. Durham, F. Millett
217. Characterization of products between cisplatin analogs and selenomethionine. **R. Lively**, K. M. Williams
218. Reaction of a bulky platinum triamine complex with guanine and methionine. **M. Starling**, B. M. Sandlin, K. M. Williams
219. Facile ligand oxidation and ring nitration in ruthenium complexes derived from a ligand with dicarboxamide-N and phosphine-P donors. **N. L. Fry**, M. J. Rose, P. K. Mascharak
220. Withdrawn.
221. Palladium complexes of Ar<sub>2</sub>PCH<sub>2</sub>Par<sub>2</sub> and [Ar<sub>2</sub>PCH<sub>2</sub>Par<sub>2</sub>]-. **E. M. Sisler**, **E. Lumberras Jr.**, A. Badgett, Q. D. Shelby
222. Hydrogen generation from luminescent square planar Pt(II) derivatives. **K. Lebkowsky**, R. Schmehl

223. Novel hexanuclear rhenium clusters containing tetrazolate ligands. **S. A. Knott**, L. F. Szczepura
224. Further investigation into the design of ionic liquids with alkylated boron cluster anions. **S. C. Eady**, J. J. Dymon Jr., M. Forsyth, P. C. Howlett, A. Larsen
225. Synthetic strategies for the generation of new halo and hydroxyhalo dodecaborates. **I. M. Harrier**, K. K. Klausmeyer, A. Armstrong, J. A. Dopke
226. Solid-state investigation of a new series of phenylacetylene-based hydrogen bonding receptors with neutral and anionic guests. **C. N. Carroll**, O. B. Berryman, C. A. Johnson II, D. W. Johnson, M. M. Haley
227. Unexpected correlation between oxidation potentials and ionization energies. The role of internal reorganization energies. **A. K. Vannucci**, R. A. Snyder, N. E. Gruhn, D. L. Lichtenberger, J. H. Enemark
228. Spin state population diagrams for understanding magnetic interactions in polynuclear complexes. **M. J. Prushan**

## Section E

Salt Palace Convention Center  
Hall 5

## Organometallic Chemistry: Applications

B. T. Donovan-Merkert and D. C. Crans,  
*Organizers*

## 7:00–10:00

229. Polymer supported alkene zipper catalysts. **G. Erdogan**, D. B. Grotjahn
230. Sulfenato-oxygen vs. diiron center nucleophilicity (( $\mu$ -pst)[Fe(CO)<sub>2</sub>L]<sub>2</sub>,  $\mu$ -pst = 1,3-propanesulfenatothiolate, L=PMe<sub>3</sub> or PEt<sub>3</sub>) relevant to oxygen-damaged [FeFe]-hydrogenase active sites. **B. Li**, T. L. Liu, M. Y. Darensbourg
231. Specific control of molecular weight distribution in olefin polymerization using highly active chromium single-site catalysts: From low to ultrahigh molecular weight. **M. Enders**, **S. Mark**
232. Synthesis and X-ray structures of palladium-N-heterocycle carbene complexes and their catalytic activity. H. Palencia, **R. Short**, B. N. Storhoff, P. E. Fanwick
233. Design of target specific metal-based drugs: Synthesis and biological activity of functionalized titanocenes with steroids and amides. **L. M. Gao**, E. Melendez
234. Withdrawn.
235. Pd complexes of imidazo[1,2-*a*]pyridine derived abnormal N-heterocyclic carbenes: Syntheses, structures and catalytic utility. **A. John**, P. Ghosh
236. A potential homogeneous route to epoxide formation. **R. Lansing**, B. Boro, R. A. Kemp, K. I. Goldberg
237. CO<sub>2</sub>-mediated *ortho*-lithiation of N-alkylanilines and its use for the construction of polymerization catalysts. C. J. Wu, **S. T. Yu**, B. E. Kim, B. Y. Lee
238. Catalytic asymmetric hydrogenation using electrochemical methods. **B. T. Donovan-Merkert**, R. P. Cope, M. Hurckes

## Section F

Salt Palace Convention Center  
Hall 5

## Computational Chemistry

D. C. Crans, *Organizer*

## 7:00–10:00

239. Density functional study of electrophilic, ambiphilic, and nucleophilic C-H bond activation transition states. **D. H. Ess**, S. M. Bischof, J. Ongaard, R. J. Nielsen, W. A. Goddard III, R. A. Periana

240. Level of theory dependence of the ground state electronic structures of biomimetic [2Fe]-clusters of the H-cluster. **A. G. Grigoriopoulos**, L. J. Giles, R. K. Szilagyi
241. A DFT study on ring-opening polymerization of lactides and carbonates. **N. Susperregui**, L. Maron
242. Computational insights into palladium-hydride bond polarization and molecular oxygen insertion. **M. V. Parkes**, R. P. Muller, K. I. Goldberg, R. A. Kemp
243. Detonation energies of high-energy open-chain carbon-nitrogen compounds. **D. L. Strout**, J. Thomas, K. Fairman
244. Mechanism of hydrogen production by [Fe-Fe]-hydrogenase in DdH and Cpl: A QM/MM study. **S. Trohalaki**, R. Pachter
245. The best of DFT, the worst of DFT: Nickel hydrotoporphyrins and coenzyme F430. **E. Gonzalez**, A. Ghosh
246. The elusive chromium dithalide structures: A combined quantum-chemical and gas-phase electron diffraction analysis. **B. M. Vest**, P. A. Schwardtfefer, A. Herrmann, A. Herglittai

## MONDAY MORNING

## Section A

Salt Palace Convention Center  
Hall 2

## ACS National Awards in Inorganic Chemistry: Plenary Session

D. C. Crans, *Organizer*S. M. Kauzlarich, *Organizer, Presiding*

- 8:30 **247. Award Address** (ACS Award in Inorganic Chemistry, sponsored by Aldrich Chemical Company, Inc). A chemistry of solar fuels. **D. G. Nocera**

- 9:10 **248. Award Address** (ACS Award in the Chemistry of Materials, sponsored by E. I. du Pont de Nemours & Company). Reticular chemistry for clean energy. **O. M. Yaghi**

- 9:50 **249. Award Address** (ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry, sponsored by Strem Chemicals, Inc). Some past developments and future directions in main group chemistry. **A. H. Cowley**

- 10:30 **250. Award Address** (F. Albert Cotton Award in Synthetic Inorganic Chemistry, sponsored by the F. Albert Cotton Endowment Fund). Copper and heme-copper dioxygen adducts: Formation, structure and reactivity. **K. D. Karlin**

- 11:10 **251. Award Address** (ACS Award in Organometallic Chemistry, sponsored by The Dow Chemical Company Foundation). Transition Metal-Hydrides complexes: An especially appropriate field for collaboration between experiment and theory. **O. Eisenstein**

- 11:50 **252. Award Address** (Ronald Breslow Award for Achievement in Biomimetic Chemistry, sponsored by the Ronald Breslow Endowment). Mechanism of oxygen reduction during respiration: Lessons from functional models. **J. P. Collman**

**Applications in Nanoscience**  
**Gold Particles and Surfaces** Sponsored by COLL, Cosponsored by POLY, INOR, and NANO

**Green Chemistry** Sponsored by YCC, Cosponsored by CHAS, I&EC, CEI, INOR, and ORGN

**The official technical program for the 237th National Meeting is available online at [oasys2.confex.com/acs/237nm/techprogram/](https://oasys2.confex.com/acs/237nm/techprogram/).**

## MONDAY AFTERNOON

## Section A

Salt Palace Convention Center  
Combo Rooms 254 B-C

**ACS Award in Inorganic Chemistry: Symposium in Honor of Daniel G. Nocera: Multi-electron Redox Reactions: Where Transition Metals Reign**

J. C. Peters, *Organizer*

C. C. Cummins, *Organizer, Presiding*

**2:00 253.** Integration of electrocatalysts onto structured semiconductor photoelectrodes. **N. S. Lewis**, E. Warren, S. Boettcher, S. Maldonado

**2:25 254.** Transition metal complexes with unusual geometries and/or oxidation states. **J. C. Peters**, N. P. Mankad, C. T. Saouma, A. Takaoka, Y. Lee, C. Tsay

**2:50 255.** Elemental molecules. B. M. Cossairt, **C. C. Cummins**, N. A. Piro, H. A. Spinney

**3:15** Intermission.

**3:25 256.** Polyoxometalate embedding of a tetra-ruthenium(IV)-oxo-core: A totally inorganic oxygen evolving catalyst. **M. Bonchio**, A. Sartorel, M. Carraro, G. Scorrano, R. De Zorzi, S. Geremia, N. D. McDaniel, S. Bernhard

**3:45 257.** Biomimetic hydrogenase models: Synthesis, structure and properties of iron(II) complexes containing thioamine, diphosphine, and carbonyl/isocyanide ligands. R. T. Baker, R. B. Dyer, J. C. Gordon, G. J. Kubas, **T. Li**, B. L. Scott, A. D. Sutton

**4:05 258.** Establishing unique reactivity in dimeric pentavalent bis(imido) uranium complexes. **J. M. Boncella**, L. P. Spencer, E. J. Scheller, B. L. Scott, E. R. Batista, P. Yang

**4:25 259.** Oxidation leading to reduction: Multielectron redox-induced electron transfer. **J. S. Miller**, K. S. Min

## Section B

Salt Palace Convention Center  
255 B

**Coordination Chemistry of NO and its Implication for Metabolism, Imaging and Toxicity**

N. Lehnert, *Organizer*

W. R. Scheidt, *Organizer, Presiding*

**1:45** Introductory Remarks.

**1:50 260.** Interactions between cytochrome c oxidase and nitric oxide. **J. P. Collman**

**2:20 261.** Nitrite, NO, and hyponitrite: Unusual heme-NxOy conformations. **G. B. Richter-Addo**, N. Xu, J. Yi

**2:50 262.** Reactions of nitric oxide and nitrosothiols with transition metal complexes and clusters to detect and understand biological NO. **S. J. Lippard**

**3:20 263.** Electronic structure of six-coordinate iron(III)-porphyrin NO adducts: The elusive iron(III)-NO(radical) state. **N. Lehnert**, T. C. Berto, S. DeBeer George, L. E. Goodrich, F. Paulat, V. Praneeth, C. Sulok

**3:50** Intermission.

**4:05 264.** Nitrogen monoxide with copper, heme and heme/Cu: Nitrosyl complexes, NO dioxygenase and nitric oxide reductase chemistry. **K. D. Karlin**

**4:35 265.** Mutation of carboxyl side-chain amino acids near the heme affects the midpoint potentials and ligand binding constants of nitrophenol 2 and its NO and histamine complexes. **F. A. Walker**, R. E. Berry, M. N. Shokhirev, A. Y. W. Ho, H. Zhang

**5:05 266.** Protein S-nitrosylation: Regulatory paradigms from GPCRs to hemoglobin. **J. S. Stammler**

**5:35** Concluding Remarks.

## Section C

Salt Palace Convention Center  
255 D

**ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry: Symposium in Honor of Alan H. Cowley**

R. A. Kemp, *Organizer*

M. Lattman, *Organizer, Presiding*

**1:40** Introductory Remarks.

**1:50 267.** Stabilization, validation and remarkable reactivity of magnesium(II) compounds containing Mg-Mg bonds. **C. Jones**

**2:20 268.** Coordination chemistry of group 13 monohalides. **S. Aldridge**, D. Vidovic, N. D. Coombs

**2:50 269.** Nanostructured boron cages: From materials to cancer therapy. **N. S. Hosmane**, Y. Zhu, J. A. Maguire

**3:20 270.** Novel families of carbon ligands, novel catalytic reactions. **G. Bertrand**

**3:50** Intermission.

**4:05 271.** Sexithiophenes mediated by MM quadruple bonds: MM = Mo<sub>2</sub>, MoW and W<sub>2</sub>. **M. H. Chisholm**

**4:35 272.** Amphiphilic ligands at work: From metal-Lewis acid interactions to zwitterionic complexes. **D. Bourissou**, G. Bouhadir, K. Miqueu, L. Maron, S. Bontemps, M. Sircoglou

**5:05 273.** Metal complexes of phosphorus calix[5]arene ligands. **M. Lattman**

## Section D

Salt Palace Convention Center  
255 A

**ACS Award in Organometallic Chemistry: Symposium in Honor of Odile Eisenstein**  
Cosponsored by WCC

R. H. Crabtree, *Organizer, Presiding*

**1:35** Introductory Remarks.

**1:40 274.** Cleaving mercury-alkyl bonds: A functional model for mercury detoxification. **G. Parkin**, J. G. Melnick, K. Yurkerwich, W. Sattler

**2:00 275.** Comparison of thiophene C-S cleavage reactions by two transition metal complexes: Kinetics vs. thermodynamics with [Cp\*Rh(PMe<sub>3</sub>)] vs. [Pt(dippe)]. T. A. Atesin, A. C. Atesin, K. Skugrud, A. Myers, **W. D. Jones**

**2:20 276.** Is bond activation in lanthanide(III) chemistry only of metathesis form? **L. Maron**, R. A. Andersen

**2:40 277.** Computational treatment of asymmetric catalysis. **F. Maseras**

**3:00 278.** Highly efficient heterogeneous alkene metathesis catalyst through site isolation on surfaces. **C. Copéret**

**3:20** Intermission.

**3:40 279.** Competing C-F activation pathways: Phosphine participation vs. oxidative addition. **R. N. Perutz**, S. A. Macgregor, J. E. McGrady

**4:00 280.** Molecular recognition catalysis for highly selective CH activation. **R. H. Crabtree**, G. W. Brudvig, O. Eisenstein

**4:20 281.** Origins of selectivity in Rh(bisdi-azaphos)-catalyzed hydroformylation of styrene. **C. R. Landis**, T. A. Atesin, R. D. J. Froese, A. Watkins

**4:40 282.** Understanding iron-catalyzed alkene hydrogenation: Unraveling the role of spin-state changes. M. Besora, J. C. Peters, **J. N. Harvey**

**5:00 283.** [S<sub>4</sub>]<sup>2-</sup> rings, disulfides, and sulfides in transition metal complexes: The subtle interplay of oxidation and structure. **R. Hoffmann**

## Section E

Salt Palace Convention Center  
255 C

**Nanoscience: Characterization and Applications**  
**Energy and Magnetism** Cosponsored by COLL, POLY, and NANO

D. J. Nelson, *Organizer*

G. J. Halder and M. E. Hagerman, *Presiding*

**1:50 284.** Single-molecule magnets: New manganese clusters from the use of 2-di-phenyl-2-pyridyl-methanol. **T. Taguchi**, K. A. Abboud, G. Christou

**2:10 285.** Hybrid magnetic/conductive materials based on conducting metallopolymers. X.-Y. Chen, X. Yang, **B. J. Holliday**

**2:30 286.** Organisation of molecular magnetic switches using self-assembly techniques. **P. N. Martinho**, G. G. Morgan, H. Müller-Bunz, C. J. Harding, C. Gandolfi, M. Albrecht

**2:50 287.** Spin-lattice relaxation dynamics in superparamagnetic nanocrystals. **T.-Y. Chen**, C.-H. Hsia, H.-Y. Chen, D. H. Son

**3:10 288.** Synthesis and magnetic properties of doped and ligand-exchanged EuS nanocrystals. **R. S. Selinsky**, S. Jin

**3:30 289.** Elucidating the mechanism of a two-step spin transition in a nanoporous metal-organic framework. **G. J. Halder**, K. W. Chapman, S. M. Neville, B. Moubaraki, K. S. Murray, J.-F. Létard, C. J. Kepert

**3:50 290.** Hydrogen storage in porous metal-organic frameworks. **M. P. Suh**, Y. E. Cheon

**4:10 291.** Structures and crystal chemistry of novel metal hydrides and chemical hydrides for hydrogen storage. **H. Wu**, W. Zhou

**4:30 292.** Solvent-free synthesis and hydrogen sorption properties of ammine metal borohydrides. **D. A. Knight**, G. M. Brown, J. H. Schneibel, C. J. Raw, J. Bai

**4:50 293.** Tuning gas sorption properties of metal-organic frameworks by postsynthetic covalent modification. **Z. Wang**, K. K. Tanabe, S. M. Cohen

**5:10 294.** Versatile gas sorbents based on 3-D pillared Hofmann derivatives. **J. T. Culp**, C. Matranga

## Section F

Salt Palace Convention Center  
255 E

**Organometallic Chemistry: Applications**

B. T. Donovan-Merkert and D. C. Crans, *Organizers*

J. M. Mayer, *Presiding*

**1:50 295.** Group 4 mixed bispyrazolyl-borate/cyclopentadienyl complexes. **C. Chen**, R. F. Jordan

**2:10 296.** Multisite polymer microspheres supported molybdenum(VI) catalyst for olefine epoxidation. **G. Wang**, M. Yang, F. Jin, H. Ding

**2:30 297.** Roles of a pendant amine donor and a nitroxyl ligand of titanocenes on ethylene-styrene copolymerization. **K.-S. Son**, F. Jöge, R. M. Waymouth

**2:50 298.** Palladium catalysts that copolymerize ethylene and vinyl fluoride with enhanced comonomer incorporation. **Z. Shen**, R. F. Jordan

**3:10 299.** Synthesis and reactivity of boron-substituted analogs of the Shvo hydrogenation catalyst. **T. B. Clark**, H. N. Londino, J. K. Vellucci, L. Koren-Selridge, C. P. Casey

