SUNDAY MORNING

Walter E. Washington Convention Center
Room 147A

Basic Research in Colloids, Surfactants & Nanomaterials

Colloids

R. Nagarajan, Organizer
M. Tsianou, Presiding

8:30 1. Colloidal stability of reacting system for visbreaking in different conditions. J. Li

8:50 2. Liquid crystal phase transitions and collective behaviors of bent colloidal rods. Y. Yang, A. Gyedu, K. Liu, Z. Nie


10:30 7. Withdrawn.

10:50 8. Withdrawn.


Walter E. Washington Convention Center
Rooms 208A/B

**Responsive, Programmable Assembly of Active Colloids for Functional Materials**

Financially supported by JULABO USA Inc.
C. D. Keating, L. D. Zarzar, **Organizers**
R. Hickey, **Organizer, Presiding**

8:30 12. Modular peptide amphiphile micelles for immuno-stimulation. **M.V. Tirrell**, J. Barrett

9:00 13. Responsive polypeptide-based star and triblock copolymer assemblies: Shape change materials for delivery applications. I. Smith, C. Machado, B. Barnes, **D.A. Savin**

9:30 14. Efficient CRISPR delivery via plasmid DNA (or ribonucleoprotein, RNP) packaged in mesoporous silica nanoparticles through cationic vesicle fusion. K. Butler, R. Serda, A. Noureddine, A. Muniz, D.Y. Sasaki, O. Negrete, **C. Brinker**

10:00 15. Stimuli-responsive materials on the basis of compartmentalized particles. **J. Lahann**


11:00 17. Self-assembling nanocomposite tectons. **R. Macfarlane**


12:00 19. Colloidal crystal engineering with DNA. **C.A. Mirkin**

Section C

Walter E. Washington Convention Center
Room 150B
Self-Assembly of Synthetic & Biological Surfactants: Translating Fundamentals to Applications

V. T. John, S. R. Raghavan, Organizers, Presiding


9:30 23. Poloxamer block copolymer-based formulations: Structure and function through self-assembly. **P. Alexandridis**

9:50 Intermission.


Section D

Walter E. Washington Convention Center
Room 150A

Nanotheranostics for Cancer Applications

Financially supported by Francis College of Engineering, University of Massachusetts, Lowell, MA

P. Rai, Organizer
S. Morris, Organizer, Presiding

8:30 Introductory Remarks.


9:25 29. Impact of host germline variation and tumor microenvironment on plasmonic nanoparticle based photo-thermal therapy. **A. Joshi**


10:25 Intermission.

10:40 31. Spherical nucleic acids as potent immunostimulatory agents in cancer. **C.A. Mirkin**

11:10 32. Imaging and therapy induced by acoustic stimulation of condensed fluorocarbon droplets. **A.P. Goodwin**


Walter E. Washington Convention Center
Room 209B

**Noble Metal Nanoparticles for Bioimaging, Sensing & Actuation**

**Nanoparticles for Imaging & Sensing**

R. Levy, Z. Nie, *Organizers*
N. M. Khashab, *Organizer, Presiding*

8:30 35. Enhancing T₁ magnetic resonance imaging contrast with internalized Gadolinium(III) in a multilayer nanoparticle. **N.J. Halas**

9:00 36. Towards biocompatible surface enhanced Raman spectroscopy (SERS). **L. Sagle**, W. Lum, I. Bruzas, J. Reifsteck, Z. Gorunmez, J. He
9:20 37. Non-resonant large format SERS substrates for selective detection and quantification of xylene isomers. **N.M. Khashab**


10:20 Intermission.

10:30 40. Fluorescent gold nanoclusters on/in cells visualized by fluorescence lifetime imaging microscopy. **M. Mutas, T. Hadler, C. Strelow, T. Kipp, A. Mews**

10:50 41. Imaging dynamic surface chemistry on plasmonic nanoparticles. **K.A. Willets**

11:20 42. Liposome templated hollow metal nanoshells for biocompatible SERS. **I. Bruzas, W. Lum, Z. Gorunmez, L. Sagle**

11:40 43. Monitoring the oxidation kinetics and size evolution of sapphire-immobilized hemispherical Ag nanoparticles at aqueous interfaces. **T. Duong**

12:00 44. Plasmonic nanostructured biosensors and organic photovoltaics. **Z.H. Kafafi, F.J. Bartoli**

Section F

Walter E. Washington Convention Center
Room 209A

**Colloidal Metal & Semiconductor Nanostructures: Theory, Synthesis & Application**

**Optical Processes in Plasmonic Materials**

Financially supported by Department of Chemistry, University of Connecticut; Department of Chemistry, University of Central Florida
A. J. Haes, S. Zou, *Organizers*
J. Zhao, *Organizer, Presiding*

8:30 45. Polymer-enabled SERS sensing. **C.L. Haynes**

9:00 46. Efficient hot electron transfer by plasmon induced interfacial charge transfer transition. **T. Lian**
9:30 47. Different mechanisms for the enhanced transmission in a nanoparticle array.  S. Zou, Y. Zhou

10:00 Intermission.

10:30 48. New insights into SERS/TERS/FSRS mechanisms.  G.C. Schatz

11:05 49. Interfacial ligand dynamics and chemistry on highly curved Au nanoparticle surfaces: A plasmon-enhanced spectroscopic study.  H. Wang


Section G

Walter E. Washington Convention Center
Room 204C

Emulsions, Foams & Dispersions: Symposium in honor of Dominique Langevin at 70

R. Nagarajan, D. A. Weitz, Organizers
K. J. Stebe, Organizer, Presiding

9:00 52. Effect of star polymer composition and morphology on adsorbed layers formed at fluid interfaces.  Y. Huang, K. Matyjaszewski, R.D. Tilton

9:25 53. Dimer crystallization of proteomimetic colloids by shape-designed chiral pathway selection.  T.G. Mason, P. Wang

9:50 54. Swelling kinetics of starch suspensions.  G. Narsimhan

10:15 55. Stable silicon/carbon anodes for lithium-ion batteries prepared by emulsion-templating.  Y. Zhang, B.L. Lucht, A. Bose

10:40 Intermission.


11:15 57. Depletion with big and small colloids studied in microgravity.  M. Lynch, T.E. Kodger
11:40 58. Micelles and microemulsions: Interplay of ideas from surfactants and block copolymers. **R. Nagarajan**

Section H

Walter E. Washington Convention Center
Room 155

**Basic Research in Colloids, Surfactants & Nanomaterials**

**Aggregates & Nanoparticles**

R. Nagarajan, *Organizer*
M. Dutt, *Presiding*

8:30 59. Three scenarios of macroion–counterion interaction demonstrated by the change of hydration shells of macroions. **H. Li**, J. He, P. Yang, F. Haso, J. Wu, U. Kortz, T. Liu

8:50 60. Flow-induced shape reconfiguration, phase separation and rupture of bio-inspired vesicles. **X. Chu**, X. Yu, J. Greenstein, F. Aydin, G. Uppaladadium, **M. Dutt**


9:30 62. Investigation of water interactions with silk using INS. **C.A. Crain**


10:10 64. Amphiphilic quaternary ammonium chitosans as biocompatible biofilm-binding antimicrobial agents. **J. Jung**, Y. Sun


11:10 67. Enthalpy of formation of wormlike micelles involving TTAB and halogen derivatives of benzoate. **M.Z. Jora**, E. Sabadini

11:30 68. New method to obtain viscoelastic properties at the nanoscale. **L. Li**, F. Zypman, **S.J. Eppell**
Basic Research in Colloids, Surfactants & Nanomaterials

Nanoparticles

R. Nagarajan, Organizer
J. L. Liu, Presiding

2:00 69. Modulation of morphology and optical properties of surfactant-free plasmonic branched nanoparticles. S. De Silva Indrasekara, T. Vo-Dinh

2:20 70. DNA-encoded control of morphologies of bimetallic nanoparticles. N. Satyavolu, L. Tan, Y. Lu

2:40 71. Study of structural and electronic changes in zirconia as a function of temperature. J.R. Soliz, A. Klevitch, C. Harris, J. Rossin, A. Ng, R. Stroud, A.J. Hauser, G. Peterson

3:00 72. Polyammonium cations in conjunction with metal nanoparticles: Functionalization and recognition. T.K. Misra, R. Choudhury

3:20 73. Oxidation-induced transformation of eight-electron gold nanoclusters: [Au_{23}(SR)_{16}]^{-} to [Au_{28}(SR)_{20}]^{0}. T. Higaki, C. Liu, Y. Chen, S. Zhao, C. Zeng, N.L. Rosi, R. Jin

3:40 74. Green colloidal chemistry-derived nanocomposite of silver-modified titania used for disinfectant. J.L. Liu, S. Bashir

4:00 75. One-dimensional carrier confinement in giant CdS/CdSe excitonic nanoshells. M. Zamkov

4:20 76. Microwave-assisted hydrothermal synthesis of plasmonic nanomaterials. P.N. Njoki

5:00 78. Oxidation state measurements of cerium dioxide nanoparticles: The role of measurement parameters and in situ observations.  A.C. Johnston-Peck

5:20 79. Non-locality driven circular dichroism of isotropic metal nanoparticles.  J. Park

Section B

Walter E. Washington Convention Center
Rooms 208A/B

Responsive, Programmable Assembly of Active Colloids for Functional Materials

Financially supported by JULABO USA Inc.
R. Hickey, C. D. Keating, Organizers
L. D. Zarzar, Organizer, Presiding

2:00 80. Responsive inorganic nanoparticle assemblies for cancer imaging and therapy.  Z. Nie, K. Yang

2:30 81. Responsive polymers gated magnetic colloidosomes as multifunctional microreactors for programming biomolecular activity.  G. Cheng, S. Zheng

2:50 82. Dual-stimuli responsive injectable nanogel/solid drug nanoparticle nanocomposites for release of poorly soluble drugs.  A. Town, R. Gurjar, M. Giardiello, M.E. Briggs, R. Akhtar, M. Siccardi, T. McDonald

3:10 83. Surface modified nanozymes as biosensors.  J. Liu


4:00 85. Target-induced disassembly of GO-Peptide assemblies for the turn-on fluorescence detection of MMP-2.  J. Yang, S. Jeon, J. Ju, H. Kim, Y. Lee, J. Kim

4:20 86. Biomimetic artificial organelles with in vitro and in vivo reduction triggered activity.  C. Palivan

5:10 88. Photo-responsive polymeric nanocarriers for gene therapy and wound healing applications. **T.H. Epps**

Section C

Walter E. Washington Convention Center
Room 150B

**Self-Assembly of Synthetic & Biological Surfactants: Translating Fundamentals to Applications**

V. T. John, S. R. Raghavan, *Organizers, Presiding*

2:00 89. Probing water structure next to lipid monolayers using vibrational sum frequency spectroscopy. **S. Pullanchery**, P.S. Cremer

2:20 90. Precisely controlled 2D free-floating nanosheets of amphiphilic molecules through frame-guided assembly. **Y. Zhang**


3:00 92. Platonic micelles part 2: Thermodynamic and kinetic consideration of the micelles with the discrete aggregation numbers and mono-dispersity. **K. Sakurai**, R. Takahashi, T. Narayanan, S. Fujii

3:20 Intermission.

