

2009 Spring Meeting

2009 Spring NATIONAL ACS MEETING

Salt Lake City, UT (March 22-26, 2009)

Program Meeting Chair: [Jeffrey Linhardt](#)

Deadline for Abstracts and Polymer Preprints: Oct. 22, 2008.*

***for general papers and some symposia (some symposium organizers may set an earlier deadline).**

Active and Responsive Surfaces

Ryan C. Hayward, Department of Polymer Science and Engineering, University of Massachusetts, Conte Research Center, 120 Governors Drive, Amherst, MA 01003; Wilhelm T. S. Huck, Department of Chemistry, Cambridge University UK, Lensfield Road, Cambridge CB2 1EW United Kingdom.

[Excellence In Graduate Polymer Research](#)

H. N. Cheng, Hercules Incorporated Research Center, 500 Hercules Road, Wilmington, DE 19808-1599; Erica H. Martin, Rohm and Haas Company, 727 Norristown Rd, Spring House, PA 19477; Tim E. Long, Department of Chemistry, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061-0344; Christopher J. Ellison, Dept. of Chemical and Biological Engineering, Northwestern University, Evanston, IL 60208

Health and Safety Concerns of Polymeric Nanomaterials

Debbie M. Decker, Office of Environmental Health and Safety, University of California, Davis, 1 Shields Ave, Davis, CA 95616; Joseph M. Pickel, Center for Nanophase Materials Science, Oak Ridge National Laboratory, 1 Bethel Valley Road, Oak Ridge, TN 37831-6494

Ion-Containing Polymers for New Technologies

Brian D. Mather, Hewlett-Packard, San Diego, CA 24061; Tim E. Long, Department of Chemistry, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061-0344; Robert B. Moore, Department of Chemistry, Virginia Polytechnic Institute and State University, 1016 Hahn Hall, Blacksburg, VA 24061; Ralph Colby, Department of Materials Science and Engineering, Penn State University, 309 Steidle Building, University Park, PA 16802

[Nanostructured Materials for Future Therapy](#)

Xinqiao Jia, Department of Materials Science and Engineering, University of Delaware, 201 Dupont Hall, Newark, DE 19716; Sheng Lin-Gibson, Polymers Division, NIST, 100 Bureau Drive, Stop 8543, Gaithersburg, MD 20899; Yoon Yeo, Departments of Pharmaceutics and Biomedical Engineering, Purdue University, 575 Stadium Mall Drive, West Lafayette, IN 47907-2091

Off the Beaten Path - Alternative Career Options for a Degree in Polymer Science

Erica H. Martin, Rohm and Haas Company, 727 Norristown Rd, Spring House, PA 19477; Kathleen O. Havelka, Lubrizol, Wickliffe, OH 44092

[Polymerization in Nanostructured and Nanocomposite](#)

C. Allan Guymon, Department of Chemical and Biochemical Engineering, University of Iowa, Seamans Center 4125, Iowa City, IA 52242; Christopher N. Bowman, Department of Chemical Engineering, University of Colorado Boulder, CB 424, Boulder, CO 80309-0424

[Polymers and Carbon Nanotubes](#)

Warren T. Ford, Department of Chemistry, Oklahoma State University, 107 Physical Science, Stillwater, OK 74078; Brian P. Grady, School of Chemical, Biological and Materials Engineering, University of Oklahoma, 100 East Boyd EC Room T-223, Norman, OK 73019; Pulickel M. Ajayan, Department of Mechanical Engineering and Materials Science, Rice University, Department of Mechanical Engineering and Materials Science, P.O. Box 1892, Houston, TX 77251; Ramanan Krishnamoorti, Department of Chemical & Biomolecular Engineering, University of Houston, Houston, TX 77204-4004

Polymers for Photonics and Optoelectronics

Paul V. Braun, Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, 1304 West Green Street, Urbana, IL 61801; George Malliaris, Department of Materials Science and Engineering, Cornell University, Cornell University, 327 Baird Hall, Ithaca, NY 14853

[Polymers in Electrophotography](#)

Yuhua Tong, Xerox Corporation, MS: 0143-02S, 800 Phillips Rd, Webster, NY 14580; Thomas W. Smith, Department of

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Chemistry, Rochester Institute of Technology, 85 Lomb Memorial Drive, Rochester, NY 14623; Wayne Ferrar, Eastman Kodak Company, 2600 Manitou Road, Rochester, NY 14653-4180, Tel: (585)-722-0574, E-mail: wayne.ferrar@kodak.com.

Carl S. Marvel Creative Polymer Chemistry Award

Organizers: TBD

Undergraduate Research in Polymer Science

Sarah E. Morgan, Ph.D., Associate Professor of Polymer Science, School of Polymers and High Performance Materials, University of Southern Mississippi, Phone: 601-266-5296, E-mail: Sarah.Morgan@usm.edu, Sergei Nazarenko, Ph.D., Assistant Professor of Polymer Science, School of Polymers and High Performance Materials, University of Southern Mississippi, Phone: 601-266-5967, E-mail: Sergei.Nazarenko@usm.edu

General Papers: New Concepts, Polymer Synthesis, Polymer Characterization, Nanomaterials, Functional Materials

D. Garcia, Arkema Inc., 900 First Avenue, King of Prussia, PA 19406, 610-878-6731, e-mail: dana.garcia@arkemagroup.com.

Program Not Yet Complete -- Run Data Integrity Report to Identify Errors

Times, days, and paper numbers may not be final.

J. G. Linhardt, G. N. Tew, and K. L. Kiick, Program Chairs

OTHER SYMPOSIA OF INTEREST:

ACS Award in Applied Polymer Science: Symposium in Honor of Benny D. Freeman (see *PMSE*, Sun, Mon)

Cooperative Research Award Symposium in Honor of Professor Robert Waymouth and Dr. James Hedrick (see *PMSE*, Sun)

Degradable Polymers: From Synthesis to Nanotechnology (see *PMSE*, Tue)

Functional Polymer Nanocomposites for Energy Storage and Conversion (see *PMSE*, Mon, Tue)

Multiphase Polymer Materials: From Fundamentals to Applications (see *PMSE*, Sun, Mon, Tue, Wed, Thu)

Nanostructured Block Copolymer Materials (see *PMSE*, Sun, Mon, Tue)

Novel Applications of Supramolecular Materials (see *PMSE*, Thu)

Polymers for Microencapsulation and Coating Technologies (see *PMSE*, Wed)

Detection and Monitoring of Engineered Nanoparticles in Environmental and Biological Systems (see *COLL*, Sun)

Frontier Applications of Nanotechnology in Engineering Extracellular Matrices (see *COLL*, Wed, Thu)

Frontiers in Nanoparticle and Nanoporous Materials (see *COLL*, Sun, Mon, Tue, Wed, Thu)

Lipid Assemblies: Preparation, Characterization and Applications (see *COLL*, Wed, Thu)

Polymeric Microcapsules: Theory, Experiment and Applications (see *COLL*, Sun, Mon, Tue)

Structure and Function of Membranes, Proteins, and Lipids (see *COLL*, Sun, Mon, Tue, Wed, Thu)

The Influence of Ions and Osmolytes on Aqueous Macromolecules (see *COLL*, Mon, Tue)

Biomedical Applications of Polysaccharide-based Materials (see *CELL*, Mon)

Protein Adhesives, Hydrogels, Films, Sponges, and Scaffolds (see *CELL*, Tue)

Water Soluble Polymers from Cellulose: Materials and Applications (see *CELL*, Thu)

Genetically Designed Molecular Materials (see *NANO*, Sun, Mon, Tue)

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ACS Award for Creative Invention: Symposium in Honor of Robert H. Grubbs (see *ORGN*, Tue)

Material, Devices and Switches (see *ORGN*, Sun)

Molecular Recognition and Self-Assembly (see *ORGN*, Tue, Wed)

Peptides, Proteins and Amino Acids (see *ORGN*, Tue)

Physical Organic Chemistry, Molecular Recognition, Self-Assembly and Biomolecules (see *ORGN*, Tue)

Membranes for Fuel and Energy Applications (see *FUEL*, Mon)

SUNDAY MORNING

Unknown Site -- Unknown Room

Section A

Ion-Containing Polymers for New Technologies

Fundamentals and Applications

Cosponsored by PMSE

R. B. Moore, T. E. Long, and R. Colby, *Organizers*

S. M. Ramirez, *Presiding*

8:30 —1. Synthesis of ion-containing polymers: New strategies and structures. **A. Mueller**

9:10 —2. Control of polymer properties via ionic interactions: An overview. **A. Eisenberg**

9:50 —3. Unified morphological model for ionomers with ordered aggregate structures. **B. P. Grady**

10:15 —4. Synthesis of functional ionenes for nonviral gene transfection. S. M. Ramirez, N. G. Moon, M. A. Lang, **T. E. Long**

10:40 —5. Crystalline component in fuel cell membranes. J. K. Park, **R. B. Moore**

11:05 —6. Efficient synthesis and properties of anion exchange membranes. **M. A. Hickner**, J. Yan

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Section B

Polymers and Carbon Nanotubes

Tutorial on Carbon Nanotubes

Cosponsored by COLL, IEC, PHYS, PMSE, and NANO

B. P. Grady, P. M. Ajayan, and R. Krishnamoorti, *Organizers*

W. T. Ford, *Organizer, Presiding*

8:30 —7. Tutorial on the purity of single-walled carbon nanotubes: Relationship to chemistry, properties and applications. **R. C. Haddon**

9:10 —8. Organic functionalization of carbon nanoforms. **M. Prato**

9:50 —9. Spectroscopic characterization of single-walled carbon nanotube samples. **R. B. Weisman**

10:30 — Intermission.

10:45 —10. Single walled carbon nanotube reference materials. **K. B. Migler**, J. A. Fagan

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11:25 —11. Commercial status of carbon nanotubes. **P. M. Ajayan**

Section C

Unknown Site -- Unknown Room

Undergraduate Research in Polymer Science

S. E. Morgan and S. Nazarenko, *Organizers*

8:30 —12. Atomic force microscopy of high molecular weight thin film polymer blends compatibilized with triblock and graft copolymers. **E. M. Zimmerman**, D. A. Waldow

8:50 —13. Hierarchical block copolymer microstructures as multiresponsive materials. **S. L. Young**, S. Chang, S. Singanamani, V. V. Tsukruk

9:10 —14. Interactions between chitosan and selected anionic polymers for mucoadhesive drug delivery in the nasal cavity. **A. Cox**, R. Lochhead

9:30 —15. Metal-organic biopolymers: Self-assembly and thermoplastic properties. **G. Escalera**, B. M. Porta, A. Metta, I. Rodriguez, D. Valles, J. C. Noveron

9:50 — Intermission.