**3:30 300.** Ligands effect on the NMR and structural properties of ruthenium hydrido clusters: A theoretical investigation. **I. del Rosal**, L. Maron, B. Chaudret, F. Jolibois, R. Poteau

**3:50 301.** Pd<sub>2</sub>(dba)<sub>3</sub>/(t-Bu)<sub>2</sub>PN=P(*i*-Bu)NCH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>N: A highly effective catalyst system for Stille cross-couplings of aryl halides. **V. R. Chintareddy**, J. V. Kingston, J. G. Verkade

**4:10 302.** Platinum tetracarbenes. **T. Strassner**, A. Zeller, Y. Unger, M. A. Taige

**4:30 303.** Rate accelerations in Lewis acid catalyzed oxidative decarboxylation and deamination of certain  $\alpha$ -amino acids by lead tetra acetate: Kinetics, mechanism and structure-reactivity correlation analysis. **U. Umesh Kumar**, **K. C. Rajanna**, P. K. Saiprakash

**304.** Withdrawn.

**4:50 305.** Study of high efficient binuclear ruthenium tris-bipyridyl ECL labels for coreactant system. **S. Sun**, Y. Yang, F. Liu, J. Fan, X. Peng

## Section G

Salt Palace Convention Center  
255 F

**Coordination Chemistry: Synthesis**

W. A. Howard, *Organizer*

W. B. Tolman, *Presiding*

**1:50 306.** Synthesis, characterization, and reactivity studies of Cu(I)/Cu(II) complexes with fluorinated oxygen-donor ligands. **L. H. Doerrer**, J. S. Lum, A. F. Long

**2:10 307.** Copper(I) bis(thione) complexes as synthetic analogs of methanobactin. T. A. Pinder, L. A. Graham, **D. Rabinovich**

**2:30 308.** First examples of metal complexes with PTAS and PTAsE. **T. A. Webster**, A. Desai, T. A. Pinder, G. P. A. Yap, D. Rabinovich

**2:50 309.** Coordination of alpha aminoacids and carboxylic acids to metal carbonyl cations. **A. K. F. Rahman**, A. Tran, M. Wang, F. Han

**3:10 310.** Cerium complexes with bulky ketimino and cyclohexyl-bridged bis( $\beta$ -diketiminato) ligands. M. Niemeyer, **D. Lubrin**

**3:30 311.** Group 4 coordination precursors for ceramic nanomaterials. **T. J. Boyle**, H. D. Pratt III, P. D. Burton, R. Raymond, L. A. M. Ottley

**3:50 312.** Luminescent lanthanide complexes of pybox and its derivatives. **D. T. de Lill**, A. de Bettencourt-Dias

**4:10 313.** Multitopic ligand approach for the synthesis of mixed metal compounds. **K. M. Fromm**, F. Gschwind

**4:30 314.** Novel phosphorus rich complexes for the synthesis of spherical giant molecules. **F. Dielmann**, M. Scheer

**4:50 315.** Pore surface engineering of porphyrin paddle-wheel frameworks. **W. Choe**, P. M. Barron, H. M. Chung

## Section H

Salt Palace Convention Center  
Combo Rooms 253 A-B

**Materials Synthesis**

D. C. Crans, *Organizer*

J. Zubieta, *Presiding*

**1:50 316.** Heterojunction solar cells based on Laponite/polymer nanoscaffolds. **M. E. Hagerman**, E. Nagle, S. Maleki, P. N. Kariuki, W. E. Jones Jr.

**2:10 317.** Polymer assisted deposition of thin films. **T. M. McCleskey**, E. Bauer, H. Luo, G. Collis, M. Jain, Q. Jia, P. Shukla, A. K. Burrell

**Please refrain from using cellular telephones and cameras during technical sessions.**

‡ Cooperative Cosponsorship

- 2:30 318.** Studying the reaction of T-Al (T = Co, Ni, Cu, Zn) mixed metal oxides, derived from layered double hydroxide precursors, in aqueous molybdate containing solution. **S. J. Mitchell**, A. Gómez Avilés, C. Gardner, W. Jones
- 2:50 319.** Synthesis of multicomponent sulfide luminescent materials using homogeneous precursors prepared by solution methods. **V. Petyrkin**, S. Tezuka, M. Okube, S. Sasaki, M. Kakhana
- 3:10 320.** Ultramicroporous triazole-based metal organic framework materials. **J. A. Schlueter**, G. J. Halder, H. Park
- 3:30 321.** Utilization of protecting groups to direct the assembly of metal organic frameworks. **P. M. Barron**, W. Choe
- 3:50 322.** Clean and diversity-oriented synthesis of metal-organic materials by grinding. **T. Friscic**, L. Fábian
- 4:10 323.** Dopant controlled crystallization in metal-organic frameworks: The role of Cu(II) in zinc terephthalate. **C. G. Carson**, R. Tannenbaum, R. A. Gerhardt
- 4:30 324.** Metal-organic frameworks as templates for nanoscale metal hydrides. **R. K. Bhakta**, J. L. Herberg, R. Behrens Jr., M. D. Allendorf
- 4:50 325.** Synthesis and characterization of binary titania-silica mixed oxides. **S. Budhi**, R. T. Koodali

#### Applications in Nanoscience

Films and Surfaces Sponsored by COLL, Cosponsored by POLY, INOR, and NANO

#### MONDAY EVENING

##### Section A

Salt Palace Convention Center  
Hall 5

##### Sci-Mix

D. C. Crans, *Organizer*

8:00–10:00

- 135, 137, 141, 145, 148, 150-151, 155-156, 158-160, 166, 168, 170-171, 175-176, 180, 183, 187, 189, 193-195, 197, 199, 203-204, 209, 211-212, 223-224, 226-227, 229-230, 236, 239, 242-243, 245-246. See previous listings.
- 457, 459, 461, 464, 467, 471, 474-476, 478, 483-484, 487, 494, 498, 501, 506, 511, 513, 523, 529, 534, 537, 541, 543, 549, 551, 558-560, 690-691, 694, 696-698, 703-705, 707-708, 710, 713, 716, 718, 723, 726, 731, 735-736, 740, 743-745, 751, 753, 758, 765, 768, 771, 775, 782, 784, 789, 791, 798, 800-801, 803. See subsequent listings.

#### TUESDAY MORNING

##### Section A

Salt Palace Convention Center  
254 B

#### Coordination Chemistry of NO and its Implication for Metabolism, Imaging and Toxicity

W. R. Scheidt and N. Lehnert, *Organizers*

G. B. Richter-Addo, *Organizer, Presiding*

8:40 Introductory Remarks.

- 8:45 326.** Coordination chemistry of heme with NO and CO in the PAS-A domain of murine CLOCK. **K. R. Rodgers**, G. Lukat-Rodgers, C. Correia, G. Mer
- 9:15 327.** HNO adducts of oxygen-binding globins. **P. J. Farmer**, M. R. Kumar
- 9:45 328.** HNO donors and heme proteins. **K. M. Miranda**, C. Torres-Martinez, A. Weichsel, A. Rajapakse, S. T. Massey, X. Hu, T. W. Miller, J. M. Fukuto, W. R. Montfort

- 10:15 329.** NO derived from nitric oxide synthase functions in bacterial radiation resistance. **B. R. Crane**, B. Patel, J. Sudhamsu

**10:45** Intermission.

- 11:00 330.** NO in biology: Common themes in prokaryotic and eukaryotic function. **M. A. Marletta**

- 11:30 331.** The new chemical biology of nitrate reactions with hemoglobin: R-state catalysis, oxidative denitrosylation and nitrite reductase/anhidrase. **M. T. Gladwin**

- 12:00 332.** Straight, bent and swinging both ways: Making sense of NO orientation in nonheme nitrosyls. **A. Ghosh**

**12:30** Concluding Remarks.

##### Section B

Salt Palace Convention Center  
255 B

#### F. Albert Cotton Award in Synthetic Inorganic Chemistry: Symposium in Honor of Kenneth D. Karlin

E. I. Solomon, *Organizer*

R. A. Ghiladi, *Organizer, Presiding*

- 9:00 333.** Effects of the secondary coordination sphere on metal-mediated oxidative processes. **A. S. Borovik**

- 9:30 334.** Understanding how thiolates contribute to the function of nonheme iron enzymes. **J. A. Kovacs**, S. Toledo, E. Nam, J. Pikul, R. Swartz, P. Alkollaro

- 10:00 335.** How nature uses oxygen: Lessons from enzymes and model systems. **J. T. Groves**

**10:30** Intermission.

- 11:00 336.** Chalcogen activation by monovalent nickel complexes. **C. G. Riordan**, M. T. Kieber-Emmons

- 11:30 337.** Applications of single amino acid chelates (SAAC) to the design of technetium radiopharmaceuticals. **J. Zubieta**, M. Batholoma

- 12:00 338.** In praise of the T(M)PA ligand. **L. Que Jr.**

##### Section C

Salt Palace Convention Center  
255 D

#### ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry: Symposium in Honor of Alan H. Cowley

R. A. Kemp and M. Lattman, *Organizers*

C. A. Stewart, *Presiding*

- 9:00 339.** Chemistry inspired by Professor Alan Cowley: Reactions of diimines with main group alkyls. G. Nguyen, A. M. Felix, D. A. Dickie, **R. A. Kemp**

- 9:30 340.** Molecular design of precursors for the CVD of metal oxides and nitrides. **C. J. Carmalt**, C. E. Knapp, S. E. Potts

- 10:00 341.** Gold nanoparticle stabilization and functionalization by new click dendrons and dendrimers. **D. Astruc**, E. Boisselier, A. K. Diallo, J. Ruiz, L. Salmon

- 10:30 342.** Group 13 chelates in nerve agent and pesticide destruction. **D. Atwood**

- 11:00 343.** An investigation of benzo-2,1,3-telluradiazolium dichloride. **A. F. Cozzolino**, B. J. Jerred, P. J. W. Elder, Q. Yang, **I. Vargas-Baca**

- 11:45 344.** Investigation of univalent indium and related low oxidation state main group compounds. **C. L. B. Macdonald**, B. F. T. Cooper, W. W. Friedl, M. R. Stinchcombe, P. A. Ruper, P. J. Ragogna, K. Baines

The official technical program for the 237th National Meeting is available online at [oasys2.confex.com/acs/237nm/techprogram/](http://oasys2.confex.com/acs/237nm/techprogram/).

- 12:15 345.** Germynes and stannynes: Congeners of carbenes. **H. W. Roesky**, A. Jana

##### Section D

Salt Palace Convention Center  
255 A

#### Capturing and Storing Solar: Inorganic Chemistry to the Rescue

J. Van Houten, *Organizer*

F. N. Castellano, *Organizer, Presiding*

**8:30** Introductory Remarks.

- 8:35 346.** Global energy perspectives: Chemical challenges and sustainable energy conversion. **N. S. Lewis**

- 9:15 347.** Dye-sensitized solar cells: New photoelectrode architectures.

- A. B. F. Martinson, T. W. Hamann, C. Prasittichai, M. J. Pellin, J. W. Elam, **J. T. Hupp**

- 9:45 348.** Making oxygen. **T. J. Meyer**

**10:15** Intermission.

- 10:25 349.** Supramolecular complexes in solar energy conversion via photoinitiated electron collection. S. M. Arachchige, J. Brown, A. Jain, D. F. Zigler, K. Rangan, G. Wang, J. D. Knoll, S. L. Hopkins, J. Wang, **K. J. Brewer**

- 10:55 350.** New materials for organic photo-voltaic devices. **M. E. Thompson**, M. D. Perez, C. W. Schlenker, K. Mutolo, S. R. Forrest

- 11:25 351.** Mononuclear Ru(II) complexes that catalyze water oxidation. **R. P. Thummel**, R. Zong, H-W. Tseng

##### Section E

Salt Palace Convention Center  
255 C

#### Undergraduate Research at the Frontiers of Inorganic and Biomimetic Chemistry

Cosponsored by CHED

M. J. Geselbracht and W. E. Lynch, *Organizers, Presiding*

**8:50** Introductory Remarks.

- 9:00 352.** Modeling quercetin 2,3 dioxygenase: A chemical and computational investigation. **W. E. Lynch**, D. Nivens, J. Walsh, J. Stone, P. Sisco, J. K. Metzker, C. Rowell

- 9:20 353.** Harnessing photosynthesis to produce a renewable source of fuel. **J. E. Sheats**, P. Lucuski, Z. Orr, T. Green, B. Bailey, G. C. Dismukes, D. Robinson, C. Sung

- 9:40 354.** Riboflavin binding protein and copper: A new trick for an old dog? **S. R. Smith**, K. Russ, Z. Hashem, E. J. Brandt, R. T. Jones, M. A. Benore

- 10:00 355.** Discrete and extended metal-organic networks with lipid components. **L. J. Andujio**, B. M. Porta, A. Miramontes, B. H. Northrop, P. J. Stang, J. C. Noverson

- 10:20 356.** Lanthanide coordination chemistry in the undergraduate research laboratory: From medicine to materials. **E. J. Werner**, T. M. Nguyen, T. D. Payne

**10:40** Intermission.

- 10:55 357.** Design and synthesis of new peptide bolaamphiphiles as nanoreactors for growth of shape controlled crystalline ZnO and CuO nanoparticles. **K. T. Johnson**, I. A. Banerjee

- 11:15 358.** Metallation of imidazole porphyrin complexes. **M-T. H. Kyaw**, W. Fang, A. G. Hyslop

- 11:35 359.** How to maintain a competitive coordination chemistry undergraduate research at a liberal arts college? **P. Baran**

- 11:55 360.** The ins and outs of NMR referencing and shimming in nonconventional samples: Pushing the envelope. **S. Bonetti**, J. Christakos, A. M. Trujillo, C. D. Rithner, D. C. Crans, B. Baruah

##### Section F

Salt Palace Convention Center  
255 E

#### Nanoscience: Characterization and Applications Biological and Biomedical Applications

Cosponsored by COLL, POLY, and NANO

D. J. Nelson, *Organizer*

J. Vela and P. Ray, *Presiding*

- 8:30 361.** Assembly of nanomaterials from nucleic acids and poly(N-functionalized glycine)s. **B. A. Hernandez-Sanchez**, J. Kesner, D. B. Robinson, P. Lu

- 8:50 362.** 3-D DNA origami for the design of nanostructures. **J. R. Ashton**, E. Pound, R. C. Davis, A. T. Woolley

- 9:10 363.** DNA origami templates for nanoelectric circuits. **E. Pound**, J. R. Ashton, H. A. Becerri, H. J. Conley, J. N. Harb, R. C. Davis, A. T. Woolley

- 9:30 364.** Metallization of DNA templates for nanoelectric circuits. **J. Liu**, B. Mangold, E. Pound, H. J. Conley, J. N. Harb, A. T. Woolley, R. C. Davis

- 9:50 365.** Subwavelength nanoparticle ordered structures for enhanced sensing, optoelectronics and DNA analysis. **D. K. Roper**, W. Ahn, B. Taylor, P. Blake

- 10:10 366.** Poly(ethylene glycol) ligand layers for nanoparticle-templated assembly of virus-like particles. **I. Tsvetkova**, B. Dragnea

- 10:30 367.** Biomimetic synthesis of hematite in a thermally stable ferritin isolated from *Pyrococcus furiosus*. **M. Klem**, M. Young, T. Douglas

- 10:50 368.** Giant multishell II-VI quantum dots: Tunable-color, nonblinking and robust quantum dot fluorophores for applications in biology. **J. Vela**, Y. Chen, H. Htoon, D. A. Bussian, J. L. Casson, D. J. Werder, V. I. Klimov, J. A. Hollingsworth

- 11:10 369.** Gold nanocages and their biomedical applications. **L. Au**, J. Chen, Y. Xia

- 11:30 370.** Characteristics of nanoscale sunscreen particles. **Z. A. Lewicka**, A. F. Benedetto, V. L. Colvin

##### Section G

Salt Palace Convention Center  
255 F

#### Organometallic Synthesis

B. T. Donovan-Merkert and D. C. Crans, *Organizers*

B. Captain, *Presiding*

- 9:30 371.** Covalecency within 4f-element complexes. **A. D. Sutton**, J. C. Gordon, D. L. Clark, B. L. Scott

- 9:50 372.** Modular approaches to porphyrin synthesis: A route to novel chiral porphyrins. **K. B. Fields**, J. V. Ruppel, C. Kim, C. A. Huff, S. Zhu, H. Lu, X. Xu, G-Y. Gao, Y. Chen, A. J. Colvin, A. Brett, X. P. Zhang

- 10:10 373.** Monomers and polymers of tripalladium(0) sandwich complexes. **S. K. Hurst**

- 10:30 374.** Pt-catalyzed asymmetric alkylation of bis(isitylphosphino)ethane: P-benzyl bond formation induces a reversal of catalyst selectivity. **T. W. Chapp**, A. L. Rheingold, D. S. Glueck

- 10:50 375.** Reactivity of scandium alkyl complexes with pyridines and subsequent transformations. **C. T. Carver**, P. L. Diaconescu

- 11:10 376.** Synthesis and reactivity of low-valent group 6 m-terphenyl isocyanide complexes. **T. B. Ditri**, J. S. Figueroa

- 11:30 377.** Synthesis, structure and spectroscopy of heteropentadienyl-cobalt complexes. **B. L. Lutes**, D. Sakellariou-Thompson, M. Lipschutz, J. R. Bleeke, N. P. Rath