3:40 93. Complexes of surfactant with chitosan derivatives: Structural control and potential for application. L. Chiappisi, B. Dai, S. Prevost, I. Grillo, **M. Gradzielski**

4:10 94. Stabilization of spherical nanoparticles of iron (III) oxy-hydroxides by wormlike micelles. T. Destefani, G. Onaga, A. Percebon, **E. Sabadini**

4:40 95. Conduction through temperature sensitive conducting viscoelastic gel. **R.G. Shrestha**, T. Nakayama, R. Higuchi

Section D

Walter E. Washington Convention Center
Room 150A

**Nanotheranostics for Cancer Applications**
Financially supported by Francis College of Engineering, University of Massachusetts, Lowell, MA
S. Morris, Organizer
P. Rai, Organizer, Presiding

2:00 Introductory Remarks.

2:05 96. Mono- vs. multi-core magnetic iron oxide nanoparticles as dual agents for imaging and treatment of glioblastoma. G. Hemery, C. Genevois, F. Couillaud, S. Lacomme, E. Gontier, S. Lecommandoux, E. Garanger, O. Sandre

2:25 97. Multifunctional biomaterials for on-demand cancer therapy. N. Artzi


4:05 Intermission.

4:20 101. Magnetic nanostructures (MNS) as theranostic agents for early stage prostate cancer. S. Ryoo, V. Nandwana, A. Singh, V.P. Dravid

4:40 102. Porphyrin-phospholipid liposomes for theranostic chemophototherapy. J. Lovell

5:10 103. Biomimetic magnetic nanostructures as targeted theranostics for lymphoma. A. Singh, V. Nandwana, T.H. Chen, V.P. Dravid


5:50 Concluding Remarks.

Section E

Walter E. Washington Convention Center
Room 209B
Noble Metal Nanoparticles for Bioimaging, Sensing & Actuation

Nanoparticles for Therapy: Preparation & Biological Fate

N. M. Khashab, R. Levy, Organizers
Z. Nie, Organizer, Presiding

2:00 105. How much variability do we have in nanoparticle synthesis?  C.J. Murphy

2:30 106. How do shape and size matter in the stability of nanoparticles?  A.J. Haes

2:50 107. Highly engineered platinum nanoparticles as multifunctional active nanocarriers integrating the function of high-performance antioxidant drugs.  M. Moglianietti


3:30 109. Biogenic silver nanoparticles for surface enhanced Raman scattering based biosensing.  S. Rajput, M.T. McDermott

3:50 Intermission.

4:00 110. Advanced optical detection of carbon nanoparticulates to measure exposure in a biomedical setting.  C. Steuwe, H. Bové, M. Ameloot, M. Roeffaers

4:20 111. Bimetallic nanostructures and their assemblies for chemical sensing.  S.E. Skrabalak


5:30 114. Multi-functional nanoparticles for image-guided photothermal therapy.  C. Li

Section F

Walter E. Washington Convention Center
Room 209A

Colloidal Metal & Semiconductor Nanostructures: Theory, Synthesis & Application

Synthesis of Metal Nanoparticles
Financially supported by Department of Chemistry, University of Connecticut; Department of Chemistry, University of Central Florida
A. J. Haes, J. Zhao, S. Zou, Organizers
J. Chen, Presiding

2:00 115. Crystal phase-controlled synthesis of novel noble metal nanomaterials. H. Zhang

2:30 116. Observing the overgrowth of a second metal on silver cubic seeds in solution by surface-enhanced Raman scattering. D. Qin, Y. Zhang, Y. Wu

3:00 117. Seeded growth of copper-platinum-ruthenium multi-metal nanostructures as active electrocatalysts. J. Chen


3:50 Intermission.

4:10 119. Experimental quantification of nanoparticle photon extinction, scattering, scattering, and on-resonance fluorescence cross-sections. D. Zhang

4:40 120. Reversibly reconfigurable colloidal plasmonic nanomaterials. D.S. Ginger


Walter E. Washington Convention Center
Room 204C

Emulsions, Foams & Dispersions: Symposium in honor of Dominique Langevin at 70

R. Nagarajan, K. J. Stebe, D. A. Weitz, Organizers
L. Walker, Presiding

2:00 123. Evaporation of thin films on patterned substrates. B. Kazmierski, L. Yang, D. Walker, L. Tan, C.D. Bain

2:50 125. Dynamics of stratification in micellar freestanding films. Y. Zhang, S. Yilixiati, V. Sharma


3:40 Intermission.


4:15 128. Dynamic adhesion by hydrogen bonding in flowing and swimming colloidal systems. M.M. Santore

4:40 129. Functional membranes via interfacial complexation in aqueous two phase systems. S. Hann, K.J. Stebe, D. Lee

5:05 130. Lattice gas model for asphaltenes adsorption at water/oil interface. V. Pauchard, c. maldarelli, S. Darjani

Section H

Walter E. Washington Convention Center
Room 155

Basic Research in Colloids, Surfactants & Nanomaterials

Surface Science

R. Nagarajan, Organizer
A. Baber, Presiding

2:00 131. Comparative thermodynamic and modeling study of the adsorption of cyclopentane and cyclohexane on MgO(100), hBN and graphite basal plane. F. Wahida, J.Z. Larese

2:20 132. Heterogeneity of surface coverage of organic ligands on single facets of gold nanoparticles due to inhomogeneous metal-molecule interactions. J. Park

2:40 133. Identifying the adsorption sites of atomic oxygen on Ru(0001)-supported graphene. M. Nguyen, Z. Novotny, F. Netzer, V. Glezakou, R. Rousseau, Z. Dohnalek
3:00 134. Understanding surface reaction pathways and the role of chemical functionality in the initial stages of copper and silver deposition in CVD and ALD processes. **A.V. Teplyakov**

3:20 135. Adsorption, decomposition and geometry of toxic chemicals adsorbed on TiO$_2$(110). **Y.P. Cardona-Quintero, R. Nagarajan**

3:40 136. Determining the optimum surface conditions of TiO$_2$/Au(111) for the selective oxidation of ethanol to acetaldehyde. **A. Baber, D.T. Boyle, J.A. Wilke, V.H. Lam**

4:00 137. First electronic transition and hydrogen bonding state of interfacial water on alpha-alumina surface studied by far-ultraviolet spectroscopy. **T. Goto, T. Kinugasa, Y. Ozaki**

4:20 138. Altering the surface structure of SAMs through the adsorption of octanethiol and decyl thiocyanate on Au(111). **A.F. Raigoza, R. Giinther, D. Zoltek**

4:40 139. Insights into water adsorption on ZnO(10-10) surfaces: An IRRAS study. **X. Yu, C. Yang, L. Schöttner, S. Heißler, A. Nefedov, C. Woell, Y. Wang**

5:00 140. Interaction of water with the Fe$_2$O$_3$(0001) surface. **L. Schöttner, A. Nefedov, Y. Wang, C. Woell**


**Nanotechnology & Single Cell Analysis in Biology & Medicine**

Sponsored by ANYL, Cosponsored by BIOL, COLL and PHYS

**Science Communications: The Art of Developing a Clear Message**

Sponsored by PRES, Cosponsored by BIOL, CARB, CEI, CELL, CEPA, CINF, COLL, CPRC, CTA, DAC, I&EC, INOR, ORGN, PROF, SCHB and YCC

**Oxidative Stress & Antioxidants: Measurement Tools & Analytical Challenges**

Sponsored by ANYL, Cosponsored by COLL
SUNDAY EVENING

Walter E. Washington Convention Center
Halls A/B

Fundamental Research in Colloids, Surfaces & Nanomaterials

R. Nagarajan, Organizer

6:00 - 8:00

142. Self-adjustable synthetic nano-clay/polyacrylamide hydrogel system containing methyl cellulose via ammonium persulfate induced polymerization. J. Pu, B. Bai, J. Geng, N. Zhang

143. Paramagnetic gold nanorods for combined magnetic resonance imaging and photo-thermal therapy. A. Pitchaimani, T. Nguyen, S. Aryal

144. Biocompatible and label-free microfluidic separation of cancer cells from blood in ferrofluids. W. Zhao, R. Cheng, S. Lim, J.R. Miller, L. Mao


146. Effective exfoliation of transition metal dichalcogenides in aqueous solution. T. Kang, S. Jeon, H. Kim, S. Lee, I. Hwang, J. Han, J. Kim


149. Albumin/asparaginase capsules prepared by ultrasound to retain ammonia. A. Tinoco, A. Cavac-Paulo

150. Topological control of polystyrene-silica core-shell microspheres. Z.M. Grady, A.Z. Arthur, P.I. Tiemsin, C. Wohl


153. Earth-abundant nanomaterials for future energy storage. N. Elathram, J.C. Poler


155. Bioinspired transparent graphene-enabled super-hydrophobic surfaces with various robust. S. Zhai, H. Zhao

156. Perfluoro-fuctionalized flavin and its effect on stability of flavin helices around single-walled carbon nanotubes. E. Karunaratne, M. Mollahoseini, F. Papadimitrakopoulos

157. Plasmonic nanoparticles as sensors to probe the kinetics of polymer brush formation on two-dimensional nanoparticles. A. Khan, C. Scruggs, D. Hicks, G. Liu

158. Synthesis and characterization of hyperbranched CdS_{1-x}Se_{x} nanocrystals. M. Yazdanparast, E.J. McLaurin

159. Particle and structural characterization of whey protein microgels as affected by fabrication pH and heating duration: Promising candidate as emulsifier. S. Zamani, A. Madadlou, N. Malchione, A. Abbaspourrad