10:05 —16. Polymer modified gold/gadolinium nanoparticles for targeted multimodal imaging and photothermal treatment. **C.-C. G. Chang**, M. D. Rowe, S. G. Boyes

10:25 —17. Proliferation of aortic adventitial fibroblasts on novel polyisobutylene-based thermoplastic elastomers. L. Munoz-Robledo, **S. Poroski**, M. Evancho-Chapman, S. Schmidt, J. E. Puskas

10:45 —18. Protein resistant silicones prepared with branched PEO silanes. **B. M. Bailey**, R. Murthy, M. A. Grunlan

11:05 —19. Nucleophilic aromatic substitution polymerization of 2,7-difluorothianthrene for the synthesis of novel poly(arylene sulfide)s. **M. J. Robb**, D. M. Knauss

11:25 —20. The effects of pH on the polymerization of methylene green. **J. W. Breeden**, M. N. Germain, S. D. Minter

Section D

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Off the Beaten Path: Alternative Career Options for a Degree in Polymer Science

Cosponsored by CEPA

E. H. Martin and K. O. Havelka, *Organizers*

8:30 —21. Beating a path to patents: A practitioner's perspective. **J. K. Pike**

9:00 —22. Career opportunities for chemists and chemical engineers in technical service and market development roles. **J. Gavenonis**

9:30 —23. Catalyzing an alternative career path. **J. L. Petoff**

10:00 — Intermission.

10:15 —24. From polymer synthesis to open innovation transactions: A hybrid technical career. **C. Smith**

10:45 —25. Publishing in polymer science. **S. Kalveram**

11:15 — Panel Discussion: Career path experiences of polymer scientists.

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Frontiers in Imaging Biological Nanostructures

Sponsored by BIOL, Cosponsored by ANYL, COLL, PHYS, POLY, and NANO#

Green Nanoscience

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

SUNDAY AFTERNOON

Unknown Site -- Unknown Room

Section A

Ion-Containing Polymers for New Technologies

Emerging Technologies

Cosponsored by PMSE

R. B. Moore, T. E. Long, and R. Colby, *Organizers*

M. A. Hickner, *Presiding*

2:00 —26. Tracking nucleic acid delivery with the help of lanthanide containing polymers. **J. M. Bryson**, K. M. Fichter, P. M. McLendon, T. M. Reineke

2:25 —27. Ion-containing polyphosphazenes and their potential applications in life sciences. **A. K. Andrianov**

2:50 —28. Synthesis of photocrosslinkable aliphatic based ammonium ionenes. **S. M. Ramirez**, M. A. Lang, S. R. Williams, T. E. Long

3:15 —29. Ion-containing polymer-surfactant association for improved tissue compatibility. **R. M. Walters**, M. J. Fevola, H. Jerri, J. J. LiBrizzi, K. Martin

3:40 —30. Control of morphology by counterion in fluorinated polymer/polyelectrolyte blends for fuel cell membranes. **S. Norvez**, C. M. Gibon, S. Tencé-Girault, J. T. Goldbach

4:05 —31. Smooth high capacitance thin film dielectrics prepared from poly(styrene-b-ethylene oxide-b-styrene)/lithium perchlorate blends. **J. Chen**, C. D. Frisbie, F. S. Bates

4:30 —32. Polyaniline nanofiber/silica aerogel composites with improved strength and sensor applications. **D. J. Boday**, D. A. Loy

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Section B

Polymers and Carbon Nanotubes

Dispersion and Functionalization

Cosponsored by COLL, IEC, PHYS, PMSE, and NANO

W. T. Ford, B. P. Grady, P. M. Ajayan, and R. Krishnamoorti, *Organizers*

Y -P. Sun, *Presiding*

1:15 —33. Metrology of single-walled carbon nanotube products manufactured in large scale. **D. E. Resasco**

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1:45 —34. Dispersion and exfoliation of graphite using surfactants. **J. N. Coleman**

2:15 —35. Functionalization and patterning of single-walled carbon nanotubes using conjugated polyelectrolytes. **A. Adronov**, F. Cheng, P. Imin

2:45 — Intermission.

3:00 —36. Use of closeable cyclic peptides and other designed biomolecules for the noncovalent functionalization of carbon nanotubes. **G. R. Dieckmann**, I. H. Musselman, S. O. Nielsen, E. J. Becraft, A. S. Klimenko, J. H. Nguyen

3:20 —37. Diameter separation of carbon nanotubes using helical assemblies of flavin mononucleotide. S -Y. Ju, **F. Papadimitrakopoulos**

3:50 —38. Examining the livingness and nitroxide radical exchange of nitroxide mediated-radical polymerization from carbon nanotube surfaces. **S. M. Ramirez**, D. Y. Sogah

4:10 —39. Importance of chain connectivity in the formation of noncovalent interactions between polymers and single-walled carbon nanotubes and its impact on polymer-SWNT dispersion. D. Linton, B. C. Miller, H. Li, C. Feigerle, B. G. Sumpter, **M. D. Dadmun**

4:30 —40. How can the surfaces curvature of carbon nanotubes determine the adsorption of polymer chains? **B. Haidar**, N. Durand, O. M

Section C

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Carl S. Marvel Creative Polymer Chemistry Award in Honor of Geoffrey Coates

Cosponsored by ORGN and PMSE

K. L. Kiick, *Organizer*

S. R. Turner, *Presiding*

1:15 —41. Iptycenes in the design of new materials. **T. M. Swager**

1:40 —42. Green coatings: Tailoring interactions of polymers with their environment. **C. K. Ober**

2:05 —43. New advances in olefin block copolymers: From polydispersity effects on phase behavior to photonic polyethylenes. **P. D. Hustad**, G. R. Marchand, E. Garcia-Meitin, P. L. Roberts, J. D. Weinhold

2:30 —44. Orthogonal chemistry for the synthesis of functionalized macromolecules. **C. J. Hawker**

2:55 —45. A new method for controlling polymer microstructure. **C. W. Bielawski**

3:20 —46. Synthesis of new renewable polymers from terpenes. **M. A. Hillmyer**

3:45 —47. Mechanochemical reactions for mechanoresponsive materials. **J. S. Moore**

4:10 —48. Catalysts for the synthesis of new polymer architectures. **G. W. Coates**

Frontiers in Imaging Biological Nanostructures

Sponsored by BIOL, Cosponsored by ANYL, COLL, PHYS, POLY, and NANO#

Nanoscience: Characterization and Applications

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

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Nontraditional Careers in Chemistry

Sponsored by YCC, Cosponsored by Chemical Information Careers Committee, CINF, CHAL, SOCED, CEPA, SCHB[‡], and POLY

SUNDAY EVENING

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Section A

Excellence in Graduate Polymer Research

Cosponsored by PROF, SOCED, YCC, and PRES

H. N. Cheng, E. H. Martin, T. E. Long, and C. J. Ellison, *Organizers*

6:00 - 8:00

- 49.** Understanding the role of glycosaminoglycans in cell surface binding of poly(glycoamidoamine) DNA delivery vectors. **P. M. McLendon**, E. M. Davis, T. M. Reineke
- 50.** Structural analysis of heterogeneity in spider dragline silk using stable isotope-labeled sequential peptides and solid-state NMR. **E. Yamaguchi**
- 51.** Grafting of linear and branched PEO via siloxane tethers for enhanced protein resistance. **R. Murthy**, C. E. Shell, B. M. Bailey, M. A. Grunlan
- 52.** Anionic synthesis of chain-end and in-chain, cyano-functionalized polystyrenes by hydrosilation of allyl cyanide with silyl hydride-functionalized polystyrenes. R. P. Quirk, **J. E. Janoski**, S. R. Chowdhury, C. Wesdemiotis, D. E. Dabney
- 53.** Conformational programmable polymers based on restricted rotation with atropisomeric recognition motif. **Y. Zhang**, K. D. Shimizu
- 54.** Crosslinking of reactive lyotropic liquid crystals for phase retention. **L. Sievens-Figueroa**, C. A. Guymon
- 55.** Synthesis and directed magnetic assembly of ferromagnetic cobalt nanoparticles and cobalt oxide nanowires. **P. Y. Keng**, J. Pyun
- 56.** Elaboration of octavinylsilsesquioxane: A perfect nanobuilding block. **S. Sulaiman**, A. Bhaskar, J. Zhang, R. Guda, T. Goodson III, R. M. Laine
- 57.** Pyrene functionalized hollow polymer capsules. **X. Liu**
- 58.** Effects of surface modification of the filler on the impact toughness of polypropylene/CaCO₃ nanocomposites. **L. Yong**, H. Chen, C.-M. Chan, J. Wu

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Section B

General Papers

Polymer Synthesis and Characterization

D. Garcia, *Organizer*

6:00 - 8:00

- 59.** Solution behavior of polystyrene-bound terpyridine complexes in nonpolar solvents. **I. M. Henderson**, R. C. Hayward