## Section H

Salt Palace Convention Center  
Combo Rooms 253 A-B

## Materials Applications

D. C. Crans, *Organizer*

J. K. McCusker, *Presiding*

- 9:30 378.** 3-D data storage synthesized by the sol-gel method. **C. E. Brown**
- 9:50 379.** Oligonucleotides studied by nonlinear optics. **F. M. Geiger**, F. C. Boman, G. Y. Stokes
- 10:10 380.** Application of zinc oxide nanoparticles as novel antimicrobial agents. **K. Raghupathi**, R. T. Koodali
- 10:30 381.** Metal-organic photovoltaics and light-emitting diodes based on d8 complexes. **M. A. Omary**
- 10:50 382.** Nanoaluminum based polymeric composites for energetic applications. **C. A. Crouse**, S. L. Johnson, J. J. Boock, C. M. Lindsay, J. L. Jordan, J. E. Spowart
- 11:10 383.** Porous metal-organic frameworks based on covalently interconnected metal-organic cuboctahedra. **S. Hong**, M. Park, X. Liu, M. Oh, **M. S. Lah**
- 11:30 384.** Significant improvement of polishing performance of ceria by titanium doping. **M. Fu**, L. Wei, Y. Li, X. Zhou, **Y. Li**
- 11:50 385.** The future of green and inorganic chemistry. **R. Peoples III**, J. L. Young

**Nanotechnology and the Environment: Emphasis on Green Nanotechnology Sustainable Synthesis of Nanomaterials**  
Sponsored by I&EC, Cosponsored by INOR and NANO

**Naturally Nano** Sponsored by CHED, Cosponsored by PRES<sup>2</sup>, NANO, BIOT<sup>2</sup>, I&EC, and INOR<sup>2</sup>

## TUESDAY AFTERNOON

## Section A

Salt Palace Convention Center  
254 B

## Capturing and Storing Solar: Inorganic Chemistry to the Rescue

J. Van Houten and F. N. Castellano, *Organizers*

K. S. Brewer, *Presiding*

- 1:30 386.** Toward a better sensitizer for the photogeneration of hydrogen from water: New sensitizers and new strategies. **T. Lazarides**, J. Schneider, J. Zhang, P. Du, P. R. Jarosz, S-H. Lee, D. W. McCamant, **R. Eisenberg**
- 2:00 387.** Excited state reactivity of square planar Pt(II) terpyridyl complexes: Development of multielectron photoredox systems. **R. Schmei**, H. Hester, K. Lebkowsky, K. Shankar, A. C. Neuberger, J. M. Draggich
- 2:30 388.** Orchestrating electron transfer toward solar energy conversion. **S. Bernhard**, L. L. Tinker, N. D. McDaniel, E. D. Cline, F. J. Coughlin, P. N. Curtin, C. K. Smith
- 3:00** Intermission.
- 3:10 389.** Nanoobjects for light harvesting and electronic energy transfer processes. **L. De Cola**
- 3:40 390.** Sunlight-driven hydrogen formation by membrane-supported photoelectrochemical water splitting. **N. S. Lewis**, H. Atwater, J. Maiolo, K. E. Plass, J. Spurgeon, B. Kayes, M. A. Filler, M. D. Kelzenberg, M. Putnam
- 4:10 391.** Probing mechanisms of cobalt-catalyzed dihydrogen production in homogeneous solutions. **J. L. Dempsey**, C. N. Valdez, J. R. Winkler, H. B. Gray
- 4:40 392.** Toward harvesting additional solar inventory through photon upconversion. **T. N. Singh-Rachford**, **F. N. Castellano**

## Section B

Salt Palace Convention Center  
255 B

## F. Albert Cotton Award in Synthetic Inorganic Chemistry: Symposium in Honor of Kenneth D. Karlin

E. I. Solomon and R. A. Ghiladi, *Organizers*

E. Kim, *Presiding*

- 1:30 393.** Recent developments in the chemistry of dicopper(I) naphthyridine-dimine "crescent" complexes. **S. Fox**
- 2:00 394.** Five-coordinate iron(II) N<sub>x</sub>H<sub>y</sub> complexes supported by tris(phosphino)silyl ligands: Oxidation and reduction of iron bound hydrazine. **Y. Lee**, N. P. Mankad, J. C. Peters
- 2:20 395.** Structure and reactivity of Cu(I) bound to amyloid beta peptide fragments: Significance of the histidyl-histidine motif. **R. A. Himes**, G. Y. Park, G. S. Siluvali, A. N. Barry, N. J. Blackburn, K. D. Karlin
- 2:40 396.** Coordination complexes as potential structural and functional models for rubisco. **S. E. Sherman**, A. Liang, S. A. Hilderbrand, K. E. Wheeler, J. E. Horowitz
- 3:00** Intermission.
- 3:10 397.** How does the axial histidine imidazole influence the reactivity and stability of nickel superoxide dismutase? **J. Shearer**
- 3:40 398.** Extension of the "flash-and-trap" technique to determine ligand effects on the rate of dioxygen and carbon monoxide binding to copper(I) complexes. **H. R. Lucas**, G. J. Meyer, K. D. Karlin
- 4:00 399.** Incorporating abiological function in de novo designed proteins. **H. C. Fry**, A. Lehmann, A. Tronin, V. Krishnan, J. K. Blasie, J. G. Saven, W. F. DeGrado, M. J. Therien
- 4:20 400.** Reactive oxygen species and catalase-peroxidase (KatG): Insights into isoniazid resistance pathways in TB. **C. E. Fairchild**, **R. A. Ghiladi**
- 4:50 401.** Proteasome inhibition by transition metal complexes: An innovative route to anticancer therapy. **C. N. Verani**, Q. P. Dou

## Section C

Salt Palace Convention Center  
255 D

## ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry: Symposium in Honor of Alan H. Cowley

M. Lattman, *Organizer*

R. A. Kemp, *Organizer, Presiding*

- 1:30 402.** Synthesis, structures and properties of multinuclear lanthanide complexes. **R. A. Jones**, X. Yang, W-K. Wong, W. J. McCarty, J. H. Rivers
- 2:00 403.** Reactions of dihydrogen with main group molecules. **P. P. Power**
- 2:30 404.** Chemical hydrogen storage at Los Alamos. **J. C. Gordon**, B. L. Davis, D. A. Dixon, M. H. Matus, F. H. Stephens
- 3:00 405.** N-heterocyclic carbenes as ligands in the synthesis of early transition-metal nitride complexes. **C. D. Abernethy**, K. M. Edes, E. A. Neuhardt
- 3:30** Intermission.
- 3:45 406.** Conducting metallopolymers as active scaffolds for the synthesis of hybrid nanocomposites. **M. L. Mejia**, J. H. Rivers, X. Yang, **B. J. Holliday**
- 4:15 407.** Neutral and anionic organometallic complexes in molecular and nonvolatile solvents. **J. A. C. Clyburne**
- 4:45 408.** Cationic boranes: Synthesis, structures and anion sensing applications. **F. P. Gabbaï**

## Section D

Salt Palace Convention Center  
255 A

Nanoscience: Characterization and Applications  
Tubes, Rods, and Ribbons Cosponsored by COLL, POLY, and NANO

D. J. Nelson, *Organizer*

R. C. Davis and M. R. Linford, *Presiding*

- 1:30 409.** Catalysis in SWNT growth. **A. Orbaek**, C. A. Crouse, A. R. Barron
- 1:50 410.** Selective growth of well aligned semiconducting single-walled carbon nanotubes. **L. Ding**, J. Liu
- 2:10 411.** Triarylamines for SWNT separations. **C. E. Hamilton**, J. J. Brege, A. R. Barron
- 2:30 412.** Structure reactivity of single-walled carbon nanotubes for various diazonium reagents and its application for separation by electronic types and diameters. **W-J. Kim**, N. Nair, C. Y. Lee, M. S. Strano
- 2:50 413.** Comparing reactivities of carbon nanotubes: HiPco, NanoLab, SWeNT. **D. J. Nelson**, C. N. Brammer, H. L. Rhoads
- 3:10 414.** Stochastic analysis of stepwise fluorescence quenching reactions on single-walled carbon nanotubes: Single molecule sensors. **H. Jin**, D. A. Heller, J-H. Kim, M. S. Strano
- 3:30 415.** Capacitively coupled dielectrophoretic placement of carbon nanotubes. **H. J. Conley**, D. Jones, R. C. Davis
- 3:50 416.** Modeling the self-assembly of nanorod superlattices. **A. Titov**, P. Kral
- 4:10 417.** Plasmon coupling in a nanoparticle self-assembly. **S. Link**, W-S. Chang, L. Slaughter, B. Khanal, P. Manna, E. Zubarev
- 4:30 418.** Structure-reactivity for graphene nanoribbons. **R. Sharma**, M. S. Strano
- 4:50 419.** Nanoshaving of thin polymer layers on silicon oxide to produce chemically templated surfaces. **K. A. Nelson**, H. J. Conley, B. Davis, J. N. Harb, D. Wheeler, R. C. Davis, M. R. Linford
- 5:10 420.** Synthesis and interfacial characterization of metal-semiconductor contacts prepared by galvanic displacement. **S. Y. Sayed**, J. M. Buriak

## Section E

Salt Palace Convention Center  
255 C

Undergraduate Research at the Frontiers of Inorganic Chemistry  
Inorganic Materials Cosponsored by CHED

W. E. Lynch, *Organizer*

M. J. Geselbracht, *Organizer, Presiding*

- 2:00 421.** Recent research with undergraduates on select inorganic transition metal systems. **G. C. DeFotis**
- 2:30 422.** Magnetic frustration and superconductivity in oxide and chalcogenide materials. **B. C. Chan**, S. Pulido, S. E. Wehrhan, P. Davis, R. J. Cava, A. P. Ramirez
- 2:50 423.** Polymorph formation in Ni(ethylenediamine)<sub>2</sub>MoS<sub>4</sub>. **C. M. Oertel**, H. A. Iliff, L. J. Moore, H. Tian
- 3:10 424.** The role of aqueous chemistry in the hydrothermal crystal growth of ZnO. **M. C. Gelabert**
- 3:30 425.** Different methods teaching the concept of density at an elementary school level. **J. M. DuCray**, N. E. Levinger, D. C. Crans
- 3:50** Intermission.
- 4:05 426.** Supramolecular construction and decoration of an isotreticular set of metal-organic frameworks. **C. L. Mertzenich**, G. S. Papaefstathiou, T. Friscic, D-K. Bucar, D. C. Swenson, L. MacGillivray

- 4:25 427.** Alkyl-functionalization of porous silicon via multimode microwave-assisted hydroxylation: Results of an undergraduate research program exploring inorganic materials chemistry. **L. A. Porter Jr.**, J. C. Small, H. M. Dam, J. L. Siegel, N. J. Line, M. C. Roy, S. D. Rhodes
- 4:45 428.** Radiolytic degradation of lanthanide/actinide separation ligands. **K. L. Swancutt**, S. P. Mezyk, L. R. Martin, R. T. Paine, I. Binyamin, S. Pailloux

## Section F

Salt Palace Convention Center  
255 E

## Organometallic Chemistry

B. T. Donovan-Merkert and D. C. Crans, *Organizers*

E. A. Ison, *Presiding*

- 2:00 429.** Element insertion reactions with carbodiimides and organic azides. **J. R. Valensky**, J. W. Ziller, W. J. Evans
- 2:20 430.** Addressing the central arene ring of pincer metal complexes through η<sup>6</sup>-coordination. **R. J. Klein Gebbink**, S. A. Bonnet, G. van Koten
- 2:40 431.** Gold adducts of diphosphenes, phospho-Wittig reagents, and phosphines. **D. V. Partzka**, T. G. Gray, M. P. Washington, J. B. Updegraff III, **J. D. Protasiewicz**
- 3:00 432.** Insertion reactivity of zirconium-phosphorus bonds. **A. J. Roering**, R. Waterman
- 3:20 433.** Synthesis and reactivity of oxorhenium complexes with diamido amine ancillary ligands: Studies of oxygen atom transfer reactions. **Y. Feng**, G. Blakley, J. Aponte, P. Houseworth, E. A. Ison
- 3:40 434.** New routes to acyclic diaminocarbene metal complexes. **D. R. Sneed**, D. Hirsch-Weil, S. Inagaki, H. Seo, K. A. Abboud, S. Hong
- 4:00 435.** Photochromic cyclopentadienyl manganese tricarbonyl derivatives: Studies of linkage isomerization and ultrafast time resolved infrared spectroscopy. **E. J. Heilwell**, K. Mosley, K. R. Ruddick, C. E. Webster, **T. J. Burkey**
- 4:20 436.** Reactivity of (α-diimine)PdMe<sup>+</sup> species with silyl vinyl ethers. **C. Chen**, S. Luo, R. F. Jordan
- 4:40 437.** Unusual coordinatively unsaturated 16-electron iridabenzenes. **D. T. Chase**, M. M. Haley

## Section G

Salt Palace Convention Center  
255 F

## Inorganic Catalysts

D. C. Crans, *Organizer*

D. Rabinovich, *Presiding*

- 1:30 438.** Diiron hydrogenase active-site mimics: The effect of direct and indirect strain in a series of alkyldithiolatodiron-hexacarbonyl catalysts. **B. J. Petro**, G. A. N. Felton, G. S. Nichol, N. Okumura, R. S. Glass, D. H. Evans, D. L. Lichtenberger
- 1:50 439.** Electrochemical studies, spectroscopy, and density functional computations on a series of diiron hydrogenase mimics in relation to catalytic production of molecular hydrogen. **A. K. Vannucci**, G. A. N. Felton, L. T. Lockett, B. Petro, D. H. Evans, R. S. Glass, D. L. Lichtenberger

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‡ Cooperative Cosponsorship

2:10 **440.** Dyads of ruthenium complexes for multielectron oxidation photocatalysis.

**W. Chen, F. N. Rein, R. C. Rocha**

2:30 **441.** Efficient and selective nanoporous heterogeneous catalysts for various (tandem) reactions. **T. Asefa, K. K. Sharma, A. Anan, Y. Xie, C. Duncan**

2:50 **442.** Ethanol oxidation on metal oxide supported platinum catalyst. **L. M. Petkovic, S. N. Rashkeev, D. M. Ginosar**

3:10 **443.** Metal oxide catalysts for sulfur-based thermochemical water splitting cycles. **D. M. Ginosar, L. M. Petkovic, H. H. Farrell, K. C. Burch, Y. Wang, S. N. Rashkeev**

3:30 **444.** Water oxidation catalysis by nano-structured polyoxometalate domains. **M. Bonchio, M. Carraro, C. Maccato, A. Sartorel, G. Scorrano, F. M. Toma, M. A. Herrero, G. Scoles, M. Prato**

3:50 **445.** Molybdenum-salalen complexes: Synthesis, structure and catalytic activity in hydrosilylation. **J. E. Ziegler, G. Du, P. E. Fanwick, M. M. Abu-Omar**

4:10 **446.** Morphological dependence of ZnO on methanol steam reforming activity in Pd/ZnO catalysts. **P. D. Burton, C. Zhang, A. K. Dayle, B. A. Hernandez-Sanchez, T. J. Boyle**

4:30 **447.** Investigation into the coupling of cyclohexene oxide and carbon disulfide catalyzed by Cr(salen)Cl. **J. R. Andreatta, D. J. Darenbourg**

4:50 **448.** Using microporous tin (IV) phosphonates for Baeyer-Villiger oxidation reactions. **P. Zhang, B. G. Shepizer, A. Clearfield**

#### Section H

Salt Palace Convention Center  
Combo Rooms 253 A-B

#### Coordination Chemistry: Applications

W. A. Howard, *Organizer*

R. P. Houser, *Presiding*

2:30 **449.** Aqueous fluorometric and colorimetric sensing of phosphate ions by a fluorescent dinuclear zinc complex of a lysine-based ligand. **S. Khatua, S. H. Choi, J. Lee, D. G. Churchill**

2:50 **450.** Metal ion sensing, s-oxidation and stepwise bromination in meso-thienyl dipyrin systems. **S. H. Choi, K. Kim, D. G. Churchill**

3:10 **451.** New bimetallic zinc catalyst for the copolymerization of carbon dioxide and cyclohexene oxide at 1 atm. **M. R. Kember, P. D. Knight, C. K. Williams**

3:30 **452.** Oxidation state and electronic properties of ferrocenyl porphyrins. **P. Kiseri, G. M. Brown**

3:50 **453.** Production of metal nanoparticles in redox-active coordination networks. **M. P. Suh, Y. E. Cheon**

4:10 **454.** Spin-dependent delocalization-promoted nanoscopic electron correlation. **R. D. Schmidt, D. A. Shultz, M. L. Kirk, H. Lee**

4:30 **455.** TATP detection by fluorescence turn-on of Zn(salen). **M. J. Knapp, M. E. Germain**

#### Applications in Nanoscience

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#### Nanotechnology and the Environment: Emphasis on Green Nanotechnology Sustainable Synthesis of Nanomaterials

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## TUESDAY EVENING

### Section A

Salt Palace Convention Center  
Hall 5

#### Coordination Chemistry of NO and its Implication for Metabolism, Imaging and Toxicity

W. R. Scheidt and N. Lehnert, *Organizers*

#### 7:00-10:00

456. Application of macrocyclic ligands to investigate weak charge transfer transitions in iron porphyrin nitrosyls. **C. Sulok, B. Weber, N. Lehnert**