160. β-Galactosidase Langmuir monolayer at air-subphase interface. S.K. Sharma

161. Improvement of photo-efficiency and reliability of light-emitting diode fabricated with K_{2}SiF_{6}:Mn^{4+} phosphor through surface modification. I. Jang, J. Kim, J. Kim

162. Stability of limonene in oil-in-water emulsion and microcapsule after freezing and thawing. T. Ishigaki, Y. Watanabe

163. Diamond shape formation by spontaneous aggregation of silver clusters in gels. Q. Lin, Y. Han, J. Li, W. Lin

164. Functionalized graphene oxide for selective sensing of SKBR3 CTC cells. A.K. Singh


166. Core-shell microparticles for the enrichment and discovery of cationic antimicrobial peptides (CAMPs). Y. Zhu, B. Ueberheide, B. Bishop

167. Sorption of carbamazepine to humic substances determined through fluorescence quenching. D. Cairnie, C. Ajjan, G.D. Foster
168. Research of superhydrophobic surface fabricated by interfacial polymerization. X. Xiao, H. Yang, x. tantai, N. Yang, L. Zhang

169. Towards an understanding of azobenzene intramolecular isomerization reaction kinetics at ZrO₂ nanoparticle thin film interfaces. D.C. Achey, C. Pointer

170. Preparation of adlay oil based nanoemulsion gel as novel delivery system for topical application. H. Yin Ting, Y. Ting

171. Wettabilities of different faces of the same crystal. Y. Deng, X. Huang, H. Lu


173. Modularly designable vesicle for sequentially multiple loading. Y. Zhang

174. Economical way to construct mesoporous liquids: Hydrolysing liquid medium on the surface of hollow structure. P. Li, J. Zhang, S.M. Mahurin, S. Dai

175. Regulation of α-thrombin enzymatic activity through interactions with gold nanoparticles. A.L. Lira, R.J. Torquato, M.L. Oliva, A.S. Tanaka, A.A. Sousa


178. Engineering Ru nanoframes with fcc crystal structure and enhanced catalytic activities. H. Ye, X. Xia


181. Plasmon-enhanced spectroscopy with shell-isolated mode. J. Li

182. Effect of extreme cold treatment on morphology and behavior of hydrogel microparticles. E. Hirst, E. Anderson, P. D'Angelo

183. Site-selective deposition of Pt atoms on Ag nanocubes for the generation of bifunctional Ag-Pt core-frame nanocrystals. Y. Zhang, X. Sun, D. Qin

184. Photochemical patterning of surface charges in fluidic channels. K. Sy Piecco
185. Correlating carrier densities with composition and surface ligands in Cu$_{2-x}$Se nanoparticles. 
**X. Gan**, L.E. Marbella, D.C. Kaseman, J. Millstone

186. Controlled surface chemistry for the directed attachment of copper(I) sulfide nanocrystals. 
**E.H. Robinson**, M. Turo, J. Macdonald

187. Efficient releaser based on the As-synthesized mesoporous silica. M. Wan, X. Dong, S. Li, Y. Wang, **J. Zhu**

188. Molecular self-assembly and redox assembly of quinone derivatives on Au(100). 

189. Towards selective molecular biosensing: Fundamental investigation of polymeric filtering effect on field-effect transistor biosensor. 
**S. Nishitani**, T. Sakata

190. Withdrawn.

**M.S. Lowry**

**Y. Luo**

193. Modeling of the interfacial behaviors in demulsification of crude oils. 
**D. Yu**, J. Mendenhall

194. Engineering hybrid nanosystem as a novel sustainable tool for Zika vector *Aedes aegypti* control. 
**L. Pokhrel**

195. Ligand mediated evolution of size dependent magnetism in cobalt nanoclusters. 
**M. Hartmann**, J. Millstone

196. Controlled release perivascular drug delivery from graphene oxide-hybridized HA hydrogels. 
**P. Maturavongsadit**, Q. Wang, T. Cui

197. Dispersions of carbon black in aqueous medium: Rheological and electrical study. 
**F. Kamand**, M.I. Magzoub, M.S. Nasser, M. Youssry

198. Size-tunable plasmonic nanoparticles using block copolymer lithography. 
**A. Cutri**, K.A. Willets

199. New DelPhi feature for modeling electrostatic potential around proteins: Role of bound ions and implications for zeta-potential. 
**A. Chakravorty**, Z. Jia, L. Li, E. Alexov

200. Universal linker enabling enzyme-mediated attachment of ligands to nanoparticle surfaces. 
**J. Santiana**, **S. Gudipati**
201. Functionalization of single-walled carbon nanotubes for use in supercapacitors. J. Zuczek, J.C. Poler

202. Unconventional synthesis of semiconductor nanotetrapods using core/shell CdSe/CdS as seeds. X. Wang, S. Chen, J. Zhao

203. Enantiomeric separation of chiral pharmaceuticals using chirally modified Au nanoparticles with high-index facets. A.A. Pradhan, A.V. Nagarajan, N. Shukla, A.J. Gellman

204. Catechol-conjugated hydroxyethyl chitosan as a tissue adhesive. Y. Peng, X. Peng, B. Han, R.J. Linhardt

205. Effect of film deposition conditions on the properties of multilayer films of a dual responsive block copolymer micelle. D. Gündoğdu, V. Butun, I. Erel-Goktepe

206. Electrostatic self-assembly of EGF and DOTAP liposomes into multi-lamellar complexes. B. Koo, M. Yang, S. Jo, Y. Nam

207. Single pot reduction, nucleation, and growth of Au nanoparticles with peptides. C.J. Munro, Z.E. Hughes, T.R. Walsh, M.R. Knecht

208. Dual drug release from layer-by-layer films of PLGA-b-PEG micelles and tannic acid. G. Calis, I. Erel-Goktepe

209. ALD preparation of SiO₂ protected Pd-MnOₓ nanoparticles supported on TiO₂: Highly efficient nanocatalyst for the dehydrogenation of formic acid. N. Caner, M. Yurderi, A. Bulut, M. Zahmakiran


211. Protecting the paint: Topcoats for improved decontamination of painted surfaces. B.J. Johnson, B.J. Melde, B.D. Martin

212. Osmolytes to ions: Elucidating the effects of preorganization on ion-ion interactions. C.I. Drexler, S. Lee, B. Rogers, T. Yang, P.S. Cremer

213. Using nuclear magnetic resonance (NMR) techniques to study noble metal-transition metal nanoparticle alloys. E.A. Eikey, L.E. Marbella, A. Smith, J. Millstone

214. Combined high stretchability and gas barrier in hydrogen-bonded multilayer nanobrick wall thin films. S. Qin, Y. Song, J.C. Grunlan, M. Floto

216. Influence of nanoparticle surface functional groups on the function of gramicidin A (gA) in a suspended bilayer. I.U. Foreman-Ortiz, X. Zhang, C.J. Murphy, J.A. Pedersen

217. Role of polyvinylpyrrolidone on the shape and size of hydrothermally synthesized cobalt oxide particles. X. Xia, M. Becker, B.D. Vogt

218. Synthesis of highly stereoregulated poly-(3-hexylthiophene) within a porous material. M. Mukai, T. Hirai, M. Nishibori, K. Kamitani, A. Takahara


220. Measuring the plasmon to exciton energy transfer via sample-transmitted excitation photoluminescence spectroscopy. H.E. Eckard, M. Zamkov, P. Moroz

221. Single-particle correlated studies of electrodeposition on plasmonic nanoparticles. A. Kumar, E. Villarreal, E. Ringe

222. Reversing the odd-even effects in self-assembled monolayers using UPD silver. M.D. Marquez, D. Rodriguez, O. Zenasni, T. Lee

223. Polymer mimics using cyclohexyl-terminated derivatives as organic thin films. T. Yu, M.D. Marquez, O. Zenasni, T. Lee

224. Sum frequency generation spectroscopy of terminally fluorinated self-assembled monolayers on UPD silver and bare gold substrates. D. Rodriguez, M.D. Marquez, O. Zenasni, S. Baldelli, T. Lee

225. Dectin-1 targeting delivery of a therapeutic oligonucleotide with a beta-1,3-glucan carrier for cancer treatment. N. Fujiwara, H. Izumi, S. Mochizuki, K. Sakurai


227. Simple microwave-assisted synthesis of fluorescent carbon quantum dots from polyamidation monomer set. Y. Choi, I. In


229. Biomimetic cancer cell membrane coated PMOs (CCPMOs) for efficient drug targeted delivery in colorectal cancer cell. K. Alamoudi, J. Croissant, N.M. Khashab


233. Simple route to prepare sub-100 nm plasmonic vesicles for drug delivery. K. Yang, Z. Nie


237. Two-dimensional nanosheet antioxidants. D. Yim, H. Kim, T. Kang, J. Yang, J. Kim


240. Fabrication and characterization of hybrid particles with CeO2 core and polymer brushes. A. Hamada, M. Nishibori, Y. Konishi, K. Kamitani, T. Hirai, K. Kojio, A. Takahara


243. Isothermal reversible softening and hardening of polymer gels and networks based on a photo-triggered repeatable macromolecular architectural transformations. S. Honda, N. Tanaka, T. Toyota

244. Characterizing molecular diffusion through nanopores using nanoporous anodic alumina waveguides. A. Sousa, J. Dostalek, K. Lau
245. Carbon nanotubes decorated with fluorophores as photothermal agents for efficient killing of antibiotic resistant bacteria. **B. Altin**, H. Unal


249. Two-component micelle with mixing dilauroyl phosphocholine(DLPC) and deoxycholic acid(DA) and its delivery of proteins into the cytosol on the pH responsiveness. **N. Miyamoto**, S. Fujii, K. Sakurai, K. Koizumi, N. Sakaguchi

250. Developing a tunable copper indium sulfide (CIS) nanocrystal synthesis using thiourea precursors. **S. Hughes**, A. Cohen, M. Maust


252. High density covalent functionalization of graphene from hyper-stage-1 graphite intercalation compound. **I. Jeon**, B. Yoon, M. He, T.M. Swager


254. Colloidal synthesis of Si nanoparticles and their chemical transformation into orthorhombic lithium silicate nanowires. **E. Eladgham**, I.U. Arachchige