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60. Effect of gamma radiation on fluoropolymers. **A. Contreras-García**, E. Bucio, F. Leon-C, C. J. Booth, P. E. Cassidy
61. Online monitoring of the RAFT polymerization of styrene mediated by vinylbenzyl dithiobenzoate. **A. J. Heidenreich**, J. E. Puskas, W. F. Reed, A. M. Alb
62. Tracking UV-VIS footprints: Using PDA for polymer analysis. **J. C. Sanchez**
63. Solvent enhanced light scattering (SELS) for GPC. **J. C. Sanchez**, W. Wong, C. Mirle, S. Daughtry
64. Digitally encoded nanoscopic fibers prepared by electrospinning. **C. Huang**, B. Lucas, K. Braeckmans, J. Demeester, S. De Smedt
65. Reinforcement effect of alkali-hydrolyzed wheat gluten and shear-degraded wheat starch in carboxylated styrene-butadiene composites. **L. Jong**
66. Rheological behavior and morphology of polyhedral oligomeric silsesquioxane (POSS) epoxy nanocomposites. **S. Kar**, J. S. Wiggins
67. Viscoelastic properties of wheat gluten/thiolated poly(vinyl alcohol) aqueous solutions. **J. Dong**, R. Parnas, A. D. Asandei
68. Polystyrene with higher T_g prepared based on H-bond interactions. **B. Cheng**, J. Agalia, B. Mao, H. Cheradame
69. Microstructural analysis and physical properties of repeating sequence PLGA copolymers. **R. M. Stayshich**, T. Y. Meyer
70. Confocal Raman spectroscopy analysis of multilayer polymer films. **D. Garcia**, E. Rondele
71. End-group characterization of poly(O-benzyl-L-tyrosine) by NALDITM-TOF MS. **D. L. Pickel**, J. M. Messman, N. Politakos, A. Avgeropoulos
72. Impact of ionic strength on the adhesion characteristics of solid polymer-clay films. E. A. Stefanescu, **C. Stefanescu**, I. I. Negulescu, W. H. Daly
73. Robust self-assembly of highly ordered complex structures by controlled evaporation of confined microfluids. **Z. Lin**, S. W. Hong, M. Byun
74. Hollow nanostructures from self-assembled metallo block copolymers. **A. O. Moughton**, K. Stubenrauch, R. K. O'Reilly
75. Smart films obtained from block copolymers of various vinyl ethers: Primary structures of polymers and controlled surface responsiveness. **H. Tsujimoto**, S. Kanaoka, S. Aoshima
76. Self-assembling protein (ABH1 hydrophobin) from *Agaricus bisporus*, optimization of isolation and characterization. L. Paslay, L. M. Harris, C. A. Harris, G. C. Cannon, S. Heinhorst, **S. E. Morgan**
77. Hierarchically structured regioregular conjugated polymer via evaporative self-assembly. **Z. Lin**, M. Byun, R. Laskowski, F. Qiu, M. Jeffries-El
78. Synthesis and self-assembly of multiblock comb copolymers by ROMP and ATRP. **M. B. Runge**, J. Yoo, N. B. Bowden
79. Evaporative organization of hierarchically structured polymer blend rings. **Z. Lin**, M. Byun, S. W. Hong, F. Qiu
80. Di-isocyanate crosslinked silica aerogels with hexyl links incorporated into the underlying silica backbone. **S. L. Vivod**, M. A. B. Meador, B. N. Nguyen, R. Perry
81. Dispersion characteristics of polyhedral oligomeric silsesquioxane nanostructured chemicals into a bisphenol-A epichlorohydrin/3,3'' DDS epoxy system. **R. D. Cook**, S. Kar, Y. Wei, R. Misra, J. S. Wiggins, S. E. Morgan
82. Preparation of porous carbon microsphere with thermosetting resin. **R. Matsushima**, **Y. Takizawa**, M. Suzuki, H. Tomosaka, **M. Ota**

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83. Synthesis of controlled functional nanoparticles. **P. Driva**, J. Mays, D. Baskaran, V. Urban, G. Sakellariou
84. Well defined base layers for clicking polymer brushes. **J. P. Hinestrosa**, B. Lokitz, J. M. Messman, J. Ankner, S. M. Kilbey II
85. Synthesis and application for electrolyte membrane of multiblock polysulfone derivatives with sulfonic acid groups in the main chain. **Y. Teraji**, K. Fukagawa, T. Hayakawa, M -A. Kakimoto, S. Suehiro, K. Terada, S-I. Shimada
86. Development of a one pot hydrophobic modification of chitosan toward the development of a ferrocene-mediated laccase biocathode. **J. Wildrick**, P. A. Jelliss, S. D. Minter
87. One-pot synthesis of stereoregular ω -chain end functional star-shaped poly(lactide)s. **M. J. Stanford**, A. P. Dove
88. Thermodynamics of complementary molecular interaction of sodium carboxymethylcellulose with natural and synthetic polyelectrolytes. R. S. Tillaev, **K. I. Akbarov**, B. Umarov, N. Zokirova
89. Synthesis and characterization of flexible fluorinated multiblock SPTES-based copolymers as proton exchange membranes. **Z. Bai**, B. E. Taylor, S. Juhl, L. F. Drummy, M. Durstock, T. Dang
90. Tailoring the degree of branching in hyperbranched poly(arylene ether sulfone)s prepared via an $A_2 + BB'B''$ approach. **S. Raghavapuram**, Z. Yu, M. Simons, E. Fossum
91. Synthesis of di(3-azido-2-hydroxypropyl) ether of bisphenol-A under mild aqueous conditions. **I. E. Gorman**, A. J. D. Magenau, R. L. Willer, R. F. Storey
92. Synthesis and characterization of primary amine omega-functionalized polystyrene. **J. M. Messman**, D. L. Pickel, D. W. Uhrig, J. W. Mays
93. 1-Butyl-3-methylimidazolium acetate as a solvent media for functionalization of chitosan. **C. Stefanescu**, W. H. Daly, I. I. Negulescu
94. Asymmetric polymerization of maleimide bearing amino acid derivative and optical resolution ability of their polymers. **T. Oishi**, K. Yamabuki, K. Onimura
95. Synthesis and characterization of poly 2-vinyl-4,4-dimethylazlactone (PVDMA) brushes. **B. Lokitz**, J. M. Messman, J. P. Hinestrosa, J. Ankner, S. M. Kilbey II
96. Photopolymerization on peptide microtubule surfaces. **E. M. Smoak**, I. A. Banerjee
97. Crosslinking reaction of amorphous aliphatic diacetylene-containing polymers. **T. Ogawa**, M. F. Beristain, M. E. Hernandez-Rojas
98. Oligomerization of diphenylbutadiyne by gamma ray irradiation in molten state. **M. F. Beristain**, T. Ogawa, Y. Maekawa, E. Muñoz
99. Controlled cationic copolymerization of benzaldehyde or its derivatives with vinyl ethers in the presence of an added base. **Y. Ishido**, R. Aburaki, S. Kanaoka, S. Aoshima
100. Living cationic polymerization of styrene derivatives using $SnCl_4/EtAlCl_2$ in the presence of a Lewis base. **J. Ashida**, H. Yamamoto, M. Yonezumi, S. Kanaoka, S. Aoshima
101. Heterogeneous living cationic polymerization using heteropoly acids in the presence of an added base. **Y. Matsuo**, S. Kanaoka, S. Aoshima
102. Synthesis and architectural analysis of arborescent (dendritic) polystyrenes. **A. J. Heidenreich**, J. E. Puskas
103. Synthesis and characterization of N-vinyl triazoles based monomer and polymers. **H. B. Nulwala**, K. Takizawa, C. J. Hawker
104. Novel branched poly (ethylene glycol) derivatives for bioconjugate. **Y. Yamamoto**, H. Yoshioka, T. Takehana, S. Yoshimura, K -I. Nakamoto, K. Kubo

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- 105.** Effect of monomer geometry on extent of cyclization in polycondensation reactions. **A. M. Elsen**, E. Fossum
- 106.** Highly active and recyclable catalytic system for CO₂/(propylene oxide) copolymerization. S. Sujith, **A. Cyriac**, J. Seong, B. Y. Lee
- 107.** Crosslinking reaction of poly(vinyl alcohol) with glyoxal. **Y. Zhang**, P. Zhu, D. Edgren
- 108.** A mild and efficient route for the conversion of thiol to aldehyde function in glucosaminoglycans. O. P. Varghese, **D. A. Ossipov**, J. Hilborn
- 109.** Isocyanate, thiol, epoxide and hydroxy functionalized silane coated alumina/wheat gluten blends. **S. Hemsri**, C. P. Simpson, R. Parnas, A. D. Asandei
- 110.** Star-shaped poly(acrylic acid)s via atom transfer radical polymerization for improved dental cements. **J. Zhao**, D. Xie
- 111.** Comparing epoxide, aldehyde, halide and peroxide initiators for the Cp₂TiCl-catalyzed styrene living radical polymerization. **A. D. Asandei**, Y. Chen, G. Saha, I. W. Moran
- 112.** Carbonyl initiated Cp₂TiCl-catalyzed controlled radical polymerization of isoprene. **A. D. Asandei**, A. Olumide, H. S. Yu, C. P. Simpson, M. Gilbert
- 113.** Synthesis and characterization of thermoresponsive poly(N-isopropylacrylamide)-polymeric soybean oil conjugates. **A. Alli**, B. Hazer
- 114.** Self condensing polymerization of a novel macromonomer initiator based on polyethylene glycol via atom transfer radical polymerization. **A. Alli**, B. Hazer
- 115.** Synthesis of new phenyl-ethynyl end-capped poly-p-phenylene high-performance composite resins. **M. E. Wright**, E. T. Abernethy, J. Cash, A. J. Guenther, G. Yandek
- 116.** Synthesis and properties of novel poly(9,9-dihexylfluorene-2,7-diyl-co-9,9-dihexylfluorene-3,6-diyl)s and their model oligomers. **N. Fomina**, T. E. Hogen-Esch
- 117.** Doping of polyaniline by carboxylic acid- and sulfonic acid - terminated poly(ether-ketone). **S -W. Kang**, I. Y. Jeon, L. S. Tan, J -B. Baek
- 118.** Purification of carbon nanopowders and diamond nanopowders in polyphosphoric acid/phosphorous pentoxide. **J -K. Lim**, L. S. Tan, J -B. Baek
- 119.** Efficient thermal transformation of poly(methylsilene) to SiC ceramics via crosslinking process catalyzed by group 4 and 6 complexes. **H -G. Woo**, M -H. Kim, K -S. Yang, M -S. Cho, Y -C. Ko, H. Li
- 120.** Intermediary layer crosslinked micelles from photocrosslinkable amphiphilic ABC triblock copolymers. **J. S. Kim**, H. J. Jeon, M. S. Park, Y. C. You, S. H. Kim, J. H. Youk
- 121.** Reduced excimer formation in polyfluorenes by introducing coil-like poly[penta(ethylene glycol) methyl ether methacrylate] block segments. **Y. S. Ko**, H. S. Kim, H. S. Park, H. J. Kim, M. S. Kim, K. B. Kim, J. H. Oh, Y. K. Kwon
- 122.** Immobilization of titanium complex with bis(phenoxy-imine) ligands on silica for the preparation of ultrahigh molecular weight polyethylene. **J. H. Woo**, Y -S. Ha, Y -J. Shin, S. C. Hong
- 123.** Enzymatic surface modification of polyester fabrics. **H. Li**, J. Gong, J. Zhang
- 124.** Effect of particle size on self-organized film-formation of emulsifier-free fluorinated polyacrylates latex blends. **Y. Chen**, H. Zhou
- 125.** Novel pH-sensitive and freeze-thawed carboxymethyl chitosan/poly(vinyl alcohol) blending hydrogel for protein delivery. **Y. Du**, Y. Li
- 126.** Synthesis and thermal behaviors of side-chain liquid crystalline poly[1-(((4-methoxyazobenzene-4'-oxy)alkyl)thio)-