457. Carboxyl pendant arm influences relevant ruthenium nitrosyl cyclam complex properties. **E. Tfouni, F. G. Doro, L. A. B. Moraes, E. E. Castellano, M. N. Eberlin, R. M. Carlos, M. Bertotti**

458. Characterization of high-spin and low-spin ferric Cytochrome P450 WT and mutants using magnetic circular dichroism spectroscopy. **M. G. I. Galinato, T. Spolitat, D. P. Ballou, N. Lehnert**

459. Comparison of HNO detection methods for quantitative results. **D. J. Salmon, D. Andrei, K. M. Miranda, L. K. Keefer**

460. Crystal structure of the nitrite adduct of ferric human hemoglobin displaying the uncommon O-nitro binding mode. **J. Yi, M. Safo, G. B. Richter-Addo**

461. Designed photolabile manganese nitrosyls that release NO under near-infrared light. **C. G. Hoffmann-Luca, J. Alvarenga, P. K. Mascharak**

462. Designed ruthenium nitrosyls with carboxamido-N and carboxylato-O donors. **G. M. Halpenny, P. K. Mascharak**

463. Effects of covalently bound N-donor ligands in synthetic models of NorBC. **T. C. Berto, V. Praneeth, N. Lehnert**

464. Endothelium modulation of vasorelaxation induced by [Ru(terpy)(benzoquinonediimine)NO]<sub>3</sub><sup>+</sup> as nitric oxide donor agent. **R. S. da Silva, D. Bonaventura, C. N. Lunardi, G. J. Rodrigues, M. A. Neto, J. A. Vercesi, R. G. de Lima, L. M. Bendhack**

465. Evaluation of various routes to Fe<sup>II</sup>(NO) formation from nitrite. **J. L. Heinecke, C. Khin, A. V. Iretskii, P. C. Ford**

466. Ferric bis-picket fence porphyrin nitrosyls as synthetic models of fungal P450 NO reductase (P450<sup>nor</sup>). **L. E. Goodrich, H. Lee, N. Lehnert**

467. Nitric oxide and singlet oxygen photogeneration by light irradiation in the photo-therapeutic window of a nitrosyl ruthenium conjugated with a phthalocyanine rare earth complex: Biological effects and structural aspects. **R. S. da Silva, S. Cicillini, A. C. Prazias, A. C. Tedesco, O. A. Serra**

468. Investigation into the photolabilization of ruthenium nitrosyl complexes. **A. C. Merkle, N. Lehnert**

469. Investigation of biochemical properties of a new ruthenium complex cis-[RuCl<sub>2</sub>(NO)(BPA)]. **T. A. Heinrich, G. Von Poelhsitz, A. A. Batista, C. M. Costa-Neto**

470. New heme model complexes with nitric oxide and hyponitrite ligands. **N. Xu, A. Campbell, J. Khandogin, G. B. Richter-Addo**

471. Interaction of allosteric effectors with soluble guanylate cyclase heme domains: Role of heme distortion and propionate hydrogen bonding on synergistic activation. **M. Ibrahim, E. R. Derbyshire, M. A. Marletta, T. G. Spiro**

472. Nitrite as a source of HNO. **M. R. Kumar, P. J. Farmer, E. Fadeev**

473. Reduction of Cu<sup>I</sup> complex of a tripodal amine ligand by nitric oxide and reductive nitrosation of the ligand. **A. Singh, M. Sarma, B. Mondal**

474. Temperature and pressure dependent frequencies of Fe-N(NO) and N-O in [Fe(TPP)(NO)]. **J. W. Pavlik, N. J. Silvernail, A. Barabanschikov, J. Zhao, E. E. Alp, W. Sturhahn, J. T. Sage, W. R. Scheidt**

### Section B

Salt Palace Convention Center  
Hall 5

#### Inorganic Spectroscopy

D. C. Crans, *Organizer*

#### 7:00-10:00

475. Multiedge XAS investigation of Fe-S minerals, nanoparticles, and clusters. **D. J. Gardenghi, T. Douglas, R. K. Szilagyi**

476. Pulsed EPR studies of Cu(II)(tacn)(H<sub>2</sub>O)<sub>3</sub>. **S. R. Smith, J. L. McCracken**

477. Complexation of bisphosphonates with ytterbium(III): Application of Yb-pyrrocatechol violet complex for solute sensing. **E. Gaidamuskas, K. Saejung, A. A. Holder, S. Baruah, H. L. Parker, B. A. Kashemirov, D. C. Crans, C. E. McKenna**

478. Electron transfer and excited state dynamics in polymeric media. **P. A. Goldstein, M. K. Brennaman, J. Nunes, T. J. Meyer**

479. Investigation of cysteine and methionine oxidation using X-ray absorption spectroscopy. **A. Karunakaran-Datt, P. Kennepohl**

480. Multiedge X-ray absorption spectroscopy characterization of biomimetic analogs of the H-cluster of Fe-only hydrogenases. **L. J. Giles, A. G. Grigoropoulos, R. K. Szilagyi**

481. X-ray absorption spectroscopy as a tool for the characterization of sulfur based reactive intermediates in inorganic and bioinorganic chemistry. **V. Martin-Diaconescu, P. Kennepohl**

### Section C

Salt Palace Convention Center  
Hall 5

#### Green Nanoscience Cosponsored by COLL, POLY, and NANO

D. C. Crans, S. S. Wong, and  
D. J. Nelson, *Organizers*

#### 7:00-10:00

482. Size- and shape-selective synthesis of gold and silver nanoparticles using microwave irradiation. **S. Kundu, H. Liang**

483. Greener approaches for the preparation of I-III-VI nanoparticles. **R. D. Westover, J. J. Pak, R. G. Rodriguez, R. V. Fox, G. L. Long, C. Bajracharya**

484. Microwave-assisted synthesis of dendritic nanoferrites and their applications in catalysis. **V. Polshettiwar, R. S. Varma**

485. Nanostructured (111) metal oxides for methanol decomposition to hydrogen and carbon dioxide. **A. R. Corpuz, L. Chen, J. Hu, R. M. Richards**

486. Efficient PCR amplification functionalization by an unnatural base pair system. **M. Kimoto, R. Kawai, T. Mitsui, S. Yokoyama, I. Hirao**

487. Synthesis and characterization of n-doped NaSi and its application to prepare hydrogen capped n-doped Si nanoparticles. **J. Wang, N. D. Browning, S. M. Kauzlarich**

### Section D

Salt Palace Convention Center  
Hall 5

#### Materials Applications

D. C. Crans, *Organizer*

#### 7:00-10:00

488. Cerium zirconium lanthanum dioxide catalyst supports impregnated with platinum/palladium for the methanol steam reforming reaction. **C. A. Supalo, T. E. Mallouk**

489. Metal salt-polyaniline nanofiber composite materials for arsenic detection. **R. W. Kojima, S. Virji, J. D. Fowler, R. B. Kaner, B. H. Weiler**

490. Organic/inorganic hybrid nanocompositions of pristine and functionalized boehmite with amine-cured tetraglycidyl meta-xylenediamine resin. **R. Basheer, V. Stolarski**

491. A novel twofold interpenetrating metal-organic framework with high isosteric heat of hydrogen adsorption. **X. Liu, S. Hong, M. Park, M. Oh, M. S. Lah**

492. Effect of highly ordered TiO<sub>2</sub> nanotube pore thickness on the efficiency of dye sensitized solar cells. **H. K. Seo, J. J. Nelson, C. M. Elliott**

493. Functionalized nanospheres for targeted drug delivery applications and their biocompatibility (cytotoxicity). **T. Asefa, Z. Tao, Y. Xie, C. Duncan, K. K. Sharma, G. Wang, A. Anan, J. Goodisman**

494. Luminescent metallopolymers of monovalent copper and silver by sigma coordination of commercially-available polymers. **M. A. Rawashdeh-Omary, M. Rashdan, P. Vasabhaktula**

495. New trinuclear metalloaromatics: Structures and unique optoelectronic applications. **C. Yang, M. A. Omary**

496. Novel mixed metal phosphate based materials for battery applications. **E. S. Takeuchi, A. C. Marschliok, K. J. Takeuchi**

497. Pd Nanoparticles encapsulated on dendrimer-modified carbon nanotubes and their properties as hydrogen sensor. **S. Ju, J.-M. Lee, Y. Jung, H.-J. Kim, E. Lee, K. J. Jeon, W. Lee, S.-J. Kim**

### Section E

Salt Palace Convention Center  
Hall 5

#### Materials Synthesis

D. C. Crans, *Organizer*

#### 7:00-10:00

498. Crystals as molecules: Isorecticular functionalization of zeolitic imidazolate frameworks. **W. Morris, C. J. Doonan, O. M. Yaghi**

499. Mesoporous sol-gel hybrid organosilica using sublimable templates. **I. Mukherjee, J. Chen, S. Das, H. Yin, Y. Wei**

500. Sol-gel synthesis of mesoporous zirconia using low boiling nonsurfactant compounds as templates. **I. Mukherjee, B. Rosen, Z. Zhang, D. Berke-Schlessel, Y. Wei**

501. Syntheses and characterization of phosphine-substituted oligothiophenes for nonlinear absorbers and chiral quaternary phosphonium salts for magneto-optic materials. **Q. Zhao, G. M. Gray, J. Wang, C. M. Lawson**

502. Synthesis of variable composition europium-doped aluminosilicate glasses. **D. C. Banks, E. J. Voss**

### Section F

Salt Palace Convention Center  
Hall 5

#### Nanoscience Synthesis Cosponsored by COLL, POLY, and NANO

D. J. Nelson, S. S. Wong, and  
C. N. Brammer, *Organizers*

#### 7:00-10:00

503. Nanomorphology studies of Laponite/conductive polymer nanomaterials. **M. R. Topka, M. E. Hagerman, R. Cortez**

504. CdSe nanocrystal and ruthenium polypyridine cation inclusion within Laponite photovoltaic films. **S. M. Herron, M. E. Hagerman, P. E. Catravas**

505. Inclusion of aniline functionalized CdSe nanocrystals within Laponite films. **U. J. Williams, M. E. Hagerman, J. D. Kehlbeck**

506. Electroless deposition of Cu nanostructures on molecular patterns prepared by dip-pen nanolithography. **Y.-H. Chang**

507. Withdrawn.

508. Facile one step synthesis of gold nanocrystals using β-diketones: Enhanced stability and reaction rate for nanoparticle formation. **J. H. Song, Y.-J. Kim, J. R. Park**

509. Preparation of size and shape-selective Au nanocrystals via a simple proton beam irradiation route. **J. H. Song, Y.-J. Kim**



- 510.** Synthesis of atomically monodisperse, thiol-functionalized gold nanoclusters. **Z. Wu, H. Gian, R. Jin**
- 511.** Influencing the kinetics of growth by oriented aggregation of iron oxide nanoparticles. **N. D. Burrows, C. Hale, V. M. Yuwono, J. Soltis, R. L. Penn**
- 512.** Gas-phase metallization of surface DNA to make nanowires. **Y. Geng, J. Liu, J. N. Harb, A. T. Woolley**
- 513.** Metal-organic supramolecules based on  $\beta$ -diketone and  $\beta$ -ketoenamine ligands. **A. W. Maverick, C. Pariya, Y. S. Marcos, J. K. Cherutoi, J. D. Sandifer, F. R. Fronczek**
- 514.** Preparation and sintering behavior of SiC nanopowder. **Y. Kim, J. J. Kim, W. T. Kwon, S. R. Kim, J. P. Ahn, J. H. Chae**
- 515.** Uncovering the mechanism of metal chalcogenide gel formation. **I. R. Pala, I. U. Arachchige, S. L. Brock**

## Section G

Salt Palace Convention Center  
Hall 5

## Organometallic Chemistry

B. T. Donovan-Merkert and D. C. Crans,  
*Organizers*

## 7:00–10:00

- 516.** Synthesis and characterization of *N*-heterocyclic carbene palladium complex and its direct arylation of benzoazoles with aryl bromides application. **H. Arslan, D. G. VanDerveer, S. Demir, I. Özdemir, B. Çetinkaya**
- 517.** Variations on a doubly linked dicyclopentadiene ligand. **R. M. Chin, J. A. Mauldin, J. Criswell, A. N. Simonson**
- 518.** [Re(CO)<sub>3</sub>1,2-C<sub>5</sub>H<sub>3</sub>(CRN)(CRN)] complexes via 1,2-diacetylcyclopentadienes: Proposed route for [Re(CO)<sub>3</sub>(n<sup>5</sup>-NC<sub>7</sub>H<sub>3</sub>-1,3-R<sub>2</sub>)]<sub>2</sub>. **C. A. Snyder, J. B. Scott**
- 519.** Synthesis and characterization of bulky disubstituted rhenium n<sup>5</sup>-1,3-diphenylacetyl-cyclopenta[c]pyridazine. **C. A. Snyder, J. M. Strain**
- 520.** Withdrawn.
- 521.** Synthesis of bridged-dicyclopentadienyl diruthenium carbonyl complexes and derivatives. **A. N. Simonson**
- 522.** The pursuit of cyclopentadienyl ferrocenes and their metal complexes. **C. A. Snyder**
- 523.** Thermodynamic studies of the addition reactions between (Me<sub>3</sub>SiCH<sub>2</sub>)<sub>3</sub>W=CSiMe<sub>3</sub> and phosphines. **B. A. Dougan, Z.-L. Xue**
- 524.** Reactivity of group 3 complexes supported by novel tridentate ancillary ligands. **K. R. D. Johnson, P. G. Hayes**
- 525.** Rhenium n<sup>5</sup>-cyclopenta[c]pyridazyl complexes via 1,2-diacetylcyclopentadienes: Proposed route for substituted pyrrolyl complexes. **P. Sriramula, C. A. Snyder**
- 526.** Study of vinylic deprotonation of styrene coordinated in a dicationic platinum complex. **C. Hahn**
- 527.** Mechanistic study on substitution reaction of solventometal carbonyl complex, MeCpMn(CO)<sub>2</sub>(THF) with PR<sub>3</sub>(R=Me, OEt, C<sub>6</sub>H<sub>5</sub>) in THF. **Y. K. Park, S. H. Kim, M. Yoo, S. K. Park, D. H. Lee, D. S. Yun, J. H. Kim**
- 528.** New highly water-soluble aminothiazolylphosphines. **G. V. Oshovsky, A. Ouali, N. Xia, M. Taillefer, J.-P. Majoral**
- 529.** New methodology for synthesis of C<sub>2</sub>- and C<sub>7</sub>-symmetric bis(imino)pyridines and energetic implications for metallation. **M. D. Kennedy, J. E. Steves, K. P. Chiang, W. S. Kassel, W. G. Dougherty Jr., T. J. Dudley, D. L. Zubris**
- 530.** Pincer carbene metal complexes as potential catalysts for the partial oxidation of olefins. **A. Mrutu, R. A. Kemp**
- 531.** Reactions of bisphosphine sulfides and bisphosphine selenides with ferrocene backbones. **C. Nataro, S. S. Kleinbach, A. R. Seibert**

## ‡ Cooperative Cosponsorship

- 532.** Disilylated group 4 metallocene ate complexes. **J. Baumgartner, M. Zimgast, C. Marschner**
- 533.** Displacement kinetics of furan and dihydrofuran from Mn and Cr centers: Evidence for the de-aromatization of the furan ligand. **J. R. Andreatta, D. J. Darenbourg, A. A. Bengali**
- 534.** Formation of a 20-membered ring containing two iron and two rhodium atoms bridged by four 1,2-bis(diphenylphosphino)ethane ligands. **R. L. Keiter, B. Lutes, W. Zhang, E. A. Keiter, A. L. Rheingold**
- 535.** Withdrawn.
- 536.** Activation of carbon-fluorine bond through manganese (I) coordination. **W. M. Hewitt**
- 537.** Bis(indenyl) manganese(II) complexes: Flexible structures and their corresponding reactivities. **R. M. Meier, J. A. Crisp, T. P. Hanusa, W. W. Brennessel**
- 538.** Boron-substituted analogs of the Shvo hydrogenation catalyst: Applications in the hydroboration of aldehydes and imines. **H. N. Londino, J. K. Vellucci, L. Koren-Selfridge, C. P. Casey, T. B. Clark**
- 539.** Design and synthesis of supporting groups for odd-electron Ru complexes. **L. A. Labios, J. S. Figueroa**