257. Facile method for construction of folate targeted fluorescent magnetic beads. **W.A. Henne**, V. Schmitz, H. Ledbetter

258. Solvent mediated dye encapsulation into resorcinarene cavitand nanocapsules. **S. Allmon**, K. Mahadevan, B. Ramjee

260. Designing sterically stable peptide nanostructures with target morphologies. **S. Mushnoori**, M. Dutt


262. Covalent attachment of phthalocyanine and cobalt metalation on chlorine terminated Si(111) surface. **C. He**, A.V. Teplyakov

263. pH-sensitive antimicrobial agent. **Y. Nelson**, **J. Sun**

264. Tuning upconversion in Nd(III)-sensitized core-shell nanoparticles for excitation with biobenefign wavelength. **C. Arboleda**, S. He, A. Stubelius, A. Almutairi


266. Wearable personal thermal management through silver nanowire-coated textiles. **P. D'Angelo**, E. Hirst, E. Anderson

267. Temperature-programmed desorption (TPD) and density functional theory (DFT) study comparing the adsorption of ethyl halides on the Si(100) surface. **J. Zhao**, B.W. Noffke, K. Raghavachari, A.V. Teplyakov


269. Effect of temperature and surface topology on supported lipid bilayer lateral diffusion. **C. Henderson**, A. Sendecki, P.S. Cremer

270. Asymmetric plasmonic nanoparticle array on flexible substrate. **J. He**, **J. Reifsteck**, I. Bruzas, L. Sagle


273. Immiscible polymer blend nanoparticles formed by nanoprecipitation. **C. Zhao**, T. Li, X. Zhang, R. Nieuwendaal, E. VanKeuren
274. Investigating relative binding strengths of various attachment chemistries to titania surfaces for potential use in dye sensitized solar cells. **G.J. Smith, B. Harvey**

275. Controlled protonation of transition metal substituted heteropoly tungstates in nonpolar solvents. **S.H. Szczepankiewicz, J. Canavan**


277. Adenosine-functionalized biodegradable PLA-b-PEG nanoparticles for osteoarthritis blocking in rats. **X. Liu, A. Ulman, B.N. Cronstein**


279. Development of sepiolite supported-nano TiO2 composites as high performance photocatalysts. **L. Liao, J. Feng**

280. Remediating interior building surfaces contaminated by methamphetamine: Methods development. **K.R. Caldwell**

281. Colloidal metal and semiconductor nanostructures: Theory, synthesis, and application. **S. Atta**

282. Improvement of methane hydrate formation kinetics with activated carbon, tetrahydrofuran, and sodium dodecyl sulfate. **A. Siangsai, K. Inkong, P. Rangsunvigit**

283. Preparation of pure and decorated metal oxide materials for energy applications using novel physical deposition methods and their characterization. **D. Paradiso, J.Z. Larese**

284. Adsorption site determination for oxygenates on TiO2/Au(111). **M.Z. Gillum, J.A. Wilke, D.T. Boyle, A. Baber**


286. Formation of bioactive hydrogels through the cross-linking of thermally responsive polypeptide micelles. **A. Mistry, H. Celik, N.B. Holland**

287. Investigating surMOF thin film growth for sensing and storage applications. **A. Trojniak, L. Brower, M. Ohnsorg, M.E. Anderson**


290. Generation of Au-Pd bimetallic nanoparticles and anisotropic structure of gold on functionalized surfaces. A. Peer, K. Bandyopadhyay

291. Dopamine biosensor using two dimensional assemblies of palladium nanoparticles. M. Osto, C. Dodge, K. Bandyopadhyay

292. Two dimensional assemblies of gold nanoparticle as non-enzymatic glucose biosensor. A. Bitar, K. Bandyopadhyay


294. Determination of optimal probe density and salt concentration for fast and complete DNA melting. N. Le, A. Chin, R. West

MONDAY MORNING

Section A

Walter E. Washington Convention Center
Room 147A

Basic Research in Colloids, Surfactants & Nanomaterials

Colloidal Assembly

R. Nagarajan, Organizer
S. L. Tait, Presiding


8:50 296. Bottom-up design and self-assembly of supracolloidal molecules made from binary metallic nanoparticles. C. Yi, Z. Nie


10:10 300. Aggregation of conjugated polymer nanowires studied by atomic force microscopy and kelvin probe force microscopy. **S. Guo**

10:30 301. Effective interactions between colloids induced by attractive reversibly adsorbed polymers. **A. Chervanyov**


Section B
Walter E. Washington Convention Center
Rooms 208A/B

Responsive, Programmable Assembly of Active Colloids for Functional Materials

Financially supported by JULABO USA Inc.
R. Hickey, C. D. Keating, Organizers
L. D. Zarzar, Organizer, Presiding

8:30 305. Microrobots at interfaces. D. Wong, I. Liu, S. Das, E. Steager, M. Hsieh, V. Kumar, K.J. Stebe

9:00 306. Collective behavior of self-powered single molecules and nano/microparticles. **A. Sen**

9:30 307. Tuning the hydrodynamics and collective behaviors of active colloidal motors via a chemical approach. **N. Wu**, X. Yang

10:00 308. Spatiotemporal dynamics of filamentous bacteria near and on affinity substrates. **J. Jahnke**, J. Terrell, A. Smith, X. Cheng, D.N. Stratis-Cullum
10:20 309. Surface-bound enzymatic reactions organize microcapsules and protocells in solution. O.E. Shklyaev, H. Shum, A. Sen, A. Balazs

10:50 310. Engineering of shape-changing and motile colloidal assemblies: Magnetically reconfigurable clusters and self-propelling microbots. O.D. Velev


11:40 312. Shaped-directed dynamics of active colloids. K.J. Bishop, A. Brooks, S. Sabrina

Section C
Walter E. Washington Convention Center
Room 150B

Self-Assembly of Synthetic & Biological Surfactants: Translating Fundamentals to Applications

V. T. John, S. R. Raghavan, Organizers, Presiding

8:30 313. Surface functionalized biodegradable polymersome for targeted drug delivery. S. Roy, M. Nallani

8:50 314. Patchy and degradable polymersomes enabled by a miktoarm star terpolymers and polypeptoids. J. Gaitzsch, V. Chudasama, R. Luxenhofer, G. Battaglia, W. Meier

9:10 315. Self-assembly of peptide bolaamphiphiles into nanostructures for siRNA delivery. Z. Guan, A. Eldredge, D. Yang

9:30 316. Peptide insertion into lipid bilayer creating membrane pores. R. Nagarajan

9:50 Intermission.

10:10 317. Pyrrolidone diblock copolymers nano-objects: From bulk to interface. J. Dong


11:10 319. Effect of pH of skincare and cleansing products on the stratum corneum barrier function. K. Ananthapadmanabhan

Section D
Targeted Nanosystems for Therapeutic Applications: New Concepts, Dynamic Properties, Efficiency & Toxicity

K. Sakurai, Organizer
M. A. Ilies, Organizer, Presiding


9:00 321. Targeting lung adenocarcinoma using fibrin-specific short linear peptide motif. J. Yu, M. Yang, Y. Nam

9:30 322. Dectin-1 targeting delivery of a YB-1 antisense oligonucleotide with a beta-1,3-glucan carrier. N. Fujiwara, H. Izumi, S. Mochizuki, K. Sakurai

10:00 Intermission.

10:15 323. Glycopolypeptide self-assembled nanomaterials as efficient delivery systems with multivalent properties. S. Lecommandoux

10:45 324. Aptamer micelles targeting cancer cells expressing the chemokine fractalkine. M.A. Harris, T.R. Pearce, T. Pengo, H. Kuang, C. Forster, E. Kokkoli


Section E

Colloidal Metal & Semiconductor Nanostructures: Theory, Synthesis & Application

Metal Nanoparticle: Synthesis & Spectroscopy

Financially supported by Department of Chemistry, University of Connecticut; Department of Chemistry, University of Central Florida
J. Zhao, S. Zou, Organizers
A. J. Haes, Organizer, Presiding
8:30 326. Aluminum nanocrystals: Size control and SERS applications. N.J. Halas

9:05 327. Chemistry at the ends of gold nanorods. C.J. Murphy

9:40 328. Controlling and exploiting nanoscale curvature in gold nanostars. T.W. Odom


10:35 Intermission.

11:00 330. Two-photon photoluminescence and biomedical applications of hollow gold nanospheres (HGNs). J.Z. Zhang

11:30 331. Super-resolution imaging of hybrid organic-plasmonic nanostructures. K.A. Willets

12:00 332. Probing formation and transformation of colloidal nanoparticles with in-situ synchrotron x-ray scattering. Y. Sun

Section F

Walter E. Washington Convention Center
Room 209A

Photoresponsive Nanoparticles: From Fundamentals of Excitation to Applications

Photocatalysis

B. G. DeLacy, Y. Han, Organizers
Y. Sun, Organizer, Presiding
H. Fan, Presiding

8:30 333. Synthesis of shape-defined Ta₃N₅ and SrTaO₂N nanostructures for photocatalysis. S.E. Skrabalak

9:00 334. Interfacial self-assembly of hierarchically structured nanocrystals with photocatalytic activity. H. Fan

9:30 335. Oxygen-insensitive hydrogen evolution sites coated by Cr and Mo species for overall water splitting. K. Takanabe

10:00 Intermission.
10:20 336. Nanostructures and their influence upon outer sphere electron transfer rates. **M. Spitler**


11:10 338. Quantum-sized metal nanoparticles for photoinduced chemical transformations. **Y. Sun**

11:30 339. Balancing near-field enhancement, absorption, and scattering for effective antenna-reactor plasmonic photocatalysis. **P. Christopher**

Section G

Walter E. Washington Convention Center
Room 204C

**Emulsions, Foams & Dispersions: Symposium in honor of Dominique Langevin at 70**

R. Nagarajan, K. J. Stebe, D. A. Weitz, **Organizers**
B. Binks, **Presiding**

8:30 340. Temperature-dependent assembly of thermosensitive cationic diblock copolymers in water and on interfaces. **F.M. Winnik,** P. Claesson

8:55 341. Complexes of oppositely charged polyelectrolytes and microemulsion droplets: An investigation of structure and dynamics. **M. Simon,** L. Noirez, I. Hoffmann, **M. Gradzielski**

9:20 342. Adsorption of colloid-surfactant complexes at fluid-fluid interfaces and impact on mechanical properties. **S.M. Kirby,** S.L. Anna, **L. Walker**

9:45 343. Correlating the attractive interactions between polymer–surfactant coated droplets measured via AFM to collisions in microfluidic channels. **R.R. Dagastine,** C. Fewkes, E. Jamieson, J.D. Berry

10:10 Intermission.