2009 Spring Meeting

2,3-epithiopropene]. **C. He, C. Zhang**

127. Effect of sequence distribution of PES/PEES copolymers on excimer formation in solution. **X -M. Zhou Sr.**

128. Copolymerization of 5,6-dihydrodicyclopentadiene and ethylene. **S. J. Na, J. Yoo, B. Y. Lee**

129. Binding constant of inclusion association between pyrene and beta-cyclodextrin grafted to poly(acrylic acid) determined by fluorescence spectroscopy. P. Liu, L. Li, H. Ke, **X. Guo**

Section C

Unknown Site -- Unknown Room

Ion-Containing Polymers for New Technologies

R. B. Moore, T. E. Long, and R. H. Colby, *Organizers*

6:00 - 8:00

130. Proton conducting sulfonated poly(styrene-*b*-ethylene/butylene-*b*-styrene)/silicated nanocomposite membranes as models for polymer electrolyte membranes. **H. Chen, K. A. Mauritz**

131. Sulfonated polyarylenes via Friedel-Crafts catalysis: Synthesis and characterization. **S. M. Budy, D. A. Loy**

Section D

Unknown Site -- Unknown Room

Undergraduate Research in Polymer Science

S. E. Morgan and S. Nazarenko, *Organizers*

6:00 - 8:00

132. Clay aerogel supported metallic nanoparticles for the purpose of liquid and gas phase hydrogenation. **J. J. Griebel, M. D. Gawryla, D. A. Schiraldi**

133. Controlled free radical polymerization of trioctylamine styrene sulfonate. **K. L. Pollock, K. A. Cavicchi**

134. Creating a library of complex patterns of Au nanostructures via harnessing the elastic instability of a single PDMS membrane. **J. C. Reed, Y. Zhang, S. Yang**

135. Nucleophilic aromatic substitution behavior of 3,5-difluorobenzophenone: Synthesis of poly(arylene ether)s with pendant benzoyl groups. **D. van Beek, E. Fossum**

136. Preparation of polymersomes from ABA triblock polymers for biodetection applications. **S. A. Sullivan, B. Yuan, S. Heinhorst, G. C. Cannon, S. E. Morgan**

137. Polymers containing π -binding pendant substituents for association to single walled carbon nanotubes. **A. M. Savage, R. M. Walczak, M. Ertas, R. K. Das, S. Vasilyeva, M. Craps, B. Liu, E. M. van der Aa, A. G. Rinzler, J. R. Reynolds**

138. Polymer encapsulated green fluorescent protein. **I. Lee, A. P. Platt, S. L. Goh, Z. C. Dinu, J. Dordick**

139. Production of the FhuA(Δ 1-160) deletion mutant for use in biosensor applications. **L. M. Harris, G. C. Cannon, S. Heinhorst, S. E. Morgan**

140. Synthesis and aggregation studies of PEG-peptide block copolymers. **J. R. Taft, K. E. Rutledge, A. P. Platt, S. L. Goh**

MONDAY MORNING

Section A

Unknown Site -- Unknown Room

2009 Spring Meeting

ACS Award in Polymer Chemistry: Symposium in Honor of Takuzo Aida

G. N. Tew, *Organizer*

S. I. Stupp, E. W. Meijer, and D. Tirrell, *Organizers, Presiding*

8:30 —141. Molecular design of functional nanostructures. **S. Hecht**

9:00 —142. Aqueous assembly of amphiphilic rods into dynamic nanostructures. **M. Lee**

9:30 —143. Chemiresistive polymers and materials for chemical sensors. **T. M. Swager**

10:00 —144. Complex nanostructures for imaging and therapeutic delivery in the diagnosis and treatment of high-grade gliomas in children. W. Du, A. M. Nyström, R. Shrestha, S. Taylor, Z. Xu, S. Stewart, J. Leonard, **K. L. Wooley**

10:30 —145. Harnessing multiple self-assembling processes for the fabrication of complex nanostructures. **C. J. Hawker**, G. H. Fredrickson, E. J. Kramer, C. Tang, M. D. Dimitriou

11:00 —146. Precision radical polymerization toward new functional materials and beyond. **M. Sawamoto**, T. Terashima, M. Ouchi

11:30 —147. Controlling macromolecular heterogeneity by atom transfer radical polymerization. **K. Matyjaszewski**

Section B

Unknown Site -- Unknown Room

Polymers and Carbon Nanotubes

Processing of Composites

Cosponsored by COLL, IEC, PHYS, PMSE, and NANO

W. T. Ford, P. M. Ajayan, and R. Krishnamoorti, *Organizers*

B. P. Grady, *Organizer, Presiding*

8:30 —148. Properties of carbon nanotube fibres and their composites. V. Juan, M. Raphael, **A. H. Windle**

9:00 —149. High-performance polymer/carbon nanotube composite fibers. M. L. Minus, H. G. Chae, S. Jagannathan, Y. H. Choi, R. Jain, Y. Liu, E. Ford, **S. Kumar**

9:30 —150. Electrospinning of polyurethane nanofibers containing aligned multiwalled carbon nanotubes. B. J. Roach, M. T. Hunley, S. M. Ramirez, **T. E. Long**

9:50 —151. Molecular dynamics simulations of nanocomposites comprised of single-walled carbon nanotubes in various polymer environments. **M. A. Pasquinelli**, S. S. Tallury

10:10 — Intermission.

10:25 —152. Melt processed polymer - carbon nanotube composites as materials for liquid sensing applications. **P. Pötschke**, T. Villmow, T. Andres, K. Kobashi, R. Rentenberger, H. Brünig, D. Fischer, L. Häussler

10:55 —153. Dispersion of carbon nanotubes in epoxy through exfoliated nanoplatelets. D. Sun, **H -J. Sue**

11:15 —154. Comparison of epoxy composites containing covalently and noncovalently polyethylenimine-functionalized carbon nanotubes. L. Liu, **K. C. Etika**, K -S. Liao, D. Bergbreiter, J. C. Grunlan, L. Hess

11:35 —155. Damping capacity in carbon nanotubes-epoxy elastomers. **C. Uzunpinar**, M. L. Auad, Y. Gowayed, M. A. Mosiewicki, R. Williams

Section C

Unknown Site -- Unknown Room

2009 Spring Meeting

Excellence in Graduate Polymer Research

Cosponsored by PROF, SOCED, YCC, and PRES

E. H. Martin and C. J. Ellison, *Organizers*

T. E. Long and H. N. Cheng, *Organizers, Presiding*

8:30 — Introductory Remarks.

8:35 —156. Polynorbornenes prepared by pulsed-addition ring-opening metathesis polymerization. **J. B. Matson**, S. C. Virgil, R. H. Grubbs

9:00 —157. Kinetic and mechanistic studies of N-heterocyclic carbene-mediated zwitterionic polymerization of cyclic esters. **E. J. Shin**, W. Jeong, D. A. Culkin, J. L. Hedrick, R. M. Waymouth

9:25 —158. Site-isolation of polymer bound catalysts from small, ionic molecules and their use in one-pot cascade reactions using PDMS membranes. **A. L. Miller II**, N. B. Bowden

9:50 —159. Sulfonium ion adducts from quasiliving polyisobutylene and alkyl mono- or di-sulfides. **D. Morgan**, C. Stokes, R. F. Storey

10:15 — Intermission.

10:30 —160. Concurrent and/or sequential ATRP and RAFT polymerization: Taking the best of each world. **R. Nicolay**, K. Matyjaszewski

10:55 —161. Construction of degradable end-linked polymer networks using ATRP and click chemistry. **J. A. Johnson**, J. T. Koberstein, N. J. Turro

11:20 —162. Construction of functionalizable, crosslinked nanostructures. **G. Sun**, N. S. Lee, W. L. Neumann, J. N. Freskos, J. J. Shieh, R. B. Dorshow, K. L. Wooley

Section D

Unknown Site -- Unknown Room

General Papers

Polymer Synthesis and Applications

D. Garcia, *Organizer*

A. C. Greene, *Organizer, Presiding*

8:00 —163. Synthesis of cyclic polymers via ring-expansion metathesis polymerization. **A. J. Boydston**, R. H. Grubbs

8:20 —164. Reactivity of allyl pentosides in UV-initiated free radical copolymerization with acceptor monomers. L. Pichavant, C. Guillermain, S. Duchiron, **X. Coqueret**

8:40 —165. Synthesis of alkoxyamines bearing an *N*-phenyl moiety for use in nitroxide-mediated polymerization. **A. C. Greene**, R. B. Grubbs

9:00 —166. Synthesis of an ester-functional alkoxyamine: Polymerization efficacy and nitroxide fidelity studies. **A. C. Greene**, R. B. Grubbs

9:20 —167. Synthesis of poly(methyl methacrylate)-block-poly(tetrahydrofuran) through photoliving radical polymerization by 2,2,6,6-tetramethylpiperidine-1-oxyl supported on a polymer chain end. **E. Yoshida**

9:40 — Intermission.

9:50 —168. Covalent multifunctionalization of copolymers. **S. K. Yang**, M. Weck

2009 Spring Meeting

10:10 —169. Dendrimers and hyperbranched polymers based on 2,2-bis(hydroxymethyl)propionic acid and their potential application in noncovalent interaction. **E. Zelensova**, D. Appelhans, H. Komber, B. Voit

10:30 —170. Linear-hyperbranched block copolymers: A progress report. **F. Wurm**, H. Frey

10:50 —171. Modular covalent multifunctionalization of hyaluronic acid for the production of biomimetic hydrogels. **D. A. Ossipov**, O. P. Varghese, J. G. Hilborn

11:10 —172. Synthesis, characterization, and antimicrobial properties of graft copolymers containing blocks of biocide moieties. **S. Alam**, B. J. Chisholm

11:30 —173. Well-defined multifunctional fluorocopolymers having both amphiphilic structure and reactive sites. **J. Ma**, C. Cheng, K. L. Wooley

Applications in Nanoscience

Gold Particles and Surfaces

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

MONDAY AFTERNOON

Unknown Site -- Unknown Room

Section A

ACS Award in Polymer Chemistry: Symposium in Honor of Takuzo Aida

G. N. Tew, *Organizer*

E. W. Meijer, D. Tirrell, and S. I. Stupp, *Organizers, Presiding*

1:00 —174. Structure control of polysaccharide derivatives for efficient resolution of enantiomers. **Y. Okamoto**

1:30 —175. Supramolecular assemblies of helical polymers and oligomers. **E. Yashima**

2:00 —176. The molecular structure of helical supramolecular dendrimers. **V. Percec**