## Section H

Salt Palace Convention Center  
Hall 5

## Organometallic Synthesis

B. T. Donovan-Merkert and D. C. Crans,  
*Organizers*

## 7:00–10:00

- 540.** Complexes of transition metals containing light absorbing antennas. **D. P. Rillema, A. J. F. Cruz, K. Siam, M. Islam**
- 541.** Isolable gold-alkyne complexes. **H. V. R. Dias, J. Wu, J. A. Flores, P. Kroll**
- 542.** Pt-catalyzed asymmetric alkylation of bis(silylphosphines): Linker length effects on selectivity. **T. W. Chapp, A. J. Schoenfeld, D. S. Glueck**
- 543.** Models for the active site of [Fe-Fe] hydrogenase containing redox active groups. **C. A. Mebi, N. Okumura, R. Kottani, U. I. Zakai, A. K. Vannucci, L. T. Lockett, G. A. N. Felton, R. S. Glass, D. H. Evans, D. L. Lichtenberger**
- 544.** Platinum mediated reactions of silanes: Isolation of new silyl and silylene complexes. **A. Hines, S. Schreiner**
- 545.** Sandwich complexes with various substituted tripalladium ditropylum centers. **D. Babbini, S. K. Hurst**
- 546.** Self assembled organometallic diblock copolymers. **B. M. Mosby, D. Glueck, M. Guino-o**
- 547.** Synthesis and characterization of a luminescent Platinum(II) Phenylacetylidyde complex. **V. M. Shingade, L. J. Grove, J. A. Krause, W. B. Connick**
- 548.** Synthesis and characterization of Pd(II) and Ru(II) N-Heterocyclic carbene complexes with N-(2-pyridyl) and N-(2-pyrimidyl) pendant groups. **S. A. Cortes-Llamas, C. van Nieuwkerk, D. Brownand, D. B. Grotjahn**
- 549.** Synthesis and structure of ferrocenyl-methylphosphines and their borane adducts. **M. F. Cain, M. A. Pet, R. P. Hughes, D. S. Glueck, J. A. Golen, A. L. Rheingold**
- 550.** Synthesis of organometallic compounds bearing tridentate podand thioether ligands. **B. P. Nell, J. D. Paretzky, M. Ilmura**
- 551.** Azole ligand scaffolds: Synthesis and metallation of new trianionic pincer ligands. **E. S. Wiedner, M. J. A. Johnson**
- 552.** Bifunctional behavior of imidazol-2-yl complexes of Cp<sup>+</sup>Ir and CpRu. **V. Miranda-Soto, D. B. Grotjahn, A. G. DiPasquale, A. L. Rheingold**
- 553.** Cationic Cu(I) complexes of primary and secondary phosphines: Potential precursors to phosphido complexes. **M. F. Cain, D. S. Glueck, J. A. Golen, A. L. Rheingold**

- 554.** Group 9 metal complexes containing the cyclic diphosphine, *P,P'*-diphenyl-1,4-diphospha-cyclohexane: Synthesis, X-ray structure analyses and spectroscopic studies. **J. E. Sussman, T. S. Morey, M. L. Helm**
- 555.** Heterobimetallics with (allyl)nickel and (allyl)palladium fragments bridged by (2-(diphenylphosphino)ethyl)cyclopentadienyl group VI metal tricarbonyl metalloligands. **P. J. Fischer, A. P. Heerboth, V. G. Young Jr.**

## Section I

Salt Palace Convention Center  
Hall 5

## Main Group Chemistry

D. C. Crans and B. T. Donovan-Merkert,  
*Organizers*

## 7:00–10:00

- 556.** Synthesis and application of novel sterically demanding amido ligands in main group chemistry. **S. Aldridge, H. B. Mansaray**
- 557.** Synthesis and characterization of a boron viologen analog. **S. C. Dorman, R. E. Sykora, C. Odum, M. D. Soutullo, A. Wierzbicki, E. A. Salter, J. H. Davis Jr.**
- 558.** Progress toward the synthesis of naphthyl-substituted siloles. **N. Benfaremo, K. M. Fecteau, H. J. Tracy, J. Ford, C. K. Prudenté, J. L. Mullin**
- 559.** Reactions of carbon dioxide, carbon disulfide and carbonyl sulfide with tin(II) silylamides. **C. A. Stewart, D. A. Dickie, M. V. Parkes, R. A. Kemp**
- 560.** Synthesis and luminescence characteristics of tolyl-substituted siloles. **J. L. Mullin, T. Bozeman, D. L. Woodall, A. E. Orlando, C. E. Faller, A. L. Booth, C. K. Prudenté, J. Ford, N. Benfaremo, H. J. Tracy**
- 561.** Thin-film photoluminescence and electro-luminescence investigations of group 14 metalloles. **H. J. Tracy, R. Griffin, C. K. Prudenté, J. Ford, J. L. Mullin, N. Benfaremo**
- 562.** Bidentate phosphorus calix[5]arene complexes of platinum and palladium. **B. Rios, M. Lattman, H. Zhang**
- 563.** Deconvolution of steric, electronic, electrostatic and cooperative hydrogen bonding effects in anion binding by Lewis acidic ferrocenylboranes. **A. E. Broomsgrove, C. Bresner, I. R. Morgan, I. A. Fallis, S. Aldridge**
- 564.** Progress toward the synthesis and spectral characterization of group 14 metallalfluorenes. **C. K. Prudenté, H. J. Tracy, E. Gjika, J. Ford, J. L. Mullin, N. Benfaremo**
- 565.** Silicon-thioether dendrimers synthesized with thiol-ene chemistry. **C. J. Rissing, D. Y. Son**
- 566.** Synthesis and coordination chemistry of new 6 $\pi$ -electron ligands. **W. N. William, R. A. Kemp**
- 567.** The carborane-CB<sub>11</sub>Me<sub>11</sub>(-) substituent as a bulky and charged protecting group. **C. Douvris, M. Valášek, J. Michl**
- 568.** Thiol-ene chemistry for the synthesis of tripodal thioether ligands. **C. Rim, L. J. Lahey, V. G. Patel, D. Y. Son**

**Geochemical Processes, Reactivity, and Applications of Manganese Oxides**  
Sponsored by GEOC, Cosponsored by ENVR and INOR

## WEDNESDAY MORNING

## Section A

Salt Palace Convention Center  
254 B

## Capturing and Storing Solar: Inorganic Chemistry to the Rescue

J. Van Houten and F. N. Castellano,  
*Organizers*A. B. Bocarsly, *Presiding*

- 8:30 569.** Our energy future: Science and technology challenges of the 21st century. **T. J. Meyer**

- 9:10 570.** Recent developments in the design of DSSCs components. **C. A. Bignozzi**
- 9:40 571.** Conjugated materials in solar cells. **K. S. Schanze**
- 10:10** Intermission.
- 10:20 572.** First-row transition metal complexes as sensitizers for DSSCs: Making solar cells from paint chips and rust. **J. K. McCusker**
- 10:50 573.** Molecule/metal oxide semiconductor interfaces. **E. Galoppini**
- 11:20 574.** Sensitized iodide redox chemistry. **J. M. Gardner, S. Ardo, J. Rowley, G. J. Meyer**
- 11:50 575.** Mass transfer of polypyridyl cobalt complexes within mesoporous TiO<sub>2</sub> dye-sensitized solar cell photoanodes. **C. M. Elliott, J. J. Nelson, T. J. Amick, H. K. Seo, F. F. Peelor, D. W. Keller**

## Section B

Salt Palace Convention Center  
255 B

## Coordination Chemistry of NO and its Implication for Metabolism, Imaging and Toxicity

W. R. Scheidt, *Organizer*N. Lehnert, *Organizer, Presiding*

- 8:30** Introductory Remarks.
- 8:35 576.** Reactivity and mechanisms of heme coordinated NOx: Reductive nitrosylation and oxygen atom transfer processes. **P. C. Ford, J. L. Heinecke, C. Khin, A. V. Iretskii, T. S. Kurtkyan**
- 9:05 577.** Dye-sensitized ruthenium nitrosyls: Trackable NO donors for light-triggered NO delivery to cellular targets. **P. K. Mascharak**
- 9:35 578.** NO movement in the solid-state structures of iron nitrosyls. **W. R. Scheidt, N. J. Silvermail, A. Barabanshikov, J. T. Sage**
- 10:05 579.** Force spectroscopy of the iron atom in nitrosylated heme proteins. **J. T. Sage, W. Zeng, A. Barabanshikov, N. J. Silvermail, W. R. Scheidt**
- 10:35** Intermission.
- 10:50 580.** NO product formation from Cu nitrite reductase. **M. E. Murphy, E. I. Tocheva, F. I. Rosell, A. G. Mauk**
- 11:20 581.** Electron nuclear double resonance (ENDOR) of the active site structures in the NO-generating copper center of nitrite reductase and the NO-binding heme center of cytochrome c'. **C. P. Scholes, B. Lee, Y. Sun, V. M. Grigoryants, O. M. Usov, J. P. Shapleigh**
- 11:50 582.** New light on NO bonding in Fe(II/III) heme proteins from resonance Raman spectroscopy and DFT modeling. **T. G. Spiro, M. Ibrahim, A. V. Soldatova**
- 12:20** Concluding Remarks.

## Section C

Salt Palace Convention Center  
255 D

## Coordination Chemistry: Synthesis

W. A. Howard, *Organizer*C. N. Verani, *Presiding*

- 9:40 583.** Building a new family of reactive metal centers with big isocyanides. **J. S. Figueroa, B. J. Fox, T. B. D. Diti, M. D. Millard, L. A. Labios**

**Photographing or recording meeting sessions and/or activities other than your own are prohibited at all official ACS events without written consent from ACS.**

- 10:00 584.** Bulk powders of nanoporous palladium and platinum. **D. B. Robinson**, S. J. Fares, M. D. Ong, I. Arslan, K. L. Tran, W. M. Cliff
- 10:20 585.** Stabilization of uranyl(V) using a  $\beta$ -ketoiminate ligand. **T. W. Hayton**, G. Wu
- 10:40 586.** Synthesis of functionalized water-soluble bisphosphines and their iron(II) complexes toward macrocyclic tetraphosphine complexes. **C. D. Swor**, D. R. Tyler
- 11:00 587.** The bioorganometallic chemistry of thiosemicarbazones. **F. A. Beckford**, M. Shalowski Jr., J. Thessing, G. Leblanc, S. Dunkerson, N. P. Seeram, L. Li
- 11:20 588.** Unsupported hydroxo- and oxo-bridged binuclear iron(III) complexes of pyridyl bis(aminophenol) ligands. **R. Shakya**, R. P. Houser
- 11:40 589.** Uranium(VI) bis(mido) dichalcogenate complexes: Synthesis and density functional theory analysis. **L. P. Spencer**, P. Yang, E. R. Batista, J. M. Boncella

## Section D

Salt Palace Convention Center  
255 A

**Undergraduate Research at the Frontiers of Inorganic Chemistry Organometallic Chemistry** Cosponsored by CHED

W. E. Lynch and M. J. Geselbracht,  
*Organizers*

B. S. Williams, *Presiding*

- 9:00 590.** Asymmetric hydroamination with titanium and tantalum complexes of cyclopentadiene and amino alcohols. **A. R. Johnson**, L. D. Hughs, J. E. Redford
- 9:20 591.** Advanced topics in small molecule NMR research for undergraduates: Triple-resonance relay experiments and multinuclear diffusion studies. **T. A. Mobley**, L. J. Lyons, E. G. Tennyson, B. N. Williams, S. Harring, J. Dalgleish, M. Straughan, A. M. Kortan, A. Albright
- 9:40 592.** Alkane methathesis by tandem alkane dehydrogenation and olefin methathesis: Modeling the selectivity for carbon-number. **L. Decker**, A. S. Goldman
- 10:00 593.** Hydrolysis of a VX analog: First organometallic reagent to promote phosphonothioate hydrolysis through selective P-S bond scission. **L. Y. Kuo**, A. E. Akagi
- 10:20 594.** Research conducted by Macalester College undergraduates involving donor-functionalized cyclopentadienyl metal carbonyl complexes. **P. J. Fischer**
- 10:55 595.** Synthesis of a sterically hindered bis(imino)pyridine compound as a potential ligand for iron(II). **J. E. Steves**, M. D. Kennedy, K. P. Chiang, W. S. Kassel, W. G. Dougherty Jr., T. J. Dudley, D. L. Zubris
- 11:15 596.** Synthesis and *meso* to *rac* isomerization of *rac/meso-ansa-zirconocenes* with a phosphine linker. **J. C. Axtell**, S. D. Thai, L. A. Morton, W. S. Kassel, W. G. Dougherty Jr., D. L. Zubris
- 11:35 597.** Synthesis, characterization and catalytic activity of *ansa*-bridged cyclopentadienyl chromium complexes for aqueous polymerization. **K. L. Breno**

## Section E

Salt Palace Convention Center  
255 C

## Inorganic Catalysts

D. C. Crans, *Organizer*

T. Asefa, *Presiding*

- 9:00 598.** Atom transfer radical addition catalyzed by mixed-phosphine Ru(II) complexes bearing ancillary ligands Cp\*, Cp, Dp, Ind, or Tp. **R. P. Nair**, B. J. Frost
- 9:20 599.** Computational study of a methane functionalization catalytic cycle using a ( $\beta$ -diketiminato)Ni catalyst. **A. Pierpont**, T. Cundari
- 9:40 600.** Early transition metallocene-catalyzed cross-coupling of acetylenes. **G. V. Oshovsky**, B. Hessen

- 10:00 601.** Hydrosilylation of aldehydes and ketones catalyzed by nickel PCP-pincer hydride complexes. **S. Chakraborty**, J. A. Krause, H. Guan
- 10:20 602.** Intercalation of aggregation-free and well-dispersed gold nanoparticles into the walls of mesoporous silica as a highly active catalyst for n-alkane and alcohols oxidation. **L. Chen**, J. Hu, R. M. Richards
- 10:40 603.** Li<sup>+</sup> catalyzed radical grafting reactions initiated by the CB<sub>11</sub>Me<sub>12</sub> radical. **V. Volkis**, I. M. Glassford, J. Michl
- 11:00 604.** Missing members of the Grubbs catalyst series: Difluororuthenium carbene complexes. **M. J. A. Johnson**, M. L. Macnoughtan, J. W. Kampf
- 11:20 605.** Nickel catalysts for ethylene polymerization supported on and activated by clay. **S. L. Scott**, B. C. Peoples
- 11:40 606.** Olefin epoxidation with new aminopyridine iron(II) macrocycles: Identifying structural features and mechanistic studies of reactive intermediates. **W. Ye**, V. G. Organo, E. V. Rybak-Akimova
- 12:00 607.** Synthesis and triple-bond metathesis reactivity of new molybdenum nitride and alkylidyne complexes. **E. S. Wiedner**, M. J. A. Johnson, J. W. Kampf

## Section F

Salt Palace Convention Center  
255 E

## Bioinorganic Chemistry: Enzymes

D. C. Crans and S. L. J. Michel,  
*Organizers*

J. J. Smee, *Presiding*

- 8:40 608.** Modeling superoxide reductase and superoxide dismutase reactivity. **J. Pikul**, J. A. Kovacs
- 9:00 609.** Characterization of human mortalin. **W.-I. Luo**, E. Dizin, T. Yoon, J. A. Cowan
- 9:20 610.** Reduced diiron site in human deoxyhypusine hydroxylase can bind dioxygen to form a stable diferric peroxo cluster. **V. V. Vu**, J. P. Emerson, M. Martinho, Y. S. Kim, E. Munck, M. H. Park, L. Que Jr.
- 9:40 612.** Interplay of nickel and zinc in metal ion trafficking related to urease. **S. Ciurli**, B. Zambelli, M. Bellucci, F. Musiani
- 10:00 613.** Unraveling the catalytic mechanism of dinuclear hydroxylases. **R. C. Holz**, D. Gillner, D. Becker
- 10:20 614.** Structure, properties, and kinetics of formation of a novel N4S-Co(III) amide species. **R. D. Swartz II**, W. Kaminsky, J. A. Kovacs
- 10:40 615.** Catalytic reactivity of an Fe(II) corrolazine and spectroscopic evidence for a high-valent Fe=O complex. **A. J. McGown**, W. D. Kerber, D. P. Goldberg
- 11:00 616.** Electronic structure contributions to vectorial electron transfer in arsenite oxidase. **R. Mtei**, M. L. Kirk
- 11:20 617.** Probing the tether linking the heme and molybdenum domains of human sulfite oxidase using laser flash photolysis and steady-state kinetics. **K. Johnson-Winters**, S. H. Emesh, J. Yang, H. L. Wilson, A. Rajapakshhe, A. Nordstrom, G. Tollin, K. V. Rajagopalan, J. H. Enemark
- 11:40 618.** Probing the role of tryptophan 226 in the active site of human sulfite oxidase: Implications for intramolecular electron transfer rates and steady-state kinetics. **A. Rajapakshhe**, K. Johnson-Winters, A. Nordstrom, G. Tollin, A. V. Astashkin, J. H. Enemark

**The official technical program for the 237th National Meeting is available online at [oasys2.confex.com/acs/237nm/techprogram/](http://oasys2.confex.com/acs/237nm/techprogram/).**