10:20 344. Emulsion templated lipid vesicles. **L.R. Arriaga**

10:45 345. Eco-friendly surfactant herders for the remediation of maritime oil spills. **c. maldarelli,** H. Zhou, G. John
11:10  346. Protein diffusion in a bicontinuous microemulsion: sub-diffusion by tunable soft confinement.  T. Hellweg


Building a Safety Culture Across the Chemistry Enterprise

Institutional & Enterprise Level Efforts to Developing a Safety Culture

Sponsored by PRES, Cosponsored by BIOL, BMGT, CARB, CCS, CEI, CELL, CEPA, CHAS, CINF, COLL, CPRC, CTA, DAC, ETHX, I&EC, INOR, ORGN, PROF, SCHB and YCC

Nanotechnology & Single Cell Analysis in Biology & Medicine

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Chemistry in an Evolving Political Climate: Research Priorities & Career Pathways in Public Policy

Sponsored by YCC, Cosponsored by BIOL, CARB, CCPA, CEI, CELL, CEPA, CHED‡, CINF, COLL, COMSCI, CPRC, DAC, GEOC, IAC, PRES and SCHB

Self-Assembly & Non-Covalent Interactions: The Fundamental Science of Supramolecular Materials

Sponsored by ANYL, Cosponsored by COLL

MONDAY AFTERNOON

Section A

Walter E. Washington Convention Center
Room 147A
Basic Research in Colloids, Surfactants & Nanomaterials

Bio Amphiphiles & Colloids

R. Nagarajan, Organizer
G. Narsimhan, Presiding


2:20 349. Identification and characterization of novel peptide domains, which exhibit binding affinities for electroactive materials. **A. Winton**, S.J. Riley, M.A. Allen


3:00 351. Pore formation by aggregates of antimicrobial peptides in DMPC liposomes. **Y. Lyu**, M. Frityanti, X. Zhu, G. Narsimhan

3:20 352. Transmembrane difference in colloid osmotic pressure affects the lipid membrane fluidity of liposomes encapsulating a concentrated protein solution. **H. Sakai**

3:40 353. Studies of the interactions between Cu$^{2+}$ and sphingosine-1-phosphate. **A.J. Baxter**, T. Yang, P.S. Cremer

4:00 354. Functionalization of living bacterial cells with metallic nanoparticles mediated by surface-displayed peptides. **H. Dong**, D.A. Sarkes, D.N. Stratis-Cullum


4:40 356. Cellular and particle dynamics in blood flow with rigid red blood cells. **M. Gutierrez**, O. Eniola-Adefeso

5:00 357. Investigation of the adsorption properties of dipeptides: A thermodynamic, inelastic neutron scattering and modeling study. **D. Paradiso**, J.Z. Lares

Section B

Walter E. Washington Convention Center
Rooms 208A/B
Self-Assembly of Synthetic & Biological Surfactants: Translating Fundamentals to Applications

V. T. John, S. R. Raghavan, Organizers, Presiding

2:00 358. Linking gene expression with phospholipid membrane formation. A. Bhattacharya


3:00 361. Near infrared responsive gold-layersome nanoshells. A. Abbasi, G.D. Bothun, A. Bose

3:20 Intermission.

3:40 362. Steering an enzymatic reaction with vesicles. P. Walde, S. Luginbühl, G. Ćirić-Marjanović

4:10 363. Lipidic templates and coatings for designing nanotheranostics. G.D. Bothun

4:40 364. Can vesicles transform into helical tubules in a system based on achiral surfactants? S.R. Raghavan

5:00 365. Amphiphilic polypeptoids and their hydrophobic interactions with lipid bilayers: Fundamentals and translation to drug delivery systems. V.T. John, Y. Zhang, M. Omarova, D. Zhang, T. Yu, S. Xuan

Section C

Walter E. Washington Convention Center
Room 150B

Targeted Nanosystems for Therapeutic Applications: New Concepts, Dynamic Properties, Efficiency & Toxicity

K. Sakurai, Organizer
M. A. Ilies, Organizer, Presiding
2:00 366. Bi-CTAB composite photocatalytic nanomaterial for antibacterial applications. S. Li, C. Lu, K. Yu, S. Wong, M. Goh

2:30 367. Particle modulus as a key parameter of vascular-targeted drug delivery in vitro and in vivo. M. Fish, C. Fromen, T.F. Scott, R. Adili, M. Holinstat, O. Eniola-Adefeso

3:00 368. Molecular design of non-toxic polymeric inhibitors as novel anti-thrombotics and antidotes for anticoagulants. M. Kalathottukaren, S. Abbina, C.A. Haynes, J.N. Kizhakkedathu

3:30 Intermission.

3:45 369. Cationic amphiphiles designed to mimic antimicrobial peptides exhibit marked activity against planktonic bacteria and biofilms. A.E. Moretti, R. Weeks, M. Chikindas, K.E. Uhrich

4:15 370. Withdrawn


Section D

Walter E. Washington Convention Center
Room 150A

Photoresponsive Nanoparticles: From Fundamentals of Excitation to Applications

Novel Synthesis

B. G. DeLacy, Y. Han, Organizers
Y. Sun, Organizer, Presiding
D. Qin, Presiding

2:00 372. Plasmon-driven anisotropic growth of gold nanoprisms: Cooperative action of surfactants with light. W. Wei

2:30 373. Gold nanoboxes with plasmonic absorption at near infrared wavelength. D. Qin, X. Sun, J. Kim, J. Ahn

3:00 374. Multifunctional nanomaterials and their photo- and magneto-thermal applications. S. Hunyadi Murph

3:20 375. Using gold nanoparticle surface chemistry to control electronic behavior: Towards energy transfer applications. S. Crawford, C.M. Andolina, A. Smith, J. Millstone
3:40 Intermission.

4:00 376. Molecular plasmons: A new take on an old molecule with new applications. N.J. Halas

4:30 377. Plasmonic field and heat from gold nanorods. C.J. Murphy

5:00 378. Atomically precise metal nanoparticles: Fundamentals and opportunities. R. Jin

Section E

Walter E. Washington Convention Center
Room 209B

Colloidal Metal & Semiconductor Nanostructures: Theory, Synthesis & Application

Theory

Financially supported by Department of Chemistry, University of Connecticut; Department of Chemistry, University of Central Florida
A. J. Haes, J. Zhao, Organizers
S. Zou, Organizer, Presiding

2:00 379. Strong plexcitonic interactions in colloidal solutions containing hybrid metal nanoparticle/dye systems. R. Thomas, A. Thomas, R. Swathi, S.K. Gray, K.G. Thomas

2:30 380. Optical and energy-related phenomena in metal nanocrystal chains with hot spots: Coherent transfer of plasmons, hot electrons and heat generation. A. Govorov

3:00 381. Electron- and photon-driven optical responses in metallic, alloyed, and semiconducting nanostructures. D.J. Masiello

3:30 382. Designing nanoparticle solar cells without defect states and with enhanced charge transport using ab initio simulations. M. Voeroes, N. Brawand, F. Giberti, G.A. Galli

3:50 Intermission.

4:10 383. Electron density dependent core-shell model in simulation optical properties of metallic nanoparticles. S. Li, C. Chen

4:40 384. Atomistic electrodynamics simulations of plasmonic nanoparticles. L. Jensen

5:10 385. Low dimensional nanomaterials: Insights from the established, exotic, and imagined. P.A. Brown, K.L. Shuford
5:40 386. Optical properties of self-assembled supracolloidal nanostructures for metamolecules.  
Z.A. Benson, M. Dias, C. Gong, M.S. Leite

Section F

Walter E. Washington Convention Center  
Room 209A

Emulsions, Foams & Dispersions: Symposium in honor of Dominique Langevin at 70

K. J. Stebe, D. A. Weitz, Organizers  
R. Nagarajan, Organizer, Presiding

2:00 387. Oil foams stabilised by surfactant or fat crystals.  B. Binks, E.J. Garvey, I.P. Marinopoulos


2:50 389. Foams and dispersions at high salinity.  K.P. Johnston, M. Iqbal, J. Lee, C. Dandamudi, S. Alzobaidi, E. Moaseri, B. Chang, C. Da


3:40 Intermission.

3:50 391. New directions in the science and engineering of particle-containing foams: Responsive materials and bioreactor operations.  O.D. Velev

4:15 392. Stability of flowing foams under confinement.  S.L. Biswal

4:40 393. Border-crossing model for the diffusive coarsening of wet foams.  D. Durian

5:05 394. Emulsions, foams and dispersions.  D. Langevin

Section G

Walter E. Washington Convention Center  
Room 204C

Basic Research in Colloids, Surfactants & Nanomaterials

Metal & Semiconductor Nanomaterials
2:00 395. Gas and vapor dependent photoluminescence changes and surface chemistry of zinc oxide nanoparticles. S. Kim, R. Somaratne, S.K. Sengupta, J.E. Whitten

2:20 396. Watching submonolayer deposition of platinum on colloidal silver nanocrystals with a molecular probe. Y. Zhang, D. Qin

2:40 397. Enhanced emission of nanocrystal solids featuring slowly diffusive excitons. N.N. Kholmicheva

3:00 398. Plasmon enhanced multiexciton emission of single quantum dots. J. Zhao, S. Dey, S. Zou

3:20 399. Au exchange or Au deposition: Control of morphology in Au-CsPbBr3 heterostructure nanoparticles. B. Roman, M.T. Sheldon

3:40 400. Thermochemical measurements of cation exchange in cadmium selenide nanocrystals using isothermal titration calorimetry. S. Jharimune, A. Sathe, R.M. Rioux

4:00 401. Catalytic applications of Cu2-xSe nanoparticles in redox reactions. M. Richard, X. Gan, J. Millstone, E. Borguet

4:20 402. Fate of photoexcited charge carriers in lead-free perovskite nanocrystals for excitonic solar cells. C. Liu, K. Zheng, D.J. Gosztola, S. Canton, X. Zhang