2:30 —177. Materials for lithographic patterning. **H. Ito**

3:00 —178. Reinterpreting the genetic code: Implications for macromolecular chemistry. **D. A. Tirrell**

3:30 —179. Amplification of chirality in helical supramolecular polymers. **E. W. Meijer**

4:00 —180. Synergistic self-assembly of small molecules, polymers, and inorganics. **S. I. Stupp**

4:30 —181. Award Address (ACS Award in Polymer Chemistry, sponsored by ExxonMobil Chemical Company). Molecular programming for advanced polymeric and supramolecular materials. **T. Aida**

Unknown Site -- Unknown Room

Section B

Polymers and Carbon Nanotubes

Properties of Composites

2009 Spring Meeting

Cosponsored by COLL, IEC, PHYS, PMSE, and NANO
W. T. Ford, B. P. Grady, and P. M. Ajayan, *Organizers*
R. Krishnamoorti, *Organizer, Presiding*

1:00 —182. Tailoring carbon nanotube microstructure through noncovalent interactions. **J. C. Grunlan**

1:20 —183. Nanotube and nanocomposite mechanics: A guide to the perplexed. **H. D. Wagner**, X. Sui

1:50 —184. Evaluation of interfacial load transfer in carbon nanotube composites using polarized Raman spectroscopy. J. Bult, R. Duncan, P. M. Ajayan, **L. S. Schadler**

2:20 —185. Effect of single-walled carbon nanotubes (SWCNTs) on glass transition behavior. **B. P. Grady**, W. T. Ford, A. Paul

2:40 —186. Polymeric/carbon nanocomposites as thermal conductive materials. **Y-P. Sun**

3:10 —187. Local electric field distribution in electromechanical polymer nanocomposites. **R. A. Vaia**, A. T. Sellinger, H. Koerner, Z. Ounaies, R. Krishnamoorti

Section C

Unknown Site -- Unknown Room

Excellence in Graduate Polymer Research

Cosponsored by PROF, SOCED, YCC, and PRES
H. N. Cheng and T. E. Long, *Organizers*
C. J. Ellison and E. H. Martin, *Organizers, Presiding*

1:15 — Introductory Remarks.

1:20 — Recognition of Poster Presenters.

1:30 —188. Architecture effects on multivalent binding by helical polypeptide-based glycopolymers. **S. Liu**, M. Bergström, S. Ohlson, K. L. Kiick

1:55 —189. Silica-poly(benzyl-L-glutamate) core-shell particles of controlled shell content. **E. Soto-Cantu**, P. S. Russo

2:20 —190. Neutron scattering analysis of the dynamics and structure of semiflexible, self-assembled peptide chain networks. **M. C. Branco**, D. J. Pochan, J. P. Schneider, N. Wagner

2:45 —191. Polymerization for signal amplification of antibody-based biodetection. **H. J. Avens**, C. N. Bowman

3:10 — Intermission.

3:25 —192. Imprint lithography based hydrogel particles and the effect of shape and size on biodistribution. **K. P. Herlihy**, T. J. Merkel, J. Nunes, C. L. Brannen, J. M. DeSimone

3:50 —193. Novel thieno-[3,4-b]thiophene semiconducting polymers for high performance solar cells. **Y. Liang**, D. Feng, L. Yu

4:15 —194. High gas barrier from confined crystallization of polyethylene oxide in nanolayer assemblies. **H. Wang**, J. K. Keum, A. Hiltner, E. Baer, B. D. Freeman

4:40 — Concluding Remarks. **Bruce E. Bursten**, ACS Immediate Past President.

4:50 — Networking Reception.

Section D

Unknown Site -- Unknown Room

Active and Responsive Surfaces

2009 Spring Meeting

Polymer Brushes and Thin Films

Cosponsored by PMSE[‡]

W. T. S. Huck and R. C. Hayward, *Organizers, Presiding*

1:25 — Introductory Remarks.

1:30 —195. Adaptive and switchable polymer brushes: Control of protein adsorption and liquid separation. **M. Stamm**

2:00 —196. Directed single polymer diffusion along surface energy gradients. P. Burgos, Z. Zhang, R. Golestanian, G. J. Leggett, **M. Geoghegan**

2:30 —197. Design, development and characterization of responsive surfaces. **J. Baghdachi**, H. Perez

2:50 —198. Fabrication of novel polymer brush microstructures using microcontact printing as a tool. **T. Chen**, S. Zauscher

3:10 — Intermission.

3:20 —199. Smart surfaces with switchable wettability. **K. Cho**, H. S. Lim

3:50 —200. Environmentally-responsive nanoporous colloidal films. **O. A. Schepelina**, I. Zharov

4:10 —201. Single molecule tracking as a probe of free volume transitions in polymer brushes grafted by atom transfer radical polymerization. **P. W. Bohn**, L. Elliott

4:40 —202. Thickness-dependent properties of polyzwitterionic brushes. **N. Cheng**, A. A. Brown, O. Azzaroni, W. T. S. Huck

Applications in Nanoscience

Films and Surfaces

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

Frontiers in Imaging Biological Nanostructures

Sponsored by BIOL, Cosponsored by ANYL, COLL, PHYS, POLY, and NANO[‡]

Health and Safety Concerns of Polymeric Nanomaterials

Sponsored by CHAS, Cosponsored by POLY[‡] and NANO

Nanoscience: Characterization and Applications

Energy and Magnetism

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

2009 Spring Meeting

Undergraduate Research Poster Session: Polymer Chemistry

Sponsored by CHED, Cosponsored by PMSE, POLY, and SOCED

MONDAY EVENING

Unknown Site -- Unknown Room

Section A

Sci-Mix

G. N. Tew, K. L. Kiick, and J. G. Linhardt, *Organizers*

8:00 - 10:00

49, 51, 53, 55, 62, 64, 72, 76-78, 88-89, 92, 96, 130-131. See previous listings.

262-263, 271, 274, 276, 278-280, 284, 295-297, 299, 305. See subsequent listings.

TUESDAY MORNING

Unknown Site -- Unknown Room

Section A

Earle B. Barnes Award for Leadership in Chemical Research Management: Symposium in Honor of Gregg A. Zank

D. Katsoulis and G. Burns, *Presiding*

8:00 — Introductory Remarks.

8:05 —203. Design, syntheses and applications of organopolyborane precursors to advanced ceramic materials. **L. G. Sneddon**, M. Guron, X. Wei, M. J. Pender, K. M. Forsthoefel, U. Kusari

8:40 —204. Molecular engineering applications in the growth of SiC-based thin films by chemical vapor deposition. **M. Loboda**

9:00 —205. New chemical transformations involving transition metal-silicon systems and applications to hydrosilylation. **T. D. Tilley**

9:35 —206. Monocrystalline silicon: Using an old material in new ways. **J. A. Rogers**

10:10 — Intermission.

10:20 —207. Organosilanes as synthons for constructing unconventional and printable organic, organometallic, and inorganic electronic circuitry. **T. J. Marks**

10:55 —208. Siloxanes and silicon for photonic applications. **J. V. Degroot Jr.**

11:15 —209. Organometallic perspectives on hydrogen processing. **T. B. Rauchfuss**

11:50 —210. Award Address (Earle B. Barnes Award for Leadership in Chemical Research Management, sponsored by The Dow Chemical Company). Seeing around the corner: Lessons learned in leading research. **G. A. Zank**

Unknown Site -- Unknown Room

Section B

Polymers and Carbon Nanotubes

Applications

Cosponsored by COLL, IEC, PHYS, PMSE, and NANO

W. T. Ford, B. P. Grady, and R. Krishnamoorti, *Organizers*

P. M. Ajayan, *Organizer, Presiding*

8:30 —211. Using “sticky polymers” to improve SWNT thin film electrochromic and charge storage devices. **R. M. Walczak**, A. M. Savage, S. Vasilyeva, M. Ertas, R. K. Das, T. T. Steckler, M. Craps, E. Donoghue, B. Liu, E. M. van der Aa, A. G. Rinzler, J. R. Reynolds

8:50 —212. Carbon nanotube-polyfluorene composites for high performance organic displays. **D. Carroll**

9:20 —213. Conjugated polymer and carbon nanotube dispersion forming lyotropic liquid crystalline phase and transparent electrodes. **Z. Bao**, H. Lee, W. You, S. Hellstrom, S. Barman, M. LeMieux

9:40 —214. Functionalization of carbon nanotubes for multifunctional applications. D. Chang, L. Ding, **L. Dai**

10:10 — Intermission.

10:25 —215. Selective nitric oxide optical sensor based on single-walled carbon nanotube-polymer hybrid. **J.-H. Kim, D. A. Heller, H. Jin, M. S. Strano**

10:45 —216. Carbon nanotubes composites made by the layer-by-layer assembly: From ultrastrong materials to solar cells and devices for neural interface. **N. A. Kotov**, B. S. Shim, J. Zhu

11:15 —217. Gecko-inspired carbon nanotube-based adhesives. S. Sethi, L. Ge, A. Goyal, P. M. Ajayan, **A. Dhinojwala**

11:45 —218. Carbon nanostructures for applications in biopolymer nanocomposites: Functionalization strategies. **M. J. Sobkowitz**, J. R. Dorgan, K. W. Gneshein, A. M. Herring, J. T. Mckinnon

Section C

Unknown Site -- Unknown Room

Polymers for Photonics and Optoelectronics

Multidimensional Patterning

Cosponsored by PMSE and NANO

P. V. Braun, *Organizer*

G. G. Malliaras, *Organizer, Presiding*

9:00 —219. Tutorial: Patterning of polymers in 3-D for photonics and optoelectronics. **P. V. Braun**

9:45 —220. Photonic polyethylene from self-assembled mesophases of polydisperse olefin block copolymers. **P. L. Roberts**, P. D. Hustad, B. G. Landes, L. Liu, G. R. Marchand, E. Garcia-Meitin, J. D. Weinhold

10:05 —221. Polycyclohexysilane as a printable precursor to silicon for photovoltaics. **R. M. Laine**, D. Nielsen, S. Sulaiman

10:25 — Intermission.