## Section G

Salt Palace Convention Center  
255 F

## General Inorganic Chemistry

J. J. Smee, *Organizer*

J. Shearer, *Presiding*

- 8:30 619.** Incorporation of ethynylaryl carboxylates into quadruply bonded M2 complexes. **C. R. Reed**, M. H. Chisholm, C. Turro
- 8:50 620.** Self-assembly of hybrid polyoxometalates: Innovative roads to functional materials. **M. Bonchio**, M. Carraro, A. Sartorel, C. Maccato, G. Scorrano, M. H. Dickman, U. Kortz
- 9:10 621.** Insertion reactivity of zirconium-arsenic bonds. **J. J. Davidson**, R. Waterman
- 9:30 622.** Sterically enshrouded conducting metallopolymers and luminescent model complexes. **A. E. Dennis**, R. C. Smith
- 9:50 623.** Synthesis, characterization, and excited state properties of ruthenium(II)-platinum(II) supramolecular assemblies utilizing 4,7-diphenyl 1,10-phenanthroline terminal ligands. **S. L. Hopkins**, S. M. Arachchige, K. J. Brewer
- 10:10 624.** Recent developments in the synthesis of novel phosphine ligands derived from the water-soluble 1,3,5-triaza-7-phosphaadamantane. **B. J. Frost**, W.-C. Lee, R. Huang
- 10:30 625.** Pt(II) complex with TEMPO-dithiolate ligand: Realization of an interesting electronic structure through SOMO-HOMO level conversion. **T. Kusamoto**, S. Kume, H. Nishihara
- 10:50 626.** Structural response of vapochromic materials. **S. D. Taylor**, C. Gerkin, R. Golsby, R. T. Hart Jr., J. A. Krause, W. B. Connick
- 11:10 627.** New record for the strongest base. **B. Chan**, Z. Tian, M. B. Sullivan, L. Radom, S. R. Kass
- 11:30 628.** A DFT study of the single electron reduction of K<sub>2</sub>UO<sub>2</sub>(mac) mediated by the silylation of the U-O bond with TMS and TMSNMe<sub>2</sub>. **A. Yahia II**, P. L. Arnold, J. B. Love, L. Maron
- 11:50 629.** Enhanced desulfurization of fuels using a film-shear reactor: Degree of sulfur removal, source of enhanced reactivity, and attempts at controlled synthesis of nanoparticle catalysts. **B. R. Fox**, D. R. Tyler
- 12:10 630.** Metal-organic frameworks as selective adsorbents for harmful gases. **D. Britt**, D. Tranchemontagne, O. M. Yaghi

## Applications in Nanoscience

**Diagnostics and Delivery** Sponsored by COLL, Cosponsored by POLY, INOR, and NANO

**Nanotechnology and the Environment: Emphasis on Green Nanotechnology Membrane-Based Separations and Environmental Implications** Sponsored by I&EC, Cosponsored by INOR and NANO

## WEDNESDAY AFTERNOON

## Section A

Salt Palace Convention Center  
254 B

## Capturing and Storing Solar: Inorganic Chemistry to the Rescue

J. Van Houten and F. N. Castellano,  
*Organizers*

G. J. Meyer, *Presiding*

- 2:00 631.** Toward more efficient photochemical CO<sub>2</sub> reduction: Use of scCO<sub>2</sub> or photo-generated hydrides. **E. Fujita**, M. D. Doherty, D. C. Grills, J. T. Muckerman, D. E. Polyansky
- 2:30 632.** Chemical carbon mitigation: Using light to convert carbon dioxide to methanol and higher order alcohols. **A. B. Bocarsly**, E. E. Barton

- 3:00 633.** Sunshine to petrol: Solar thermochemical splitting of carbon dioxide and water. **J. E. Miller**, R. B. Diver, N. P. Siegel, M. D. Allendorf, E. B. Stechel
- 3:30 634.** Optical properties of Bi(Fe,Mn)O<sub>3</sub>: Polar oxides for solar energy applications. **J. Musfeldt**, X. Xu, R. Ramesh, D. Schlom
- 4:10 635.** The quest for earth abundant hydrogen evolution catalysts. **J. C. Peters**, L. A. Berben, N. K. Szymczak
- 4:40 636.** Investigations of outer sphere redox shuttles in dye-sensitized solar cells. **T. W. Hamann**

## Section B

Salt Palace Convention Center  
255 B

## Coordination Chemistry of NO and its Implication for Metabolism, Imaging and Toxicity

W. R. Scheidt and N. Lehnert, *Organizers*

K. R. Rodgers, *Presiding*

2:00 Introductory Remarks.

- 2:05 637.** Electrochemistry of a prokaryotic NO synthase. **C. A. Whited**, J. R. Winkler, H. B. Gray, K. D. Lavoie, H. Burgoyne, M. G. Hill
- 2:25 638.** A functional nitric oxide reductase model. **R. Decreau**, Y. Yang, A. Dey, T. Ohta, S. G. Dey, E. I. Solomon, J. P. Collman
- 2:45 639.** Stabilization of {Ru-NO<sup>+</sup>} and {Ru-NO<sup>-</sup>} and the photolytic cleavage of Ru-NO bond. **G. K. Lahiri**, W. Kaim
- 3:05 640.** Determining the molecular basis of nitric oxide signaling by H-NOX. **E. M. Boon**
- 3:25 641.** Nitric oxide adducts of flavo-diiron enzymes. **T. Hayashi**, P. Moenne-Loccoz, D. A. Wampler, J. Caranto, **D. M. Kurtz Jr.**
- 4:00 642.** Heme/nitrogen monoxide/dioxygen reactivity and peroxynitrite chemistry. **M. P. Schopfer**, S. C. Puiui, D.-H. Lee, B. Mondal, K. D. Karim
- 4:20 643.** Designing myoglobin into both a structural and functional model of nitric oxide reductase. **N. Yeung**, L. Lei, X. Zhao, Y.-W. Lin, Y. Lu
- 4:40 644.** An N-bound peroxynitro-cobalt intermediate? Computational and experimental evidence. **J. A. Goodwin**, T. S. Kurtikyan
- 5:00 645.** Solid-state vanadium-51 NMR and density-functional theory studies of eight-coordinate oxy-amine vanadium(V) complexes. **K. J. Ooms**, S. Bolte, B. Baruah, M. A. Choudhary, **D. C. Crans**, T. Polenova
- 5:20** Concluding Remarks.

## Section C

Salt Palace Convention Center  
255 D

## Nanoscience Synthesis

Cosponsored by COLL, POLY, and NANO

D. J. Nelson and S. S. Wong, *Organizers*

R. M. Richards and D. B. Robinson,  
*Presiding*

- 1:30 646.** Cubic and hexagonal mesostructured hexarhenium selenides: The first examples of supramolecular assemblies of octahedral nanoclusters. **S.-J. Kim**, S. Huh, M.-J. Suh, V. Vien, Y. Kim, S.-J. Hwang
- 1:50 647.** Reagent control over the size, uniformity, and composition of Co-Fe-O nanoparticles. **C. A. Crouse**, A. R. Barron
- 2:10 648.** Equilibrium-chemistry based size engineering of colloidal CdSe nanocrystal quantum dots. **J. T. Sij**, M. H. Bartl
- 2:30 649.** Structural changes to ZnO nanoparticles due to metal doping. **T. M. Hammad**, J. K. J. Salem, **R. G. Harrison**
- 2:50 650.** Polyoxoanion stabilized gold and silver nanostructures. **D. Soorly Gopala**, R. M. Richards
- 3:10 651.** Photodeposition of metals on metal oxide nanoparticles. **B. L. Oliva**, M. A. Tarr

- 3:30 652.** Direct growth of anisotropic metal nanostructures on semiconductor substrates. **Y. Sun**
- 3:50 653.** Soluble exfoliated hexagonal boron nitride nanosheets. **Y. Lin**, T. V. Williams, J. W. Connell
- 4:10 654.** Highly conductive, large scale chemically converted graphene for electronic applications. **V. C. Tung**, M. Allen, J. Wassei, S. Dubin, K. S. Nelson, Y. Yang, R. B. Kaner

## Section D

Salt Palace Convention Center  
255 A

## Bioinorganic Chemistry: Enzymes

S. L. J. Michel, *Organizer*D. P. Goldberg, *Presiding*

- 1:30 655.** Cytochrome P450 catalyzed nitration of L-tryptophan. **S. M. Barry**, G. L. Challis
- 1:50 656.** Understanding the structure and substrate specificities of the hydroquinone dioxygenases. **T. E. Machonkin**, P. L. Holland, K. N. Smith, J. S. Liberman, A. E. Doerner, A. A. Daud, H. Pham
- 2:10 657.** Energy independent iron transport in gram positive bacteria. **R. P. Doyle**
- 2:30 658.** Heme/nonheme iron and heme/copper assemblies possessing nitric oxide reductase activity. **J. Wang**
- 2:50 659.** Highly selective hydroxylation of alkanes catalyzed by (fY-oxo)bis(fY-carboxylato)-bridged diiron(III) complexes: Involvement of mononuclear iron(III) species in catalysis. **M. Palaniandavar**, K. Visvaganesan, E. Suresh
- 3:10 660.** Ligand discrimination in the heme-based sensor protein DevS from *Mycobacterium tuberculosis*: Role of a distal tyrosine residue. **E. T. Yuld**, A. S. Ioanoviciu, M. M. Nakano, P. R. Ortiz de Montellano, P. Moenne-Loccoz
- 3:30 661.** Pseudoazurin is an effective electron donor to nitrous oxide reductase from achromobacter cycloclastes. **K. Fujita**, D. M. Dooley, F. Ijima, T. Kohzuma, Y. Obara, M. Hirasawa
- 3:50 662.** Single amino acid switch turns P450cam from a monooxygenase to an efficient peroxidase. **H. Tian**, Z. Wang, X. Wang
- 4:10 663.** Spectroscopic and electronic structure studies probing the reaction coordinate of xanthine oxidase. **J. Sempombe**, M. L. Kirk
- 4:30 664.** Structural characterization of the molybdenum active site of sulfite oxidase from computational and pulsed EPR studies of isotopically labeled enzyme and related model complexes. **E. L. Klein**, A. V. Astashkin, K. Johnson-Winters, D. Ganyushin, F. Neese, J. H. Enemark
- 4:50 665.** What do the sulfides know about FeMo-co? **T. V. Harris**, R. K. Szilagy

## Section E

Salt Palace Convention Center  
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## Organometallic Chemistry

B. T. Donovan-Merkert and D. C. Crans, *Organizers*J. Louie, *Presiding*

- 2:00 666.** Asymmetric carboalumination of  $\alpha$ -olefins and catalyzed chain growth of aluminum alkyls: Kinetics and mechanism. **J. M. Camara**, R. A. Petros, J. R. Norton

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- 2:20 667.** Carbenic or anionic mono and di-phosphazene d0 complexes, for polymerization and C-H bond activation: Predictive theoretical DFT study. **M. Mercy**, L. Maron, D. Bourissou
- 2:40 668.** Cleavage of alkyl carbon-oxygen bonds in esters by (PCP)Ir: C-O bond cleavage proceeding via oxidative addition of C-H bonds. **S. Kundu**, J. Choi, K. Krogh-Jespersen, T. J. Emge, A. S. Goldman
- 3:00 669.** Comparing lanthanide and actinide coordination chemistry and reactivity with guanidinate ligands. **E. Montalvo**, W. J. Evans, J. W. Ziller, A. G. DiPasquale, A. L. Rheingold
- 3:20 670.** Computational and experimental studies of organometallic photochromic systems: Isomerization mechanisms for bifunctional side-chain complexes. **K. R. Ruddick**, T. J. Burkey, C. E. Webster
- 3:40 671.** Kinetic studies of the formation of trineopentyl neopentylidene tantalum from pentaneopentyl tantalum. **J. K. C. Abbott**, L. Li, Z.-L. Xue
- 4:00 672.** Unexpected  $\eta^2$ -arene intermediates in C-CN bond activations of aromatic nitriles. **T. Li**, T. A. Atesin, S. Lachaize, J. J. Garcia, W. D. Jones
- 4:20 673.** Ruthenium porphyrin based processive enzyme mimics: Catalysis and motion. **O. I. van den Boomen**, J. A. A. W. Elemans, R. J. M. Nolte, A. E. Rowan

## Section F

Salt Palace Convention Center  
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## Inorganic Catalysts

D. C. Crans, *Organizer*M. Bonchio, *Presiding*

- 2:00 674.** Controlling self-assembly of zinc(II)-benzoate coordination complexes with 1,4-Bis(4-pyridyl)ethane by varying solvent and ligand-to-metal ratio: Their catalytic activities. **C. Kim**, Y. J. Song, S. H. Kim, E. Y. Kim, J. I. Poong, G. H. Eom, S. P. Jang, T. G. Lee, S. M. Yoo
- 2:20 675.** Effects of Cu-ZuO-Al<sub>2</sub>O<sub>3</sub> addition on passive DeNOx activities of Pd/TiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> under simulated post EURO-4 exhaust condition. **Y. Ko**, **Y.-K. Hong**, Y. Li, D.-W. Lee, Y. Yoo, H. Han, K.-Y. Lee
- 2:40 676.** Environmentally friendly copper(II) catalyst regeneration techniques in atom transfer radical addition. **M. J. Taylor**, **W. T. Eckenhoff**, T. Pintauer
- 3:00 677.** The effect of tetrabutylammonium bromide and tris(2-pyridylmethyl)amine on copper catalyzed atom transfer radical addition in the presence of free radical initiators as reducing agents. **A. B. Biernesser**, W. T. Eckenhoff, T. Pintauer
- 3:20 678.** Li<sup>+</sup> catalyzed radical polymerization of simple alkenes. **W. A. Braunecker**, V. Volkis, R. K. Shoemaker, J. Michl
- 3:40 679.** Metal-directed supramolecular assembly of metal(II) benzoates (M = Co, Ni, Cu, Zn, Mn, and Cd) with 4,4'-bipyridine: Effects of metal coordination modes and novel catalytic activities. **C. Kim**, **S. M. Yoo**, Y. J. Song, H. G. Koo, G. H. Eom, J. H. Lee, H. M. Park, M. Jang, J. Y. Jun

## Section G

Salt Palace Convention Center  
255 F

## General Inorganic Chemistry

J. J. Smee, *Organizer*T. W. Hayton, *Presiding*

- 2:00 680.** Halogen elimination from monomeric and dimeric Au<sup>III</sup> complexes. **T. S. Teets**, D. G. Nocera
- 2:20 681.** Synthesis and reactivity of iridium complexes supported by the encumbering trialkyl phosphine P(CH<sub>2</sub>1Ad)(i-Pr)<sub>2</sub>. **M. D. Millard**, J. S. Figueroa

- 2:40 682.** Nitrosyl linkage isomerism in cobalt analogs of Roussin's red salt esters. **P. Pal**, T. E. Bitterwolf
- 3:00 683.** Photocatalytic reduction of CO<sub>2</sub> in supercritical CO<sub>2</sub>. **D. C. Grills**, M. D. Doherty, E. Fujita
- 3:20 684.** Photolabile ligand for light-activated release of caged copper. **K. L. Ciesielski**, K. L. Haas, M. G. Dickens, K. J. Franz
- 3:40 685.** Photophysical properties of copper pseudorotaxanes. **B. N. Briggs**, D. R. McMillin, F. Duroia, J.-P. Sauvage
- 4:00 686.** Spin density studies of iron(II) porphyrin derivatives by polarized neutron diffraction. **B. A. Dougan**, G. J. McIntyre, Y.-S. Chen, C. M. Hoffmann, Z.-L. Xue

## Advances in Teaching Inorganic Chemistry

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## Applications in Nanoscience

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## Nanotechnology and the Environment:

Emphasis on Green Nanotechnology Nanotechnologies for Environmental Cleanup Sponsored by I&amp;EC, Cosponsored by INOR and NANO

## WEDNESDAY EVENING

## Section A

Salt Palace Convention Center  
Hall 5

## Solid State Chemistry

D. C. Crans and B. T. Donovan-Merkert, *Organizers*

## 7:00-10:00

- 687.** Hydrothermal synthesis of oxovanadium organodiphosphonates: Structural influences of diamine cation incorporation. **P. C. DeBurgomaster**
- 688.** Structural influence of diphosphonate tether length and fluoride incorporation on the Cu(II)/bisteryp/molybdodiphosphonate system. **S. F. Jones**

## Section B

Salt Palace Convention Center  
Hall 5

## Bioinorganic Chemistry: Enzymes

D. C. Crans and S. L. J. Michel, *Organizers*

## 7:00-10:00

- 689.** Artificial metalloproteases toward catalytic drugs for amyloid diseases. **J. Suh**, **W. S. Chei**, T. Y. Lee
- 690.** Competitive effect of Ca(II) and Mg(II) on phospholipid model membranes. **M. K. Marneni**, M. K. Aitha, A. Sunda Meya, N. Phambu
- 691.** Copper binding properties of membrane-bound alpha-synuclein. **H. R. Lucas**, M. S. Jackson, J. C. Lee
- 692.** Electrochemical properties of tetrahydrobiopterin. **K. R. Hoke**, B. R. Crane
- 693.** Energy independent iron transport in gram positive bacteria. **J. J. Lensbauer**, R. P. Doyle
- 694.** Formation and reactivity of copper-dioxygen complexes with tridentate ligand donors and pendant redox-active group. **R. L. Peterson**, A. A. N. Sarjeant, K. D. Karlin
- 695.** Mechanism of chlorite dismutase: Spectroscopic investigation of the oxo-ferryl intermediates. **A. Lee**, M. J. Zdzilla, B. R. Streit, M. M. Abu-Omar, J. L. DuBois
- 696.** Mn(III), Mn(IV), and Mn(V)-oxo correlations: Synthesis and reactivity. **K. A. Prokop**, D. Lansky, D. P. Goldberg
- 697.** Preparation of Zn(II) complexes containing N2S donor atom sets: Models of the active site of peptide deformylase. **E. C. Brown**, M. Sullivan, N. Spiropoulos, S. Sorenson, A. M. Arif