4:40 403. Sensitivity of plasmonic metal nanoparticles and their potential in plasmonic polymer nanocomposites. A. Khan, G. Liu

5:00 404. Dye-loaded core-shell Au-SiO2 nanoparticles for cancer theranostics. F.M. Roland, Q. Zhang, B.D. Smith, R. Roeder

Building a Safety Culture Across the Chemistry Enterprise

Grassroots Approaches to Developing a Safety Culture

Sponsored by PRES, Cosponsored by BIOL, BMGT, CARB, CCS, CEI, CELL, CEPA, CHAS, CINF, COLL, CPRC, CTA, DAC, ETHX, I&EC, INOR, ORGN, PROF, SCHB and YCC
Nanotechnology & Single Cell Analysis in Biology & Medicine
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Chemistry in an Evolving Political Climate: Research Priorities & Career Pathways in Public Policy
Sponsored by YCC, Cosponsored by BIOL, CARB, CCPA, CEI, CELL, CEPA, CHED*, CINF, COLL, COMSCI, CPRC, DAC, GEOC, IAC, PRES and SCHB

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Self-Assembly & Non-Covalent Interactions: The Fundamental Science of Supramolecular Materials
Sponsored by ANYL, Cosponsored by COLL

MONDAY EVENING
Section A
Walter E. Washington Convention Center
Halls D/E
Sci-Mix
R. Nagarajan, Organizer

8:00 - 10:00
TUESDAY MORNING

Walter E. Washington Convention Center
Room 147A

Basic Research in Colloids, Surfactants & Nanomaterials
Emulsions & Gels

R. Nagarajan, Organizer
A. V. Mallia, Presiding

8:30 405. Double emulsion for the encapsulation of reactive lipophilic components. M. Stasse, V. Heroguez, V. Schmitt

8:50 406. Structure and dynamics of solid-like ion gels with high ionic conductivity. Z. Yu, Y. He, Y. Wang, L.A. Madsen, R. Qiao


9:30 408. Structure-property relationships and mechantotropic properties of molecular gels based on simple fatty acid based gelators. A.V. Mallia, B. Matel


10:30 411. Stabilization of lipase in polymerized high internal phase emulsions through interfacial assembly. S. Andler, J.M. Goddard


11:30 414. Interfacial properties of surfactant monolayers and the formation of microemulsions by molecular dynamics simulations. **D. Cheong**, F. Lim, J. Tan, L. Zhang

Section B

Walter E. Washington Convention Center
Rooms 208A/B

**In-Situ Investigation of Energy Systems using Ambient-Pressure X-Ray Photoelectron Spectroscopy**

E. Crumlin, H. Ogasawara, I. Waluyo, **Organizers, Presiding**

8:30 Introductory Remarks.

8:35 415. Revisiting CO oxidation on Pt(110) surface with ambient pressure XPS. **B.S. Mun**


10:15 Intermission.


11:15 419. *In-situ* investigation of water dissociation on NiO$_x$/CeO$_2$ (111) surfaces using ambient-pressure XPS. **Z. Liu**, R.M. Palomino, J. Rodriguez, S.D. Senanayake

11:35 420. Ethanol reactivity over Ti-modified CeO$_x$(111) mixed oxide surfaces from UHV conditions to elevated pressures. **J. Zhou**

Section C

Walter E. Washington Convention Center
Room 150B

**Responsive, Programmable Assembly of Active Colloids for Functional Materials**

Financially supported by JULABO USA Inc.
8:30 421. Active colloids and liquid crystals. N.L. Abbott

9:00 422. Self-assembly of nanoparticles in droplets of colloidal cholesteric liquid crystals. Y. Li

9:20 423. Synthesis and liquid crystal behavior of bent colloidal silica rods. Y. Yang, G. Chen, Z. Nie

9:40 424. Surprises in self-assembly dynamics at the nanoscale. Q. Chen


10:30 426. Tuning the dielectrophoretic assembly of dielectric and semiconducting particles through surface functionalization. N.D. Burrows, C.D. Keating

10:50 427. Controlling anisotropic colloidal assembly in external fields. M.A. Bevan

11:20 428. Assembly of amphiphilic hyperbranched polymeric ionic liquids in aqueous media at different ionic environments. V. Korolovych, A.J. Erwin, A. Stryutsky, E. Mikan, V. Shevchenko, L. Bulavin, V.V. Tsukruk


12:00 430. Directed self-assembly and crystallization of colloids. M. Weck

Section D

Walter E. Washington Convention Center
Room 150A

Targeted Nanosystems for Therapeutic Applications: New Concepts, Dynamic Properties, Efficiency & Toxicity

M. A. Ilies, Organizer
K. Sakurai, Organizer, Presiding

8:30 431. Bionanoparticles via self-assembly induced by complexation of nucleic acid with double hydrophilic block copolymer. R. Nagarajan
9:00 432. Histone-targeted gene nanocarriers enable 100-fold reductions in BMP-2 dosing for bone regenerative applications.  **E. Munsell, M.O. Sullivan**

9:30 433. Delivering RNAi therapeutics: From discovery to applications.  **M. Manoharan**

10:00 Intermission.

10:15 434. ssDNA nanotubes targeting glioblastoma multiforme.  M.A. Harris, M. Shiao, H. Kuang, W. Low,  **E. Kokkoli**

10:45 435. Nucleic acid nanocapsules: A hybrid biomaterial for controlled drug delivery.  **J.L. Rouge**


Section E

Walter E. Washington Convention Center
Room 209B

**Photoresponsive Nanoparticles: From Fundamentals of Excitation to Applications**

**Assembled Plasmonic Nanostructures**

Y. Han, *Organizer*
B. G. DeLacy, Y. Sun, *Organizers, Presiding*

8:30 437. Nanoparticle superlattices in 2D and 3D.  **G.C. Schatz**

9:00 438. Understanding the lasing mechanism of plasmonic nanoparticle arrays.  **T.W. Odom**

9:30 439. Site-specific surface encoding for programmable self-assembly of colloidal nanoparticles.  **G. Chen**

10:00 Intermission.

10:20 440. Ultrafast dynamics of plasmonic nanostructures.  **S. Link**

10:50 441. Lead halide perovskite nanostructures for fundamental photophysical studies and optoelectronic applications.  **S. Jin, Y. Fu**

Section F
Colloidal Metal & Semiconductor Nanostructures: Theory, Synthesis & Application

Theory

Financially supported by Department of Chemistry, University of Connecticut; Department of Chemistry, University of Central Florida
J. Zhao, S. Zou, Organizers
A. J. Haes, Organizer, Presiding

8:30 442. Geometrical singularities in metal nanostructures for enhanced biosensor sensitivity and selectivity. A. House, M. Mursalat, S. Basuray

9:00 443. Electrically modulated localized surface plasmon around self-assembled-monolayer-covered nanoparticles. M. Su

9:30 444. Development of plasmonic nanostructures toward surface-enhanced Raman scattering detection in point-of-care settings. N. Wu


10:20 Intermission.


11:40 448. Surface coding of nanoparticles for self-assembly and plasmonic bioapplications. Y. Weizmann


Section G

Walter E. Washington Convention Center
Room 204C
Bioconjugate Chemistry Lecturer Award Symposium

V. M. Rotello, Organizer, Presiding


9:00 451. Transition-metal catalysis for site-selective protein modification. Z.T. Ball

9:30 452. Cysteine-mediated redox signaling: Chemical tools for biological discovery. K.S. Carroll

10:00 453. Biocompatible chemistries for imaging cellular cross-talk. J.A. Prescher


Understanding the Chemistry of Our Planet

Chemistry’s Role in our Earth System

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GSSPC: Standing on the Shoulders of Giants: Developing Chemistries for Improved Global Health

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Journey to Mars: Materials, Energy & Life Sciences

Sponsored by POLY, Cosponsored by ANYL‡, BMGT‡, COLL‡, ENVR‡, FLUO‡, PMSE‡, PRES, SCHB‡ and YCC‡

TUESDAY AFTERNOON
Walter E. Washington Convention Center
Room 147A

Langmuir Lectures, NanoLetters Award Lecture, ACS Materials & Interfaces Award Lecture

R. Nagarajan, Organizer
H. Fairbrother, Presiding

2:00 Introduction of Langmuir Lecturer Frank Caruso.

2:05 455. Engineering particles for bio–nano science and beyond. F. Caruso

2:50 Introduction of Langmuir Lecturer Paul Cremer.

2:55 456. Probing the interactions of anions and cations with phospholipid membranes. P.S. Cremer

3:40 Introduction of NanoLetters Lecturer Liangbing Hu.

3:45 457. Nanocellulose for nanotechnologies. L. Hu

4:30 Introduction of ACS Materials & Interfaces Lecturer Yanli Zhao.

4:35 458. Responsive organic nanosystems for targeted bioimaging and therapy. Y. Zhao

GSSPC: Standing on the Shoulders of Giants: Developing Chemistries for Improved Global Health

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Understanding the Chemistry of Our Planet

Human Impacts to our Planet
Journey to Mars: Materials, Energy & Life Sciences

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TUESDAY EVENING

Basic Research in Colloids, Surfactants & Nanomaterials

Interface Engineering

R. Nagarajan, Organizer
R. M. Espinosa-Marzal, Presiding

8:30 459. Interface engineering for nanoelectronics. C.A. Hacker


9:30 462. Molecular insight into polymer-ionic liquid mediated lubrication. M. Han, R.M. Espinosa-Marzal


10:50 466. Effects of external electric field on spreading of a surfactant on aqueous surface. S. Tsuchitani, T. Shuto, H. Miki, K. Kikuchi


11:30 468. Ultra-dense and long-lasting shells for inorganic nanoparticles are based on cyclic polymer brushes. G. Morgese, B.S. Shaghansemi, E. Reimhult, E. Benetti

Section B

Walter E. Washington Convention Center
Rooms 208A/B

Responsive, Programmable Assembly of Active Colloids for Functional Materials

Financially supported by JULABO USA Inc.
R. Hickey, C. D. Keating, Organizers
L. D. Zarzar, Organizer, Presiding


9:00 470. Competition between ions and nanoparticles during the reversible attachment of nanoparticles to a fluid interface. M.A. Bevan, J. Frechette

10:00 472. Continuous visualization of complex liquid emulsions using on-chip ring resonators. S. Savagatrup, T.M. Swager


10:50 474. ZIF as efficient acid-sensitive nanoparticles for intelligent anticorrosion coatings. S. Yang

11:10 475. Nanoscale interfacial complexation in emulsions (NICE): From encapsulation and controlled release to protocells. D. Lee

11:40 476. Self-assembled structures using DNA-coated colloids and depletion. D. Pine

Section C
Walter E. Washington Convention Center Room 150B

In-Situ Investigation of Energy Systems using Ambient-Pressure X-Ray Photoelectron Spectroscopy
E. Crumlin, H. Ogasawara, I. Waluyo, Organizers, Presiding

8:30 Introductory Remarks.