10:40 —222. Conformal phase mask lithography for 3-D photonic crystals. **J. A. Rogers**

11:10 —223. Fabrication of 3-D silica-like structures with high fidelity through interference lithography of epoxy functionalized polyhedral oligomeric silsesquioxanes. **Y. Xu**, X. Zhu, S. Yang

11:30 —224. Orthogonal processing for organic electronics. **C. K. Ober**, J. K. Lee, A. A. Zakhidov, H. H. Fong, P. G. Taylor, J. DeFranco, H. S. Hwang, M. Chatzichristidi, A. B. Holmes, G. G. Malliaras

Section D

2009 Spring Meeting

Unknown Site -- Unknown Room

Active and Responsive Surfaces

Polymer Brushes and Thin Films

Cosponsored by PMSE[‡]

R. C. Hayward and W. T. S. Huck, *Organizers*

R. Toomey, *Presiding*

8:30 —225. Design rules for thermally responsive polymer brushes. **D. Leckband**, K. Plunkett, X. Zhu, F. M. Winnik, J. S. Moore

9:00 —226. Collapse transition of homogeneous and nanopatterned thermoresponsive polymer brushes. **A. M. Jonas**

9:30 —227. Synthesis of responsive surfaces by covalent layer-by-layer assembly. **D. Bergbreiter**, J. D. Batteas, H. Fu, A. Wan, K -S. Liao

9:50 — Intermission.

10:00 —229. Volume-phase transitions in responsive polymer networks and implications for surface-confined structures. **R. Toomey**, A. Vidyasagar, S. DuPont

10:30 —230. Precision engineered control of biomolecules at interfaces by polymer brushes. **A. Chilkoti**

11:00 —231. Stimuli responsive surface segregation of well-defined end functionalized polymers. **L. R. Hutchings**, R. L. Thompson

11:20 —232. Nanoengineered self-segregating additives for reactive coatings. **A. M. Rawlett**, G. Martin, J. A. Orlicki, J. J. LaScala, N. E. Zander, J. D. Demaree, W. E. Kosik, K. Andrews, M. Baranoski, N. Rice, L. Kagumba, A. Giaya

Health and Safety Concerns of Polymeric Nanomaterials

Sponsored by CHAS, Cosponsored by POLY[‡] and NANO

Nanoscience: Characterization and Applications

Biological and Biomedical Applications

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

TUESDAY AFTERNOON

Unknown Site -- Unknown Room

Section A

Polymerization in Nanostructured and Nanocomposite Systems

New Frontiers in Nanotechnology

2009 Spring Meeting

Cosponsored by PMSE and NANO

C. A. Guymon and C. N. Bowman, *Organizers*

D. J. Broer and D. L. Gin, *Presiding*

1:30 —233. Nanopatterned thiol-ene substrates using step and flash imprint lithography. **C. N. Bowman**, V. S. Khire

2:00 —234. Silica aerogel polymer nanocomposites using ATRP from surface bound initiators. **D. J. Boday**, P. Y. Keng, J. Pyun, D. A. Loy

2:25 —235. Grafting of polyacrylonitrile from surfaces of large-pore ordered mesoporous silicas using atom transfer radical polymerization. **M. Kruk**, B. Dufour, K. Matyjaszewski, L. Cao

2:50 — Intermission.

3:10 —236. Nanostructure in alkyd/acrylate materials produced via hybrid miniemulsion polymerization. **F. J. Schork**, J. Guo, J. G. Tsavalas

3:40 —237. Reaction mechanism to morphology control of polyaniline nanomaterials. **Z. Ding**, D. Yang, S. J. Obrey, R. P. Currier, Y. Zhao

4:05 —238. Preparation of nanostructured inclusion complexes in amylose-forming polymerization. **J.-I. Kadokawa**, Y. Kaneko

4:30 —239. Mechanical instabilities in porous elasto-plastic solids. **S. Singamaneni**, K. Bertoldi, S. Chang, J.-H. Jang, M. Boyce, E. L. Thomas, V. V. Tsukruk

Section B

Unknown Site -- Unknown Room

Nanostructured Materials for Future Therapy

Chemistry and Structures

Cosponsored by PMSE, BTEC, and NANO

Y. Yeo, *Organizer*

S. Lin-Gibson and X. Jia, *Organizers, Presiding*

1:30 — Introductory Remarks.

1:35 —240. Supramolecular biomaterials: A modular approach to bioactivity. **E. W. Meijer**

2:05 —241. Micron-scale features for impacting biological reaction. **B. Ratner**

2:35 —242. Monitoring of elongation and orientation of osteoblast cells directed by anisotropic nanopatterns. J. Sun, Y. Ding, N. J. Lin, H. W. Ro, C. Soles, M. T. Cicerone, **S. Lin-Gibson**

2:55 — Intermission.

3:15 —243. Antibacterial peptide-hydrogels. **J. P. Schneider**

3:45 —244. Silver-loaded shell crosslinked nanoparticles for antimicrobial applications. **Y. Li**, J. B. Taylor, M. J. Panzner, Z. Li, K. Zhang, Y. Lin, C. Cannon, W. J. Youngs, K. L. Wooley

4:05 —245. Antimicrobial activity of thin films containing cetyltrimethylammonium bromide. G. Sukhonosova, **J. C. Grunlan**, C. Dvoracek

4:25 —246. Tunable bacteria adhesion with polymer brushes. **B. Zdyrko**, V. Klep, X. Li, Q. Kang, S. Minko, H. Wen, I. Luzinov

Section C

Unknown Site -- Unknown Room

2009 Spring Meeting

Polymers for Photonics and Optoelectronics

Applications

Cosponsored by PMSE and NANO

G. G. Malliaras, *Organizer*

P. V. Braun, *Organizer, Presiding*

1:30 —247. High performance polymer recording materials for holographic storage. **L. Dhar**

2:00 —248. Polyimide-lanthanide conjugates for optical gain applications. **S. Fallis**, A. J. Guenther, M. E. Wright

2:20 —249. New fused-ring polymers with low-bandgap and good charge mobility for solar cells. H. A. Becerril, Y. Jiang, N. Miyaki, T. Okamoto, **R. Mondal**, S. Hong, S. Ko, S. Lee, J. Parmer, A. C. Mayer, M. D. McGehee, Z. Bao

2:40 — Intermission.

3:00 —250. Printing of OLEDs: Electroluminescence with colloidal particles. C. F. Huebner, **S. F. Foulger**

3:30 —251. Tunable electrochromic color using simple conjugated azomethines. **W. G. Skene**, S. Dufresne, A. Bolduc

3:50 —252. Divided pi-ways: Oxacyclophane scaffolded pi-system assemblies. A. Mangalum, J. M. Hanley, L. Hawkins, B. P. Morgan, J. T. Smith, **R. C. Smith**

4:10 —253. Conducting polymer tethered on surface via grafting from approach. **S. Saha**, G. L. Baker

Section D

Unknown Site -- Unknown Room

Active and Responsive Surfaces

Tuning Biological Interactions

Cosponsored by PMSE[‡]

W. T. S. Huck, *Organizer*

R. C. Hayward, *Organizer, Presiding*

1:30 —254. Elastic responses of matrices are felt by adherent cells. **D. E. Discher**

2:00 —255. The effects of surface chemistry on epidermal stem cell differentiation. **W. T. S. Huck**, J. Gautrot, F. Watt

2:30 —256. Engineering of peptide-polymer interfaces for active manipulation of cell-surface contacts. **M. A. Biesalski**, S. Petersen, O. Prucker, J. Rühle

2:50 —257. Thermoresponsive nanocomposite hydrogels with cell-releasing behavior. Y. Hou, J. C. Burkes, S. D. Lee, A. Bullick, M. S. Hahn, **M. A. Grunlan**

3:10 — Intermission.

3:20 —258. Studying the emergence of multicellular behavior of bacteria using polymers. **D. Weibel**

3:50 —259. Dynamic substrates for cell biology. **M. Mrksich**

4:20 —260. Active surfaces affect tissue culture growth rates: Chemistry and film thickness effects. **D. Bhattacharyya**, H. Xu, K. T. Nguyen, R. B. Timmons

4:40 —261. Phospholipid molecular recognition at the monomer boundaries of copolymer surfaces: Spectroscopic and ab initio studies. **M. Yu**, M. W. Urban

2009 Spring Meeting

Applications in Nanoscience

Processes

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

Nanoscience: Characterization and Applications

Tubes, Rods, and Ribbons

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

TUESDAY EVENING

Unknown Site -- Unknown Room

Section A

Polymerization in Nanostructured and Nanocomposite Systems

Cosponsored by NANO and PMSE

C. A. Guymon and C. N. Bowman, *Organizers*

6:00 - 8:00

262. Functional micropatterns generated using molecularly imprinted polymer. **K. M. Choi**, K. Shea

263. Silver-gold polymer composite nanocob structures. **R. Gunawidjaja**, S. Peleshanko, H. Ko, V. V. Tsukruk

264. Investigating reversibility in fluorescence resonance energy transfer. **C. S. Evans**, X. Li, P. Kohli

265. Biocompatible nanocomposite hydrogels with tunable adhesion. Y. Sun, L. Li, **X. Guo**

266. DNA- templated polymerization of styrene derivatives in water: New nanomaterial composites. **L. Barreda**, B. M. Porta, J. C. Noveron

267. Photopolymerization kinetics and exfoliation behavior of organoclay systems with different functional groups. **S. K. Kim**, K. Owusu-Adom, C. A. Guymon

268. Polymer microrod arrays prepared by nondestructive molding evaluated by real space image analysis. R. Hillebrand, **S. Grimm**, R. Giesa, H -W. Schmidt, K. Mathwig, U. Gösele, M. Steinhart

269. Self-assembling aromatic amine-based 3-D-functional polymer structures. **M. V. Lee**, J. R. King, J. P. Hill, K. Ariga

270. Study of the partitioning effect of monomers at the nanofiber-epoxy interphase region. **M. L. Auad**, C. Uzunpinar, R. Williams, M. A. Mosiewicki

271. Surface initiated polymerization from self-assembled peptide nanotubes. **R. V. Gokhale**, Y. Egorov, J. Couet, M. A. Biesalski

272. Tailoring elastic properties of silica aerogels crosslinked with an isocyanate. **B. N. Nguyen**, M. A. Meador, A. Medoro, B. Shonkwiler, L. McCorkle

273. Thiol-functionalized multiwalled carbon nanotube/gold nanoparticle composites. **H -J. Choi**, I -Y. Jeon, L. S. Tan, J -B. Baek

Unknown Site -- Unknown Room

Section B

Nanostructured Materials for Future Therapy

Cosponsored by NANO, PMSE, and BTEC

X. Jia, S. Lin-Gibson, and Y. Yeo, *Organizers*

6:00 - 8:00

274. Bone targeting HPMA copolymer - prostaglandin conjugates. **H. Pan, P. Kopeckova, J. Liu, J. Yang, D. Wang, S. Miller, J. Kopecek**