- 698.** Spectroscopy and reactivity of new pyridine-based thiolate-ligated, nonheme iron superoxide reductase (SOR) model complexes: Understanding the effects of electronic and structural modifications on reactivity. **S. Toledo**, J. Frankel, J. Freudenthal, J. Kovacs
- 699.** Synthesis, characterization, and O<sub>2</sub> reactivity of divalent metal flavonolate complexes. **K. Grubel**, K. Rudzka, A. M. Arif, L. M. Berreau
- 700.** Role of Cu<sub>2</sub> in NO reduction by heme-copper oxidases. **T. Hayashi**, M. T. Lin, K. Ganesan, Y. Chen, J. A. Fee, R. B. Gennis, P. Moenne-Loccoz
- 701.** Use of volume sensitive organosilica sol-gels in dynamic modulation of structure and reactivity of proteins and enzymes. **L. I. Kacz**, B. C. Dave
- 702.** Nickel superoxide dismutase: Insight gained from functional metalloproteinase based mimics. **K. P. Neupane**, J. Shearer
- 703.** NsrR, a transcription factor from *Bacillus subtilis*, utilizes a 4Fe-4S cluster for sensing nitric oxide. **E. T. Yuki**, M. A. Elbaz, M. M. Nakano, P. Moenne-Loccoz
- 704.** Protein tyrosine phosphatase inhibition: A new (Au)ra for gold-based therapeutics. **M. R. Karver**, D. Krishnamurthy, N. Bottini, A. M. Barrios

## Section C

Salt Palace Convention Center  
Hall 5

## Coordination Chemistry: Applications

W. A. Howard, *Organizer*

## 7:00-10:00

- 705.** Diastereomeric Ln(III) complexes of DOTA-tetraamide ligands show differences in "PARACEST" effects. **S. Viswanathan**, J. Ratnakar, Z. Kovács, A. D. Sherry
- 706.** Interaction of a PARACEST agent with albumin. **E. H. Suh**, J. Ratnakar, A. D. Sherry, Z. Kovács
- 707.** Ligand oxidation in reactions of bis(imino)pyridine complexes with dioxygen. **J.-U. Rohde**, T. D. Manuel
- 708.** Light harvesting phosphines for platinum coordination polymer metalloorganogels. **E. G. Tennyson**, R. C. Smith
- 709.** Recognition of urea derivatives with copper(II) complexes in polar solvents. **A. Dorazzo-González**, A. K. Yatsimirsky
- 710.** Self-assembly of nanoscale adamantanoid metallo-dendrimers. **Y.-R. Zheng**, H.-B. Yang, K. Ghosh, B. H. Northrop
- 711.** Signal and target amplifications via supramolecular allosteric catalyst using a PCR-mimic enzyme. **H. J. Yoon**, C. A. Mirkin
- 712.** Solventless polymorphs of silver(I) piv-aloyloxynoxime. **G. Glover**, N. Gerasimchuk, A. Gamian, K. V. Domasevitch
- 713.** Study of the metal binding to ligand-containing PNA. **S. Bezer**, C. Achim
- 714.** Synthesis, structure, and characterization of copper(II) Schiff base complexes relevant to anion sensing. **J. Kang**, S. Khatua, D. G. Churchill
- 715.** The preparation and catalytic activity of the phthalocyanine iron  $\mu$ -oxo dimers. **H. M. Neu**, I. M. Geraskin, V. V. Zhdankin, V. N. Nemykin

## Section D

Salt Palace Convention Center  
Hall 5

## Inorganic Catalysts

D. C. Crans and K. Kustin, *Organizers*

## 7:00-10:00

- 716.** Biomimetic oxidations by manganese catalysts. **P. L. Pawlak**, M. Panda, D. J. Averill, W. W. Brennessel, F. Chavez
- 717.** Microwave assisted alkylation of CB<sub>11</sub>H<sub>12</sub>(-) and related anions. **M. Valášek**, J. Štursa, **J. Michl**

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718. Pyrrole hydrogenation over size and shape controlled platinum nanocrystals. **C.-K. Tsung**, J. N. Kuhn, W. Huang, P. Yang, G. A. Somorjai
719. A combined chemical and electrochemical approach for CO<sub>2</sub> reduction. **U. Jayarathne**, P. Chandrasekaran, J. T. Mague, J. P. Donahue
720. Atom transfer radical addition in the presence of triethyl borane and air. **S. J. Noonan**, W. T. Eckenhoff, T. Pintauer
721. Biologically inspired catalysts. **W. J. Shaw**, J. C. Linehan
722. Biomimetic hydrocarbon oxidations by nonheme manganese(III) complexes with idosylbenzene. **C. Kim**, S. Jang, S. H. Kim, E. Y. Kim, J. I. Poong, H. Koo, G. Eom, J. H. Lee, H. Park, M. Jang
723. Hangman porphyrin bearing xanthen scaffold to explore O-O bond formation from water. **D. Dogutan Kiper**, D. G. Nocera
724. Construction and studies of tetrametallic mixed-metal mixed-bridging ligand supramolecular photocatalysts with structural diversity that provides complex redox and spectroscopic properties and excited state dynamics. **G. Wang**, S. Arachchige, S. Hopkins, J. Knoll, B. Okyere, K. Magruder, A. Jain, K. Brewer
725. Improving green catalysis of metal mediated C-H activation: A computational study. **G. R. Morello**, T. R. Cundari, T. B. Gunnoe
726. Inorganic catalysts for the production of solar fuels. **B. D. Stubbert**, J. R. Winkler, H. B. Gray
727. Mixed-metal supramolecular complexes for solar energy conversion. **J. D. Knoll**, S. M. Arachchige, B. Okyere, K. E. Michaux, R. Shaw, K. J. Brewer
728. Preparation of microporous and mesoporous silica supported metal oxide catalysts using custom-made ionic liquid as templates. **D. Soorly Gopala**, R. M. Richards
729. Probing the active site of metal oxide supported gold nanoparticles. **C. Cadigan**, Z. Li, R. M. Richards
730. Study of ligand substituent effects in copper catalyzed ATRA with tripodal tetradentate pyrazole based ligands. **W. T. Eckenhoff**, T. Pintauer
731. Tuning the properties of mixed-metal supramolecular complexes that function as photocatalysts for solar hydrogen production. **T. A. White**, J. Brown, S. M. Arachchige, K. Rangan, K. J. Brewer
736. Design and synthesis of carbon nanotubes attached 4-HPR derivatives as therapeutic agents for rhabdoid brain tumor. G. V. Kalpana, M. Smith, A. Ghosh, S. L. Collman, **B. C. Das**
737. Investigation of multielectron generation in PbSe quantum dots by broadband probing intraband transition. **M. Ji**
738. Molecular complement to force spectroscopy. **Z. Huang**, Q.-Z. Yang, T. J. Kucharski, B. Wang, C. Li, R. Boulatov
739. Organic-inorganic Ti-containing nanoporous catalysts and their activity in cyclohexene epoxidation. **C. W. Ingram**, T. Mehreteab
740. Organosilicate films coupled to photonic band gap multilayer materials for gas sensing. **A. C. Friedli**, W. M. Robertson, B. A. Morris, P. J. Cothron, K. D. Cole, C. L. Davis
741. Photoluminescence quenching in double-wall carbon nanotubes. **Y. Hou**, R. Zhang, C. Qian
742. Postsynthesis engineering and optical characterization of CdSe nanocrystalline quantum dots. **M. R. Jorgensen**, J. T. Sly, M. H. Bartl
743. Recognition of C-reactive protein by phosphatidylcholine-stabilized gold nanoparticles. **M. R. Mackiewicz**, A. L. Brown, S. M. Reed
744. Ruthenium supported on magnetic nanoparticles: An efficient and recoverable catalyst for hydrogenation of alkynes and transfer hydrogenation of carbonyl compounds. **B. Baruwati**, V. Polshettiwar, R. S. Vama
745. Silica coating and functionalization of vapor grown carbon fibers, and its effect on fracturing fluids. **H. R. Jafry**
746. Single-particle tracking of endocytosis and exocytosis of single-walled carbon nanotubes in NIH-3T3 cells. **H. Jin**, D. A. Heller, M. S. Strano
747. SWNT optical biosensors for analyte fingerprinting. **D. A. Heller**, H. Jin, M. S. Strano
748. Synthesis and characterization of Si/Mn nanoparticles targeted to macrophage scavenger receptors for MRI and optical imaging. **C. Tu**, X. Ma, S. M. Kauzlarich, A. Y. Louie
749. Synthesis and optical properties of cubic gold nanoframes. **L. Au**, Y. Chen, F. Zhou, P. H. C. Camargo, Z.-Y. Li, D. S. Ginger Jr., Y. Xia
750. Water soluble graphene oxide hollow spheres. **Y. Jung**, J. H. Hong, **J.-E. Park**, S.-J. Kim
756. Synthesis and characterization of indium and gallium alkoxides for chalcopyrite materials. **J. J. Griego**, T. J. Boyle, L. A. M. Ottley, P. D. Burton, T. J. Headley
757. Novel yttrium and holmium precursors for ceramic materials. **S. Hoppe**, T. J. Boyle, L. A. M. Ottley
758. Synthesis and characterization of chalcogenide nanomaterials. **J. Kesner**, B. A. Hernandez-Sanchez, T. J. Boyle, D. B. Robinson, P. Lu
759. Synthesis and characterization of zinc based quantum dot materials with blue to green fluorescence from an aqueous based synthetic method. **H. Durkee**, D. Rivera
760. Using  $\beta$ -diketimate and pyrazolate derivatives in the synthesis of transition metal precursors for CVD. **C. M. N. Starr**, R. A. Jones, L. J. DePue, J. H. Rivers, W. J. McCarty, X. Yang
761. Eighteen years of research in inorganic chemistry with Project SEED students at Rider University. **J. E. Sheats**, W. H. McCarroll, F. Chen
762. XRD studies on the nanosized zinc titanate (ZnTiO<sub>3</sub>) powders synthesized by sonochemical method. **M. A. Stall**, **F. Chen**
763. Investigation of aqueous chemistry factors in hydrothermal crystal growth of ZnO. **K. Frenis**, M. C. Gelabert
764. Synthetic routes to heterogeneous gold nanoparticle catalysts. **R. Korkosz**, B. D. Chandler
765. Characterization of Au/TiO<sub>2</sub> catalysts by CO adsorption. **H. Hartshorn**, C. Pursell, B. Chandler
766. Comparing hydrosilylation routes to functionalized porous silicon: Oxidation of functionalized porous silicon in organic solvents. **N. J. Line**, M. C. Roy, L. A. Porter Jr.
767. Organic functionalization of porous silicon via multimode microwave reactor-assisted hydrosilylation. **J. C. Small**, L. A. Porter Jr.
768. Size matters: Theoretical investigation of the factors that influence the electronic structure of nanotube. **H. Fan**, **L. Walker**
769. First principle simulations of coordination compounds with thermochromic behavior. **J. D. Kirtley**, R. K. Szilagyi
770. Synthesizing a macromolecular Schiff-base ligand for Eu(III) and Tb(III). **B. L. Weigand**, P. M. Smith
771. Synthesizing and characterizing lanthanide complexes containing tripodal Schiff-base ligands. **W. M. Kochemba**, A. J. Brown, P. M. Smith
772. Withdrawn.
773. Synthesis and characterization of heteroleptic copper (II) carboxylates. **T. W. Clayton Jr.**, **M. B. Burt**
774. Copper(II) compounds formed from reaction of simple copper(II) reactants and 3-hydroxypyridine, including products displaying linear polymeric structures containing mononuclear or mononuclear and binuclear copper(II) sites. **S. J. Beck**, P. E. Fanwick, A. J. Senesi, T. J. Smith
775. Synthesis of coordination polymers using the imide ligand [N-(4-carboxyphenyl)-5-carboxyphthalimide] and other novel imide ligands. **L. R. Wolfe**, **A. Tamasi**
776. Synthesis of tri- and tetra-nuclear metal cyanide clusters using a semirigid linker. **W. W. Kramer**, S. R. Fiedler, **M. P. Shores**
777. NKU Tungsten isocyanide research 1: Synthesis of a new ligand to maximize excited-state stability. **S. A. Kramer**, R. A. Seger, K. A. Walters
778. NKU Tungsten isocyanide research 2: Synthesis of isocyanide ligand and tungsten isocyanide complex. **D. Mazor**, S. Karasiova, K. A. Walters
779. NKU Tungsten isocyanide research 3: Photophysical studies of tungsten(0) isocyanides. **S. Karasiova**, S. A. Kramer, D. Mazor, K. A. Walters
780. NKU fullerene research: Synthesis and spectroscopic studies of fullerene-bipyridine and corannulene-bipyridine organometallic supramolecular systems. **E. A. Walsh**, C. D. Girtin, J. R. Deye, K. A. Walters
781. Synthesis of bis( $\eta^6$ -buckminsterfullerene)iron(II) hexafluorophosphate and ( $\eta^5$ -cyclopentadienyl)( $\eta^6$ -buckminsterfullerene)iron(II) hexafluorophosphate. **R. Arnold**, L. Ward
782. Investigation of N-heterocyclic carbene copper (I) complexes as catalysts for C<sub>aryl</sub>-S bond formation. **M. Wanderley**, S. A. Delp, T. B. Gunnoe, L. A. Goj
783. Molecular mechanism and origin of enantioselectivity in intramolecular alkene hydroamination catalyzed by Group III metal with thiophosphinic amidate ligands. **K. Burbank**, E. Walker, T. Livinghouse, R. K. Szilagyi
784. Synthesis of a tethered ligand for titanium and tantalum hydroamination catalysis. **J. E. Redford**, A. R. Johnson
785. Titanium and tantalum cyclopentadienyl complexes as precatalysts for the intramolecular asymmetric hydroamination of aminoalkenes. **L. D. Hughs**, A. R. Johnson
786. Synthesis of [NcN]Pt(CCPH) and an investigation of the dependency of rates of carbon-carbon reductive elimination on hybridization. **J. A. Canary**, B. S. Williams
787. Zwitterionic organometalates: The impact of intramolecular through-space electrostatic interactions on metal tricarbonyl fragment electronic environment and reactivity. **P. J. Fischer**, Z. R. Herm, K. M. Krohn, E. T. Mwenda
788. Synthesis and coordination of pyridine N-oxide ligands using diethylenetriamine. **B. S. Moyer**, P. Baran, Z. Travnicek
789. Exploration of copper(II) complexes as oxidation catalysts: Strategies for the construction of heterogeneous catalysts. **J. J. Bodwin**, K. P. Schultze, B. C. Haight, T. J. Kurtz, N. Manohar, R. P. Branson, D. L. Pestka, K. R. Fischer
790. Iron catalysts for the epoxidation of fatty acids. **C. Goh**, **W. E. McClain**
791. Formation of ternary complexes of zinc cross-bridged cyclen. **E. A. Akam**, E. H. Wong, G. R. Weisman, K. J. Heroux, A. L. Rheingold
792. bis-(Hino)kittolato)copper(II) complexes with amines. **G. M. Arvanitis**, M. Berardini, **R. Pavlick**, K. Nagy
793. Evidence for manganese photochemistry en route to manganese-oxo clusters. **J. V. Calmes**, D. T. Houghton, M. P. Mehn
794. Monothiolate-vanadium compounds as models for vanadium-glutathione interactions. **J. Hein**, A. Lankford, J. J. Smees
795. Inorganic synthesis of biomimetic Fe-S clusters that resemble the H-cluster of Fe-only hydrogenases. **E. J. Edwards**, L. J. Giles, A. G. Grigoropoulos, R. K. Szilagyi
796. Electronic structural investigations of Ru-containing anticancer prodrugs using XANES and DFT. **K. L. McFarlane Holman**, T. V. Harris, R. K. Szilagyi
797. Studies of the substrate specificity of *Sphingomonas chlorophenolica* 2,6-dichlorohydroquinone 1,2-dioxygenase (PcpA). **A. E. Doerner**, A. A. Daud, T. E. Machonkin
798. Cloning and expression of a hydroquinone ring-cleaving dioxygenase and comparison with a structural homolog of unknown function. **A. A. Daud**, K. N. Smith, H. Pham, T. E. Machonkin
799. Withdrawn.
800. Immobilized metal affinity chromatography with palladium(II) ions for use in proteomics: Weakening the fish's appetite for the hook. **S. N. Garza**
801. Interaction of dichloro(dipyridyl)quinoxaline)platinum(II) with DNA. **C. Fritz**, G. Rawji, S. Loudwig
802. Unwinding and rewinding of DNA by binding to platinum metallointercalator. **T. Nguyen**, G. Rawji, S. Loudwig
803. A selective luminescent sensor for the time-resolved detection of potassium. **S. A. Cook**, A. Thibon, V. C. Pierre
804. Development of cholesterol-carborane conjugates as targeted BNCT agents. **S. C. Jonnalagadda**, P. Scott, P. D. Patel, S. R. Verga, S. Tekkam, V. R. Meredy
805. Synthesis and evaluation of carboranyl-peptidomimetic small molecules as potential BNCT agents. **S. C. Jonnalagadda**, J. S. Cruz, S. K. Jonnalagadda, R. J. Connell, V. R. Meredy

## Section E

Salt Palace Convention Center  
Hall 5**Nanoscience: Characterization and Applications** Cosponsored by COLL, POLY, and NANOD. J. Nelson and S. S. Wong, *Organizers*

## 7:00-10:00

732. Angle-resolved TEM imaging of hexagonally shaped Pt nanoparticles. **N. Shukla**, M. M. Nigra, M. Bartel, A. Gellman