8:35 477. Studies of catalyst surfaces under near-ambient pressure conditions. G. Held


9:35 479. Application of ambient pressure x-ray photoelectron spectroscopy to studies of catalytic materials. F. Tao

10:15 Intermission.

10:35 480. Bridging the pressure and materials gaps: Methanol oxidation on La1-xSr_xMnO3 thin-films and powders. D.R. Mullins, Y. Zhang, M. Kidder, S.H. Overbury

11:15 481. Interface chemistry of H2O on pure and Ni-modified CoOOH nanowires probed by ambient-pressure x-ray photoelectron spectroscopy. Z. Chen, C.X. Kronawitter, I. Waluyo, B.E. Koel
Surface chemistry and catalysis confined under two-dimensional (2D) materials.  Q. Fu

Walter E. Washington Convention Center
Room 150A

Targeted Nanosystems for Therapeutic Applications: New Concepts, Dynamic Properties, Efficiency & Toxicity

M. A. Ilies, Organizer
K. Sakurai, Organizer, Presiding

8:30 483. In silico modeling of nanodrug: Molecular insight of metallofullerenol Gd@C82(OH)22 in cancer anti-metastasis.  S. Kang


10:00 Intermission.


Section E

Walter E. Washington Convention Center
Room 209B

Photoresponsive Nanoparticles: From Fundamentals of Excitation to Applications
Spectroscopy & Imaging

Y. Han, Organizer
B. G. DeLacy, Y. Sun, Organizers, Presiding

8:30 489. Tracking photon-induced electron transfers in nanoparticle systems using ultrafast x-ray absorption spectroscopy. X. Zhang, C. Liu, K. Zheng, A. Hassan, P.T. Snee, J. Huang, S. Canton

9:00 490. Mapping carrier dynamics on semiconductor material surfaces and at interfaces using laser spectroscopy and 4D electron microscopy. O.F. Mohammed

9:30 491. Excitation wavelength dependent multiphoton emission of single semiconductor nanocrystal near gold nanoparticles. J. Zhao


10:30 Intermission.

10:50 493. Coupled optical and electrochemical measurements for studying nanostructured materials. K.A. Willets

11:10 494. Imaging the photochemical reactions of single nanoparticles with surface plasmon resonance microscopy. W. Wang

Section F

Walter E. Washington Convention Center
Room 209A

Colloidal Metal & Semiconductor Nanostructures: Theory, Synthesis & Application

Photocatalysis & Photo Processes

Financially supported by Department of Chemistry, University of Connecticut; Department of Chemistry, University of Central Florida
A. J. Haes, S. Zou, Organizers
J. Zhao, Organizer, Presiding
8:30 495. Key insights into carbon dioxide photoreduction from single-nanoparticle catalysis studies.  **P.K. Jain**

9:00 496. Hybrid semiconductor-metal nanoparticles as photocatalysts.  **U. Banin**


10:00 498. Photoinduced charge transfer in chiral nanoparticle assemblies.  **D.H. Waldeck**

10:30 Intermission.


11:00 500. Detailed balance efficiencies for luminescent solar concentrators with aligned semiconductor nanorods.  **M.T. Sheldon**


11:40 502. Distance- and dye-dependent quenching behavior of magnetic (nickel or iron oxide) core- gold shell nanoparticles.  **P. Vakil**, G.F. Strouse

12:00 503. Mechanical vibrations of metal nanoparticles for sensing applications and fundamental fluid dynamics.  **M. Pelton**

Section G

Walter E. Washington Convention Center
Room 204C

**Frontier of the Interface of Materials & Biology: Click Chemistry Approaches to Bio-Inspired Materials**

Q. Wang, Organizer
V. O. Rodionov, Organizer, Presiding

8:30 Introductory Remarks.

8:35 504. Engineering cell surfaces with synthetic polymers.  **H.A. Klok**

9:05 505. Click chemistry to enable bioinspired polymer nanofibers.  **J.K. Pokorski**
9:35 506. Orthogonal click chemistry allows encapsulation of functional drugs in nanocapsules. K. Landfester

10:05 Intermission.

10:20 507. Thiol-ene photo-addition as versatile tool for biomedical applications. U.S. Schubert

10:50 508. Combined supramolecular and click chemistry approach towards the development of functional biomaterials. Q. Wang

11:20 509. Gel networks as confined microenvironments for photochemical reactions under mild conditions. D. Diaz-Diaz

Section H

Walter E. Washington Convention Center
Room 155

Multimodal Imaging with Colloids

P. del Pino, J. V. Jokerst, L. Liz Marzan, Organizers
W. Parak, Organizer, Presiding

8:30 510. Quantitative particle-cell interaction: Some basic physicochemical pitfalls. W. Parak, N. Feliu

9:00 511. Simultaneous detection and inhibition of Healthcare-Associated Infections (HAIs) by colloidal gold nanoclusters. N.M. Khashab

9:30 512. Photo/magnetic stimulated nanocargos: Cancer theranostics for MR/CT-imaging-guided magneto-chemotherapy. N. Thorat, S.A. Tofail, W. Parak

10:00 513. Developing endothelial targeted nanotechnologies to wean cancer nanomedicine and bioimaging nanotechnology off the EPR effect. D. Leong, M.I. Setyawati, C. Tay

10:30 Intermission.


12:00 516. Novel fluorine probes for gold nanoparticle labelling with application in $^{19}\text{F}$-MRI. M. Carril

**Journey to Mars: Materials, Energy & Life Sciences**

Sponsored by POLY, Cosponsored by ANYL‡, BMGT‡, COLL‡, ENVR‡, FLUO‡, PMSE‡, PRES, SCHB‡ and YCC‡

**WEDNESDAY AFTERNOON**

Walter E. Washington Convention Center
Room 147A

**Basic Research in Colloids, Surfactants & Nanomaterials**

**Polymers**

R. Nagarajan, *Organizer*
J. S. Lum, *Presiding*

2:00 517. Functional approach to solubility parameter computations. J. Howell, M. Roesing, D.S. Boucher


2:40 519. Solubility characteristics of poly(3-hexylthiophene). M. Roesing, J. Howell, D.S. Boucher

3:00 520. Effect of long chain reptation on surface tackiness. Y. Wang, B. Xia, A. Zhou, X. Wang

3:20 521. Cavity ring-down spectroscopy monitoring of thermal degradation of 2D polymer monolayers on fused silica substrates. S.M. Casey, A.C. Murray

3:40 522. Preparation and characterization of PHMB-based multifunctional microcapsules. J.S. Lum, L.W. Place, S. Gulcius-Lagoy
4:00 523. Effect of surfactant system on polyHIPE morphology and mechanical properties. **K. Rohm**, V. Karimkhani, D. Feke, I. Manas-Zloczower


Section B

Walter E. Washington Convention Center
Rooms 208A/B

**Basic Research in Colloids, Surfactants & Nanomaterials**

**Nanomaterial Functionalization**

R. Nagarajan, **Organizer**
J. W. Krumpfer, **Presiding**

2:00 527. Surface PEGylation to silver nanoparticles: Kinetics of simultaneous surface dissolution and molecular desorption. **D. Tsai**, W. Chang

2:20 528. Hydrophobization of inorganic oxide surfaces via siloxane equilibration reactions. K.M. Ryan, W.Y. Bender, J. Kreitler, **J.W. Krumpfer**


4:00 533. Functionalised silica nanoparticles as fouling resistant surface coatings.  P. Molino, B. Knowles, B. Zhang, M. Higgins, G. Wallace

4:20 534. Template-free 3D titanium carbide (MXene) particles crumpled by capillary forces.  S. Shah, T. Habib, H. Gao, P. Gao, W. Sun, M.J. Green, M. Radovic


5:00 536. Plant-based polyphenol coatings for surface functionalization with proteins and enzymes.  A. Sousa, S. Varghese, T. Li, P. Halling, K. Lau

Section C

Walter E. Washington Convention Center
Room 150B

In-Situ Investigation of Energy Systems using Ambient-Pressure X-Ray Photoelectron Spectroscopy

E. Crumlin, H. Ogasawara, I. Waluyo, Organizers, Presiding

2:00 Introductory Remarks.


2:45 538. Assessing doping effects on surface chemical stability by in situ AP-XPS in barium perovskites, BaCe_{x}Zr_{0.9-x}Y_{0.1}O_{2.95} (x = 0.9 ; 0.2 ; 0).  A. Jarry, C. Pellegrinelli, A. Geller, S. Ricote, X. Zhang, I. Takeuchi, E.D. Wachsman, E. Crumlin, B.W. Eichhorn

3:05 539. Structure and chemistry of oxide thin films and surfaces revealed by ambient pressure x-ray photoelectron spectroscopy and absorption spectroscopy: Implications for better electrochemical energy conversion and electronic devices.  B. Yildiz

3:45 Intermission.


5:05 542. Operando APXPS studies of electrocatalysis. **A.R. Nilsson**

Walter E. Washington Convention Center
Room 150A

**Targeted Nanosystems for Therapeutic Applications: New Concepts, Dynamic Properties, Efficiency & Toxicity**

K. Sakurai, Organizer
M. A. Ilies, Organizer, Presiding

2:00 543. Anchor peptide enables rapid targeting, loading and capture of exosomes of diverse origins and targets oligonucleotides to muscle in *mdx* mice. X. Gao, H. Moulton, **H. Yin**


3:00 545. Immunization with antigenic peptides complexed with β-glucan induces potent cytotoxic T-lymphocyte activity in combination with CpG-ODNs. **S. Mochizuki**, H. Morishita, K. Sakurai

3:30 Intermission.