275. Design and preparation of stimuli-responsive hybrid biomaterials. **J. Yang, L. Wu, K. Wu, W. Yuan, P. Kopeckova, J. Kopecek**

276. Growth and microstructure of antimicrobial layer-by-layer thin films. **J. C. Grunlan, G. Sukhonosova, C. Dvoracek**

277. Hydrogel nanostructure fabrication using electron beam lithography. **M. Bae, R. Divan, D. C. Mancini, R. A. Gemeinhart**

278. Preparation and characterization of Fe₃O₄/SiO₂ nanocomposites. **Y. Zhai, Q. Zhang, A. Dong, R. Li, F. Liu, G. Gao**

Section C

Unknown Site -- Unknown Room

Polymers for Photonics and Optoelectronics

Cosponsored by PMSE and NANO

P. V. Braun and G. G. Malliaras, *Organizers*

6:00 - 8:00

279. Behavior of semiconductor conjugated polymer-quantum dot nanocomposites at the air/water interface and their performance in thin film solar cells. **M. D. Goodman, J. Xu, J. Wang, Z. Lin**

280. Design of multilayered nanostructures at donor-acceptor hetero junctions in polymer-based organic solar cells. **H. Benten, M. Ogawa, H. Ohkita, S. Ito**

281. Donor-acceptor-donor oligomers for near-infrared emission in polymer-based light emitting devices. **K. R. Graham, S. Ellinger, T. T. Steckler, R. T. Farley, K. S. Schanze, J. R. Reynolds**

282. High-efficiency light-emitting diodes based on silole-containing polymers. **Z. Liu**

283. Improvement of photocurrent in bulk heterojunction polymer solar cells by introduction of dye molecules. **S. Honda, S. Yokoya, T. Nogami, H. Ohkita, H. Benten, S. Ito**

284. Low band-gap polymers based on fused aromatic thienopyrazine for photovoltaic applications. **S. Ko, N. Miyaki, R. Mondal, H. A. Becerril, J. Parmer, A. C. Myer, M. D. McGehee, Z. Bao**

285. Monitoring degree of imidization via fluorescence quench of an embedded two-photon-absorbing chromophore by an aromatic polyimide. **D. H. Wang, R. Rao, R. Kannan, B. Maruyama, J. Q. Buquoi**

286. Role of regioregularity on temperature-induced conformational switching in poly(N-isopropylacrylamide) grafted polythiophenes. **J. Choi, E. E. Nesterov**

287. Synthesis and characterization of a Ge-containing macrocycle. **A. Sengupta, S. Ghosh, K. Albhyankar, R. M. Peetz**

288. Synthesis and characterization of high refractive index polyimides derived from 3,6-Bis(4-aminophenylsulfanyl)pyridazine. **N-H. You**

289. Synthesis and characterization of novel aromatic imide polymer and copolymers containing diphenylaminofluorene-benzothiazole as. **M. J. Dalton, R. Kannan, R. Jakubiak, J. E. Haley, J. Q. Buquoi**

290. Synthesis and thermal properties of polyepichlorohydrin-based liquid crystalline polymers containing azobenzene in the side-chain. **C. He, C. Zhang**

2009 Spring Meeting

291. Synthesis of organic-inorganic hybrid materials for flexible optical waveguide applications. **J. H. Oh**, Y. S. Ko, K. B. Kim, M. S. Kim, Y. K. Kwon

292. Synthesis of well-defined polystyrene-*b*-poly(2-vinylpyridine-*co*-4-vinylpyridine) for the fabrication of metal oxide nanocomposites. R. P. Quirk, **C. A. Garces**, M. Olechnowicz

Section D

Unknown Site -- Unknown Room

Active and Responsive Surfaces

Cosponsored by PMSE[‡]

R. C. Hayward and W. T. S. Huck, *Organizers*

6:00 - 8:00

293. Effective adsorption of hydrophobic molecule on a cotton cloth by amphiphilic polysulfobetaine, and its solving behavior to saline. **T. Sugiyama**, M. Isoda, M. Komatsu, I. Toki, N. Yamamoto

294. Freely standing magnetic polymer nanomembrane. **S. Santer**, C. Schlemmer

295. Guiding cells with biofunctional peptide-polymer monolayers. **S. Petersen**, M. A. Biesalski, O. Prucker, J. Ruhe

296. Molecular sensing medium based upon nanoporous syndiotactic polystyrene. J. P. Brandt, **M. Kaushik**, B. G. Olson, S. Heinhorst, G. C. Cannon, S. Nazarenko

297. Photocrosslinked polyelectrolyte films of varying mechanical stiffness to control cell adhesion. C. Pozos Vazquez, T. Boudou, V. Dulong, C. Nicolas, C. Picart, **K. Glinel**

298. Stimuli responsive properties of photopolymerized hydrogels based on reactive lyotropic liquid crystals. **L. Sievens-Figueroa**, C. A. Guymon

228. Surface-initiated polymerization of phosphoranimines: A route to hybrid inorganic-organic poly(phosphazene) brushes. J. Li, A. LeBlanc, J. Huber, **D. L. Patton**

Section E

Unknown Site -- Unknown Room

Polymers and Carbon Nanotubes

Cosponsored by NANO, COLL, IEC, PHYS, and PMSE

W. T. Ford, B. P. Grady, P. M. Ajayan, and R. Krishnamoorti, *Organizers*

6:00 - 8:00

299. Preparation of urea functionalized carbon nanotubes. **S. M. Ramirez**, T. E. Long

300. Composites of single-wall carbon nanotubes and styrene latices. **I. Chavez-Sumarriva**, B. P. Grady

301. Functionalization of 3,4-diaminobenzoic acid onto the surface of carbon nanotube in polyphosphoric acid/phosphorus pentoxide medium. **J -Y. Kang**, S -M. Eo, L. S. Tan, J -B. Baek

302. Inkjetting single walled carbon nanotubes for net 3-D structures. **A. R. Hopkins**

303. Preparation of CP2 polyimide nanocomposite films containing pristine and amine-functionalized carbon nanotubes. D. H. Wang, **J. Q. Buquoi**, R. A. Vaia, G. E. Price, L. S. Tan

304. Pyrene containing polystyrene based block copolymers for the noncovalent surface modification of as-prepared carbon nanotubes and their applications. **S. C. Hong**, I. H. Choi, H. J. Choi

305. Tailoring carbon nanotube microstructure using pH-responsive polymers in aqueous suspensions. J. C. Grunlan, **K. C. Etika**

2009 Spring Meeting

306. Vapor grown carbon nanofibers and epoxy nanocomposites: functionalization, preparation and characterization. **D. H. Wang**, S. Sihm, J.-B. Baek, A. Roy, J. Q. Buquoi

Green Nanoscience

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

Nanoscience Synthesis

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

WEDNESDAY MORNING

Unknown Site -- Unknown Room

Section A

Polymerization in Nanostructured and Nanocomposite Systems

Nanocomposites

Cosponsored by PMSE and NANO

C. A. Guymon, *Organizer*

T. Kato, *Presiding*

C. N. Bowman, *Organizer, Presiding*

8:30 —307. Photopolymerization in lyotropic liquid crystals and nanocomposites. **C. A. Guymon**, K. Owusu-Adom, L. Sievens-Figueroa, J. D. Clapper, M. A. DePierro

9:00 —308. Combinatorial characterization of photopolymerizable nanocomposites: Effect of filler type and content on properties. **S. Lin-Gibson**, L.-P. Sung, A. M. Forster, H. Hu, N. J. Lin

9:25 —309. Abnormal mechanical behavior of exfoliated montmorillonite/poly(methyl acrylate-co-methyl methacrylate) nanocomposite films. **K.-J. Lin**, C.-H. Lee, K.-F. Lin

9:50 — Intermission.

10:10 —310. Thiol-enes and nanostructuring. **C. E. Hoyle**, J. P. Phillips, J. Shin, L. Kwisnek, C. Comer, T. S. Clark, S. Nazarenko, B. S. Confait

10:40 —311. Polysiloxane antimicrobial coatings containing quaternary ammonium-functionalized POSS. **P. Majumdar**, E. Lee, A. Kallam, N. Gubbins, S. J. Stafslie, J. Daniels, C. J. Thorson, B. J. Chisholm

11:05 —312. Synthesis, characterization, and applications of metallic nitride fullerene polymer nanocomposites. **J. P. Phillips**, C. E. Hoyle, B. S. Confait, D. M. McCluskey, H. Ahmed, S. Stevenson

11:35 —313. Plasma surface modified nanoparticles for synthesis of chemically bonded inorganic-organic nanocomposite materials. **N. Mukherjee**, D. Wavhal, R. B. Timmons

Unknown Site -- Unknown Room

Section B

Nanostructured Materials for Future Therapy

2009 Spring Meeting

Nanostructured Materials for Tissue Engineering

Cosponsored by PMSE, BTEC, and NANO

X. Jia and S. Lin-Gibson, *Organizers*

Z. Lin, *Presiding*

Y. Yeo, *Organizer, Presiding*

8:15 —314. Nanostructured materials for biomedical applications. G. Gupta, K. Staggs, G. A. Montañó, **G. P. Lopez**

8:45 —315. Nanostructured hydrogels for treatment of central retinal vein occlusion. **J. D. Clapper, C. A. Guymon**

9:05 —316. Insect cuticle-inspired PEGDA-agarose semi-interpenetrating network hydrogels for tissue engineering. J. Lomakin, M. S. Detamore, **S. H. Gehrke**

9:25 —317. Silk blending for osteoblastic attachment. **A. W. Morgan**, K. E. Roskov, S. Lin-Gibson, D. Kaplan, M. L. Becker, C. G. Simon Jr.

9:55 — Intermission.