733. Simple, high-yield and morphology controlled synthesis of quantum dots embedded CdS/Cd(OH)<sub>2</sub>, Cd(OH)<sub>2</sub>, and CdS nanostructures via sonochemistry in aqueous system. **W. Wang**, **R. Liu**, **W. Liu**, **J. Tan**, **W. Liu**, **L. Ma**, **K. Zheng**, **Y. Tian**, **Y. Huang**

734. Application of phage-like nanoparticles (PLNs) for imaging and treatment of breast cancer cell lines. **G. Abbineni**, S. Modali, C. Mao

735. Continuing search for high affinity, peptide-based ligands to target proteins. **R. A. Petros**

**The official technical program for the 237th National Meeting is available online at [oasys2.confex.com/acs/237nm/techprogram/](http://oasys2.confex.com/acs/237nm/techprogram/).**

Section F

Salt Palace Convention Center  
Hall 5

**Undergraduate Research at the Frontiers of Inorganic Chemistry** Cosponsored by CHED

M. J. Geselbracht, *Organizer*

W. E. Lynch, *Organizer, Presiding*

7:00-10:00

751. VIPER: Virtual Inorganic Pedagogical Electronic Resource. **B. A. Reisner**, E. Benatan, H. J. Eppley, M. J. Geselbracht, A. R. Johnson, J. Stewart, L. A. Watson, E. R. Jamieson, B. S. Williams

752. Toward a deeper understanding of the alkoxide sol-gel route to V<sub>2</sub>O<sub>5</sub> ambigal nanoarchitectures. **J. S. Elias**, A. E. Perez, M. B. Baker, T. M. Drane, M. J. Geselbracht, J. C. Lytle, J. W. Long, D. R. Rolison

753. Probing the role of deliberate imperfection in the lithium ion insertion behavior of V<sub>2</sub>O<sub>5</sub> ambigal films. **A. E. Perez**, M. B. Baker, T. M. Drane, M. J. Geselbracht, J. C. Lytle, J. W. Long, D. R. Rolison

754. Electron deficient aromatic aluminoxanes as arsenic remediation materials. **R. W. Hicks**, **K. Burbank**

755. Electrospinning of metal borohydrides for hydrogen storage materials. **H. D. Pratt III**, T. J. Boyle, N. S. Bell, W. M. Sigmund, R. Scheffler, A. McDaniel

TECH-73

## THURSDAY MORNING

## Applications in Nanoscience

**One-Dimensional Materials** Sponsored by COLL, Cosponsored by POLY, INOR, and NANO

## Geochemical Processes, Reactivity, and Applications of Manganese Oxides

Sponsored by GEOC, Cosponsored by ENVR and INOR

**Nanotechnology and the Environment: Emphasis on Green Nanotechnology Nanomaterials for Clean Energy** Sponsored by I&EC, Cosponsored by INOR and NANO

## THURSDAY AFTERNOON

## Applications in Nanoscience

**Novel Structures** Sponsored by COLL, Cosponsored by POLY, INOR, and NANO

## Geochemical Processes, Reactivity, and Applications of Manganese Oxides

Sponsored by GEOC, Cosponsored by ENVR and INOR

## MEDI

## Division of Medicinal Chemistry

J. R. McCarthy, Program Chair

## SUNDAY MORNING

## Section A

Salt Palace Convention Center  
Ballroom H

## Metabolic Syndrome

P. Matyus, Organizer

- 9:00** 1. Targeting genomic (FXR) and nongenomic (TGR5) bile acids receptor pathways for metabolic disorders: Discovery, S.A.R. and molecular modeling of potent and selective bile acids derivatives. **R. Pellicciari**, A. Macchiariulo, A. Gioiello, E. Rosatelli, C. Thomas, J. Auwerx
- 9:35** 2. DGAT-1 Inhibitors as novel therapeutics for dyslipidemia. **A. J. Souers**, A. J. King, S. Mittelstadt, G. Zhao, A. S. Judd, B. D. Dayton, J. A. Segreti, K. Larson, M. Voorback, R. M. Reilly, M. Brune, P. R. Kym, C. A. Collins, B. F. Cox
- 10:10** 3. Piperazine sulfonamides as potent, selective, and orally bioavailable 11-beta-HSD1 inhibitors for the treatment of Type II diabetes and obesity. **E. Chenail**, Z.-K. Wan, H.-Q. Li, M. Ipek, J. Xiang, T. S. Mansour, J. Bard, V. Suri, J. Goodman, S. Hahm, X. Li, J. Tobin, E. Saiah
- 10:45** 4. Potent and orally bioavailable stearyl-CoA desaturase (SCD) inhibitors for the potential treatment of obesity and diabetes. **D. Koltun**, E. Q. Parkhill, N. I. Vasilievich, A. I. Glushkov, T. M. Zilbershtein, A. V. Ivanov, N. A. Zautke, S. A. Brunn, N. Mollova, K. Leung, J. W. Chisholm, J. Zablocki
- 11:20** 5. Semicarbazide-sensitive amine oxidase (SSAO): A potential target for the treatment of diabetes and its complications. **P. Matyus**, P. Dunkel, E. Toth-Sarudy, G. Turos, M. Pihlavisto, K. Magyar, Z. Soltesz, C. Carpena

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## Section B

Salt Palace Convention Center  
Combo Ballrooms C&E

## General Oral Session

J. McCarthy, Organizer

- 9:00** 6. Progress toward an  $\alpha$ -hemolysin heptamerization inhibitor. **B. S. Barth**, J. A. Chmielewski, M. A. Lipton
- 9:20** 7. Identification of nonsulfonylurea P2Y<sub>12</sub> inhibitors as a follow-up series to PRT060128. **S. M. Bauer**, M. M. Mehrotra, M. Venkataraman, P. B. Conley, M. Jurek, A. Hutchaleelaha, C. Ye, S. Hollenbach, R. Scarborough, A. Pandey
- 9:40** 8. Design, synthesis, and biological evaluation of nonpeptidic, cell-permeable bivalent Smac mimetics as potent inhibitors of XIAP. **Y. Peng**, H. Sun, J. Lu, Z. Nikolovska-Coleska, C.-Y. Yang, Q. Cai, S. Qiu, S. Wang
- 10:00** 9. Community-based small molecule collaborative drug discovery for neglected infectious diseases and cancer. **B. A. Bunin**, S. Ernst, M. Hohman, K. Gregory
- 10:20** 10. Biomimetic simulation of reactions postulated to occur during inhibition of ribonucleotide reductases by 2'-azido-2'-deoxynucleotides. **T. P. Dang**, A. J. Sobczak, M. Rapp, A. M. Mebel, S. F. Wnuk
- 10:40** 11. Aleglitazar, a potent and balanced dual PPAR alpha/gamma agonist for the treatment of type II diabetes and dyslipidemia. **P. Mohr**, A. Bénardeau, J. Benz, A. Binggeli, B. Bittner, M. P. Boehringer, A. Costanzo, U. M. Grether, H. Hilpert, G. Hirth, H. Isel, B. Kuhn, H. P. Maerki, M. Meyer, K. Püntener, S. Raab, F. Ricklin, A. Ruf, E. Sebkova, U. Sprecher, P. Verry, N. Wytenbach
- 11:00** 12. Design and optimization of renin inhibitors: Orally bioavailable alkyl amines. **C. M. Tice**, Z. Xu, J. Yuan, R. D. Simpson, S. T. Cacatian, P. T. Flaherty, W. Zhao, J. Guo, A. V. Ishchenko, S. B. Singh, Z. Wu, B. B. Scott, Y. Bukhtiyarov, J. Berbaum, J. Mason, R. Panemangalore, M. G. Cappiello, R. K. Harrison, G. McGeehan, L. W. Dillard, J. J. Baldwin, D. A. Claremon
- 11:20** 13. Discovery and pharmacological evaluation of dual FMS/Kit inhibitors. **P. N. Ibrahim**, J. Zhang, M. Nespi, R. Bremer, B. Burton, B. Wong, B. Powell, D. R. Artis, K. Zhang, B. West, P. Lin, C. Zhang, G. Habets, G. Tesch, G. Bollag, P. Hirth
- 11:40** 14. Discovery of NA808: A novel host targeting anti-HCV agent. **K.-I. Kawasaki**, H. Fukuda, T. Hayase, S. Komiya, F. Watanabe, K. Takano, A. Mizutani, T. Katoh, N. Kimura, M. Murakata, T. Makino, A. Ohta, M. Masubuchi, H. Katoh, M. Aoki, H. Sakamoto, K. Okamoto, A. Katsume, Y. Aoki, M. Sudoh, T. Tsukuda, N. Shimma
- 12:00** 15. Phenol-pyrazole inhibitors of mutant B-raf. **I. McAlpine**

## Section C

Salt Palace Convention Center  
Ballroom A

**Nano Meets Neuro: Novel Challenges for Nanoscience in Probing Brain Chemistry** Cosponsored by ANYL, BIOL, COLL, and NANO<sup>‡</sup>

A. M. Andrews, Organizer

- 9:00** 16. Quantum dot technologies for elucidating brain chemical signaling. **T. Q. Vu**
- 9:30** 17. Probing the distribution and behavior of individual serotonin receptors in primary hippocampal neurons using quantum dots. **K. M. Fichter**, M. C. Flajolet, P. Greengard, T. Q. Vu
- 9:50** 18. Drug-conjugated nanocrystal labeling and single protein tracking of the serotonin transporter protein. **S. J. Rosenthal**
- 10:20** Intermission.

**10:30** 19. Strategies for optical voltage-sensing in neuronal networks.

**J. L. Nadeau**, D. R. Cooper

**11:00** 20. A biomolecular photodiode for imaging of cell membrane potential. **D. R. Cooper**, J. L. Nadeau

## SUNDAY AFTERNOON

## Section A

Salt Palace Convention Center  
Ballroom H

**Nano Meets Neuro: Novel Challenges for Nanoscience in Probing Brain Chemistry** Cosponsored by ANYL, BIOL, COLL, and NANO<sup>‡</sup>

A. M. Andrews, Organizer

- 1:00** 21. In search of brain nanobiosensors: Small-molecule recognition and biomolecule capture as critical first steps. **A. M. Andrews**, A. Vaish, M. J. Shuster, P. S. Weiss
- 1:30** 22. Enabling direct electrochemical and biological studies in living cells with multifunctional nanoscale needle probes. **M.-F. Yu**
- 2:00** 23. Single-walled carbon nanotube multimodal optical biosensors for genotoxin detection and identification. **D. A. Heller**, H. Jin, J.-H. Kim, M. S. Strano
- 2:20** Intermission.
- 2:30** 24. Nanoscale strategies to improve the reliability of chronic neural recordings. **R. V. Bellamkonda**, G. C. McConnell
- 3:00** 25. Brain tissue responses to implanted analytical devices: Microdialysis probes and voltammetric microelectrodes. **A. C. Michael**, **A. Jaquins-Gerstl**
- 3:20** 26. Microchip analysis of neuronal secretions by immunoaffinity capillary electrophoresis. **H. Kalish**, T. M. Phillips

## Section B

Salt Palace Convention Center  
Combo Ballrooms C&E

## First Time Disclosure of Clinical Candidates

Financially supported by Sanofi-Aventis

A. J. Robichaud, Organizer

- 1:30** 27. Discovery of BMS-708163: A potent and selective gamma-secretase inhibitor which lowers CSF beta-amyloid in humans. **J. E. Macor**, C. F. Albright, J. E. Meredith, R. C. Zaczek, D. M. Barten, J. H. Toyn, R. Slemmon, K. Lentz, J.-S. Wang, R. Denton, G. Pilcher, O. Wang, H. Gu, R. Dockens, R. Berman, G. Tong, J. J. Bronson, M. F. Parker, R. A. Mate, K. McElhone, J. E. Starrett Jr., K. W. Gillman, R. E. Olson
- 2:05** 28. Discovery of a novel, orally bioavailable CGRP receptor antagonist for the treatment of migraine. **I. M. Bell**
- 2:40** 29. Discovery of AMG 221: An 11 $\beta$ -HSD1 inhibitor in the clinic for type 2 diabetes. **C. Fotsch**, J. Adams, M. Bartberger, E. A. Bercol, L. Cai, V. M. Castro, M. Chen, R. Cupples, M. Emery, J. Fretland, A. Guram, S. Gustafsson, A. Hague, C. Hale, N. Han, M. Hayashi, M. Henriksson, D. Hickman, E. Homan, R. W. Hungate, L. Johansson, S. Jordan, C. Kaiser, R. Komorowski, A. Li, Q. Liu, G. Matsumoto, K. McRae, G. Moniz, G. Palm, D. Pyring, D. J. St. Jean Jr., Y. Sun, M. Sydow-Bäckman, L. Tedenborg, H. Tu, S. Ursa, M. Véniant, M. Williams, G. Xu, Q. Ye, C. Yuan, J. Zhang, X. Zhang, M. Wang
- 3:15** 30. Discovery of PF-2413873: A nonsteroidal progesterone receptor antagonist for the treatment of endometriosis. **K. R. Gibson**, K. N. Dack, S. E. Skerratt, P. S. Johnson, P. A. Bradley, T. Underwood, P. Bungay, N. Pullen, A. de Giorgio-Miller, N. M. Mount, D. Howe, B. Wittke
- 3:50** 31. Physicochemical properties approach to the identification of a histamine H<sub>3</sub> receptor antagonist for the treatment of ADHD. **T. T. Wager**
- 4:25** 32. The discovery and development of selective androgen receptor modulator MK-0773. **R. S. Meissner**, J. J. Perkins, G. D. Hartman, C. Bai, D. B. Kimmel, C.-T. Leu, B. L. Pennyacker, T. Prueksaritanont, M. E. Duggan, M. A. Gentile, P. Nantermet, J. Ray, A. Schmidt

## Genetically Designed Molecular Materials

**Peptide Binding, Kinetics and Assembly** Sponsored by NANO, Cosponsored by BIOL and MEDI

## SUNDAY EVENING

## Section A

Salt Palace Convention Center  
Hall 5

## General Poster Session

Financially supported by Nature Reviews Drug Discovery and Nature Chemistry

J. McCarthy, Organizer

## 7:00-9:00

- 33.** Advances in medium pressure liquid chromatography. **J. E. Silver**, N. Fowler, P. Bellinghausen, C. Scanlon
- 34.** Si-containing hydroxyapatite coating on titanium for implant application. **S. R. Kim**, **Y. Kim**, W. T. Kwon, Y. J. Lee
- 35.** Synthesis and biological evaluation of potential RXR selective agonists: Novel benzoxetone analogs. **C. E. Wagner**, P. W. Jurutka, P. A. Marshall, M. E. Graeber, E. Matro, I. T. Tran, J. N. Tedeschi, R. O. Khamees, J. E. Kwon, S. Moosavi, J. K. Fumick, B. V. Miguél, D. K. Grupe, J. S. Philp, A. Danishyar, J. W. Hart
- 36.** SiliaSep HP flash cartridges: High performance separation tools. **L. Tremblay**, O. Marion, F. Béland
- 37.** Comparative methods for analysis of protein covalent modification by electrophilic quinoids formed from xenobiotics. **B. Yu**, Z. Qin, G. Wijewickrama, P. Edrington, J. L. Bolton, G. R. J. Thatcher
- 38.** Design and synthesis small molecule inhibitors of alpha-synuclein and amyloid-beta fiber formation. **E. Y. Hayden**, S.-R. Yeh, D. L. Rousseau, M. Blaufox, **B. C. Das**
- 39.** Salicylamides as positive allosteric modulators of nAChR-alpha7. **T. R. Elworthy**, D. J. Du Bois, J. L. Tracy, S. Sahdeo, H. Maag
- 40.** Monocyclic  $\beta$ -lactams as neuroprotective agents. **L. A. Girard**, C. Richards, T. Herbert, M. Konaklieva
- 41.** Synthesis of inhibitors of the N-acetyl-L-ornithine transcarbamylase in Stenotrophomonas maltophilia. **T. Beck**, H. Morizono, M. Konaklieva
- 42.** Monocyclic  $\beta$ -lactams as anti-Moraxella agents. **K. Baugh**, W. Lustig, J. Fritz, S. Sheffel, B. Plotkin, M. Konaklieva
- 43.** Use of nitric oxide to enhance the efficacy of silver sulfadiazine as an antibacterial agent. **S. M. Deupree**, C. B. Johnson, M. H. Schoenfish
- 44.** Rational design of novel bacterial enzyme inhibitors. **T. R. Holguin**, M. Pass, M. J. Gage, C. C. Browder
- 45.** Antibiotic activity of *Echinacea* herb in cultures of *Escherichia coli* and *Staphylococcus aureus*. **K. Irvine**, **R. Isovtisch**, **D. limoto**
- 46.** Development of a novel activity assay describing the structure-activity-relationship of tetrabutylammonium counter-anions as antimicrobial agents. **M. L. Ingalsbe**, M. E. McGahan, J. D. St. Denis, W. W. Steiner, R. Prieter
- 47.** New classes of novel gram-positive specific antimicrobials: Inhibitors of *E. coli*, *S. aureus*, and surrogates of the causative agents of methicillin-resistant *S. aureus*, tuberculosis and anthrax. **M. S. Kabir**, S. Ara, R. L. Polanowski, K. Engelbrecht, S. M. Krueger, M. E. Stemper, M. A. Rott, W. R. Schwan, A. P. Monte, J. M. Cook

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