3:45 546. Protein mimics enable antibody delivery into T-cells. **G.N. Tew**


Section E

Walter E. Washington Convention Center
Room 209B

**Photoresponsive Nanoparticles: From Fundamentals of Excitation to Applications**

**Synthesis & Assembly**
2:00 549. Nanostructure synthesis at the liquid-substrate interface: A new strategy for obtaining plasmonic and chemically active surfaces. **S. Neretina**, R. Hughes

2:30 550. Porous metals via the oriented attachment of nanoparticles. **Z. Quan**

3:00 551. Hot carrier up-conversion luminescence in nanocrystal heterostructures. **M.T. Sheldon**


3:40 Intermission.


4:30 554. Polymer-assisted co-assembly approach toward mesoporous hybrid metal oxides catalysts for photocatalysis. **B. Liu**, S.L. Suib, **J. He**


Section F

Walter E. Washington Convention Center
Room 209A

Colloidal Metal & Semiconductor Nanostructures: Theory, Synthesis & Application

Synthesis of Semiconductor Nanocrystals

Financially supported by Department of Chemistry, University of Connecticut; Department of Chemistry, University of Central Florida
A. J. Haes, J. Zhao, S. Zou, **Organizers**
O. Chen, **Presiding**

2:00 556. Monodisperse hexagonal pyramidal and bipyramidal wurtzite CdSe-CdS core-shell nanocrystals. **O. Chen**, R. Tan, J. Zhao
2:30 557. Correlating carrier density and emergent plasmonic features in Cu$_{2-x}$Se nanoparticles. J. Millstone, L.E. Marbella, X. Gan

3:00 558. Correlations between dopants and defects in colloidal metal oxide nanocrystals. K.R. Kittilstved


4:00 Intermission.


Section G

Walter E. Washington Convention Center
Room 204C

Frontier of the Interface of Materials & Biology: Click Chemistry Approaches to Bio-Inspired Materials

V. O. Rodionov, Organizer
Q. Wang, Organizer, Presiding

2:00 565. Click chemistry approaches to bio-inspired materials: Well-defined (co)polypeptides bearing pendant alkyne groups. W. Zhao, Y. Gnanou, N. Hadjichristidis

2:30 566. Bioactive nano- and microstructures from self-assembling amphiphilic glycopolymers. N.R. Cameron
3:00 567. Catalysis and complexity: From mechanism to function. V.V. Fokin

3:30 Intermission.

3:45 568. Multifunctional and responsive polymersomes through CRP and efficient postfunctionalization. B. Voit, B. Iyisan, D. Appelhans, J. Gaitzsch, M. Yassin

4:15 569. Amphiphilic polysaccharide block copolymers for nanoparticles drug delivery. B. Breitenbach, P.R. Wich

4:45 570. Soft materials for catalysis and encapsulation: From micelles to complex macromolecular architectures. V.O. Rodionov

Section H

Walter E. Washington Convention Center
Room 155

Multimodal Imaging with Colloids

J. V. Jokerst, L. Liz Marzan, W. Parak, Organizers
P. del Pino, Organizer, Presiding

2:00 571. Hybrid materials based on plasmonic gold nanostars as alternative imaging probes. D. Jimenez de Aberasturi, M.S. Strozyk, J. Langer, M. Henriksen-Lacey, J. Reguera, L. Liz Marzan


3:00 573. Nanoparticle interactions with proteins. F. Stellacci

3:30 574. Polymer amphiphile stabilized hydrophobic silica nanoparticles for acoustic imaging and site-specific therapy. A.P. Goodwin

4:00 Intermission.


**Journey to Mars: Materials, Energy & Life Sciences**

Sponsored by POLY, Cosponsored by ANYL‡, BMGT‡, COLL‡, ENVR‡, FLUO‡, PMSE‡, PRES, SCHB‡ and YCC‡

**THURSDAY MORNING**

Walter E. Washington Convention Center
Room 147A

**Basic Research in Colloids, Surfactants & Nanomaterials**

**Synthesis of Nanomaterials**

R. Nagarajan, *Organizer*
G. Liu, *Presiding*

8:30 578. Thermodynamic influence of structure-directing agents in shape-controlled nanocrystal syntheses. **X. Qi**, K.A. Fichthorn

8:50 579. Synthesis of Ag/Au/AgCl nanocubic metal-semiconductor composite via co-reduction method. **J. Joo**, J. Lee


9:50 582. Synthesis of core@shell nanostructures in a continuous flow droplet reactor: Controlling structure through relative flow rates. **J.S. Santana**, K.M. Koczkur, S.E. Skrabalak

10:10 583. Synthesis of porous TiO$_7$ nanoparticles as high-efficiency polysulfide mediator for lithium-sulfur batteries. **S. Mei**, C.J. Jafta, M.M. Ballauff, **Y. Lu**
10:30 584. Molecular surgery on a 23-gold-atom nanoparticle. Q. Li, R. Jin

10:50 585. Safer, high quality, Cd-free quantum dots- new and improved InP-based quantum dots with excellent optical properties as a viable alternative to Cd-containing quantum dots. R.P. Brown, Z. Rosenzweig


Walter E. Washington Convention Center
Rooms 208A/B

In-Situ Investigation of Energy Systems using Ambient-Pressure X-Ray Photoelectron Spectroscopy

E. Crumlin, H. Ogasawara, I. Waluyo, Organizers, Presiding

8:30 Introductory Remarks.

8:35 588. Aqueous interfaces investigated under ambient conditions by XPS. H. Bluhm

9:15 589. Two-dimensional zeolites and their study with surface science tools: Trapping Ar in the nano-cages. N. Akter


10:15 Intermission.

10:35 591. Following atomic layer deposition in real time. J. Schnadt


Section C
Targeted Nanosystems for Therapeutic Applications: New Concepts, Dynamic Properties, Efficiency & Toxicity

M. A. Ilies, Organizer
K. Sakurai, Organizer, Presiding

8:30 593. Capturing reactive oxygen (RO) at modal membrane interface: Ferrocenyl anilines on modal micelle/reverse micelle membrane interfaces. A. Altaf, A. Badshah, D.C. Crans, P. Chatterjee, S. Kausar

9:00 594. Graphene oxide nanosheets stimulate ruffling and shedding of mammalian cell plasma membranes. C. Sun, D. Wakefield, Y. Han, D. Muller, D. Holowka, B. Baird, W. Dichtel

9:30 595. Facile gas-phase self-assembly of noble metal-decorated hybrid nanoparticles for biomedical and photocatalytic applications. D. Tsai, Y. Chen

10:00 Intermission.


11:15 598. Oral redox nanotherapeutics for treatment of ulcerative colitis and colon cancer. B. Vong, Y. Nagasaki

Section D

Photoresponsive Nanoparticles: From Fundamentals of Excitation to Applications

Devices

Y. Han, Organizer
B. G. DeLacy, Y. Sun, Organizers, Presiding
8:30 599. Low-threshold optical gain and lasing with colloidal semiconductor nanoplatelets. M. Pelton

9:00 600. Metal halide perovskite nanocrystals: Doping and surface-engineering for efficient optoelectronics. J. Pan, R. Begum, L. Quan, I. Dursun, B. Ooi, E. Sargent, O.F. Mohammed, O.M. Bakr

9:30 601. Solution-processed nanomaterials for efficient optoelectronic devices. F. Garcia de Arquer, E. Sargent

10:00 Intermission.

10:20 602. Plasmonic detection of reactions on nanostructures. E. Borguet

10:50 603. Optically-thin metallic films for high-radiative-efficiency plasmonics. B. Zhen, Y. Yang, O. Miller, C. Hsu, J. Joannopoulos, M. Soljacic

Section E

Walter E. Washington Convention Center
Room 209B

Basic Research in Colloids, Surfactants & Nanomaterials

Interfacial Interactions

R. Nagarajan, Organizer
V. Sharma, Presiding


8:50 605. Supramolecular structural forces influence drainage and stratification kinetics in stratifying foam films. S. Yilixiati, R. Rafiq, Y. Zhang, V. Sharma


10:30 610. Quantifying nanoparticle stability and aggregation dynamics as a function of organic coating structure and density. C. Kim, S. Lee, J. Fortner

10:50 611. Functional groups on carbon nanotubes are not necessary for their covalent attachment to surfaces. M. Williams, F. Gao, I. Ben Dhiab, A.V. Teplyakov

11:10 612. Synthesis and characterization of methyl-terminated partially fluorinated alkanethiols. R. Ghanbaripour, O. Zenasni, M.D. Marquez, T. Lee

Section F

Walter E. Washington Convention Center
Room 209A

Frontier of the Interface of Materials & Biology: Click Chemistry Approaches to Bio-Inspired Materials

V. O. Rodionov, Q. Wang, Organizers, Presiding


8:50 614. Versatile single chain polymeric nanoparticles via thiol-Michael addition. P. Kröger, J.M. Paulusse


9:30 616. Fluorescent dye loaded resorcinarene cavitand nanocapsules. B. Ramjee, S. Allmon, K. Mahadevan

9:50 617. Fluorescent functionalization across the quaternary structure of virus-like particles. Z. Chen, J.J. Gassensmith

10:10 618. Analysis of noble polymer micelle by double hydrophilic block glycopolymer. T. Oh, M. Nagao, Y. Hoshino, Y. Miura

10:30 619. Solid phase assisted split & combine approach towards branched precision glycomacromolecules. M. Baier, M. Giesler, L. Hartmann
Walter E. Washington Convention Center  
Room 204C

Multimodal Imaging with Colloids

P. del Pino, L. Liz Marzan, W. Parak, Organizers  
J. V. Jokerst, Organizer, Presiding

8:30 620. Polymeric nanocapsules for theranostics. **B. Pelaz**

9:00 621. Targeted delivery of zinc phthalocyanine (ZnPc) using liquid crystal nanoparticle for effective photodynamic therapy. **O.K. Nag**, J. Naciri, K. Burn, J. Delehanty


10:00 Intermission.


11:00 624. Colloidal tetrapyroroles as high contrast, multimodal biomedical imaging agents. **J. Lovell**

11:30 625. Hybrid nanocomposites based on nanoMOFs and nanoparticles for theragnostic applications. **P. del Pino**

Nanoscale Sensing in Foods & Other Complex Media

Sponsored by AGFD, Cosponsored by AGRO, ANYL, COLL, ENVR and INOR

THURSDAY AFTERNOON

Nanoscale Sensing in Foods & Other Complex Media

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