10:15 —318. Nanoscale properties of aggrecan produced by equine mesenchymal stem cells. H -Y. Lee, P. W. Kopesky, L. Daher, A. Mosquera, D. Frisbie, J. Kisiday, A. J. Grodzinsky, **C. Ortiz**

10:45 —319. Synthesis and characterization of elastin mimetic hybrid copolymers with alternating molecular architecture. S. E. Grieshaber, K. L. Kiick, **X. Jia**

11:05 —320. Fabrication of conducting composite materials of polypyrrole-polycaprolactone fumarate for nerve regeneration. **M. B. Runge**, M. Dadsetan, M. J. Yaszemski

11:25 —321. Functional PEG-PLLA networks for dental bone repair: Effect of network chemistry on properties and performance. **H. Peng**, X. Chua, I. Blakey, B. Dargaville, F. Rasoul, A. Symons, S. Varanasi, A. K. Whittaker

11:45 —322. Methodology for characterizing fibrillar collagen assembled in vitro under various initial collagen concentrations. **Y -J. Hwang**, J. Lyubovitsky

Section C

Unknown Site -- Unknown Room

Polymers for Photonics and Optoelectronics

Properties by Design

Cosponsored by PMSE and NANO

P. V. Braun and G. G. Malliaras, *Organizers*

S. Foulger, *Organizer, Presiding*

8:45 —323. Tutorial: Materials design for high performance thin film transistors. **Z. Bao**

9:30 —324. Application of tunable thieno[3,4-b]pyrazine building blocks to new low band gap materials. J. P. Nietfeld, S. J. Evenson, L. Wen, **S. C. Rasmussen**

9:50 —325. Poly(thiopheneamide)s: A new class of photoactive and conjugated polymers. **J. Klos**, S. Hilf, A. F. M. Kilbinger

10:10 —326. ADMET synthesis of homologous Si-, Ge-, and Sn- containing conjugated polymers. N. Mukherjee, S. Ghosh, **R. M. Peetz**

10:30 — Intermission.

10:50 —327. Near infrared light-emitting devices based on donor-acceptor-donor oligomers. **J. R. Reynolds**, K. R. Graham, S. Ellinger, T. Steckler, R. T. Farley, Y. Yang, S -H. Eom, J. Xue, K. Schanze, J. Sommer

2009 Spring Meeting

11:20 —328. Conjugated organoborane polymers as optoelectronic materials. H. Li, A. Sundararaman, P -K. Chen, **F. Jäkle**

11:40 —329. Controlling β -phase formation in chiral polyfluorene. **G. Lakhwani**, S. C. J. Meskers

Section D

Unknown Site -- Unknown Room

Active and Responsive Surfaces

Electrical and Optical Control

Cosponsored by PMSE[‡]

R. C. Hayward and W. T. S. Huck, *Organizers*

J. Frechette, *Presiding*

8:30 —330. Dynamic response of ion-pair monolayers. G. K. Olivier, D. Shin, J. B. Gilbert, **J. Frechette**

9:00 —331. Electrochemical surface plasmon resonance study of nanostructured multilayer assemblies on redox-active self-assembled monolayers. **B. Davis**, Q. Cheng

9:20 —332. Influence of electrostatic fields in self assembly. **N. A. Melosh**

9:50 —333. Nanograss, nanobricks, nanonails, and other things useful in your nanolandscaping. **T. Krupenkin**

10:20 — Intermission.

10:30 —334. Optical tweezer manipulation of photosensitive colloidal particles to form nonequilibrium structures. **N. S. Bell**, C. Brotherton, T. Koehler, A. M. Grillet

11:00 —335. Reversible colorimetric sensors using spiropyran polymer brushes. **J. Locklin**, K. H. Fries, S. Samanta, S. V. Orski

11:20 —336. Light induced structuring and ablation of azopolymer brushes. **S. Santer**, C. Schuh, J. Rühle, J. Donges

11:40 —337. Orientational modes of molecular transport in a polyanionic polymer brush via single molecule fluorescence spectroscopy. **C. G. Reznik**, C. Landes

Applications in Nanoscience

Diagnostics and Delivery

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

WEDNESDAY AFTERNOON

Section A

Unknown Site -- Unknown Room

Polymerization in Nanostructured and Nanocomposite Systems

Liquid Crystalline and Structured Systems

2009 Spring Meeting

Cosponsored by PMSE and NANO

C. N. Bowman, *Organizer*

C. Hoyle, *Presiding*

C. A. Guymon, *Organizer, Presiding*

1:30 —338. Crosslinking of nanoporous lyotropic liquid crystal assemblies for separation and transport applications. **D. L. Gin**, M. Zhou, X. Lu, R. L. Kerr, C. S. Pecinovsky, E. S. Hatakeyama, B. R. Wiesenauer, B. J. Elliott, R. D. Noble

2:00 —339. Polymerization in functional nanostructured liquid-crystalline assemblies. **T. Kato**, Y. Hirai, Y. Sagara, M. Yoshio, K. Kishimoto, T. Ichikawa, H. Ohno

2:30 — Intermission.

2:45 —340. Nanostructured smectic networks toward integrated nanomembranes. **D. J. Broer**, C. Luengo, C. Bastiaansen, J. Lub

3:15 —341. Impact of helical structure retention in phototunable polymer stabilized cholesteric liquid crystals. **T. J. White**, L. V. Natarajan, R. L. Bricker, Q. Li, N. V. Tabiryan, T. J. Bunning

3:45 —342. Tailoring polymethacrylate network structures through polymerization-induced phase separation. **J. Stansbury**, C. S. Pfeifer

Section B

Unknown Site -- Unknown Room

Nanostructured Materials for Future Therapy

Functional Materials and Drug Delivery

Cosponsored by PMSE, BTEC, and NANO

X. Jia, *Organizer*

Y. Yeo and S. Lin-Gibson, *Organizers, Presiding*

1:30 —343. Nanostructured polymer brushes for life science applications. **C. K. Ober**, A. Rastogi, R. Dong, M. Tanaka, E. N. Chiang, G. Berrios, S. Nad, N. Smith, L. Blum, Y. Bisharyan, Y. Liu, K. Berberian, T. Clark, J. Appleton, B. A. Baird, M. Lindau, H. D. Abruña

2:00 —344. Dendrimers based on triazines: From flecks in the flask toward molecules in the clinic. **E. E. Simanek**

2:20 —345. An efficient route to triazine dendrimers containing 20-(S)-camptothecin for cancer therapy. **V. J. Venditto**, S. K. Lalwani, K. Allred, C. D. Allred, E. E. Simanek

2:40 —346. Development of well-defined polyfunctional dendrimers for biological applications. **C. Ornelas**, M. Weck

3:00 — Intermission.

3:20 —347. Ring-opening polymerization mediated chemo- and regioselective conjugation of doxorubicin to polylactide. R. Tong, **J. Cheng**

3:40 —348. Curcumin-surfactant as anticancer prodrugs and drug carriers. H. Tang, C. J. Murphy, B. Zhang, **Y. Shen**, K. D. Cremeans, E. A. Van Kirk, W. J. Murdoch

4:00 —349. Block copolyester micelles as nanocarriers for sustained release of camptothecin. **X. Wang**, L. Xiao, C. Liu, X. Jia

4:20 —350. pH-Triggered charge-reversal polylysine for targeted cancer cell nuclear drug delivery. **Z. Zhou**, Y. Shen, E. A. Van Kirk, W. J. Murdoch

Section C

Unknown Site -- Unknown Room

2009 Spring Meeting

Polymers for Photonics and Optoelectronics

Properties by Design

Cosponsored by PMSE and NANO

P. V. Braun and G. G. Malliaras, *Organizers*

Z. Bao, *Organizer, Presiding*

1:30 —351. Self-assembly and interface engineering for high-performance organic electronics. **A. K -Y. Jen**

2:00 —352. Oligo(thiopheneamide) graft-copolymers by ROMP. **S. Hilf**, J. Klos, A. F. M. Kilbinger

2:20 —353. High metal loaded polymeric complexes for optoelectronics. **J. Kallitsis**, E. Pefkianakis, A. Stefopoulos, A. Merziotis, A. Andreopoulou

2:50 —354. Luminescence color tuning for difluoroboron β -diketonate-poly lactide biomaterials. **G. Zhang**, S. J. Payne, S. E. Kooi, J. N. Demas, C. L. Fraser

3:10 — Intermission.

3:30 —355. Kinetics of crosslinking and chromophore degradation in polyimide-based high performance electro-optical materials. **A. J. Guenther**, M. E. Wright, S. Fallis, L. R. Cambrea, J. Cash, G. R. Yandek, B. J. Petteys

3:50 —356. New frontiers of organic electro-optics: From molecular engineering to technological innovation. **J. Luo**, X -H. Zhou, Z. Shi, S. Huang, S -H. Jang, B. Polishak, M. O'Connor, A. K -Y. Jen

4:10 —357. Tunable high glass-transition electro-optical polymers by ring opening metathesis polymerization. **R. H. Lambeth III**

Section D

Unknown Site -- Unknown Room

Active and Responsive Surfaces

Interfacial Mechanics

Cosponsored by PMSE[‡]

R. C. Hayward and W. T. S. Huck, *Organizers*

A. J. Crosby, *Presiding*

1:30 —358. Mechanically-dynamic polymer nanocomposites. **C. Weder**, S. J. Rowan, J. R. Capadona, K. Shanmuganathan

2:00 —359. Reconfigurable surfaces for cell and molecular manipulation. **S. Takayama**

2:30 —360. Hydrogel surfaces with dynamic biomolecular patterns. **R. C. Hayward**, J. Kim, J. Yoon

2:50 —361. Bonding adhesion between flexible acrylate thermoplastic elastomer and poly (ethylene terephthalate) films. **J. Xu**, M. Cui, L. Xu, C. Jing, A. Salo, J. Qin, J. Fang, A. Liu

3:10 — Intermission.

3:20 —362. Crumpling polymer films. **A. J. Crosby**, D. P. Holmes, C. Davis

3:50 —363. Buckled membranes in mixed-valence ionic amphiphiles. **M. Olvera de la Cruz**, G. Vernizzi, M. Greenfield, L. Palmer, S. I. Stupp

4:10 —364. Harnessing elastic instability on patterned polymer surfaces. Y. Zhang, J. Reed, D. Chandra, E. Matsumoto, R. D. Kamien, **S. Yang**

4:40 —365. Segmented shape memory polyurethanes. **T. Richardson**, M. L. Auad, M. A. Mosiewicki, M. I. Aranguren, N. E.

2009 Spring Meeting

Marcovich

5:00 — Concluding Remarks.

Applications in Nanoscience

Particles and Quantum Dots

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

Nanoscience Synthesis

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

WEDNESDAY EVENING

Nanoscience: Characterization and Applications

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

THURSDAY MORNING

Unknown Site -- Unknown Room

Section A

Nanostructured Materials for Future Therapy

Functional Materials and Drug Delivery

Cosponsored by PMSE, BTEC, and NANO

Y. Yeo, Organizer

X. Jia and S. Lin-Gibson, Organizers, Presiding

8:30 —366. Polymersome delivery of siRNA and antisense oligonucleotides. **D. E. Discher**

9:00 —367. Poly(glycoamidoamine) DNA delivery vectors are internalized by multiple endocytic pathways. **P. M. McLendon**, K. M. Fichter, T. M. Reineke

9:20 —368. Self-assembled oligopeptide nanostructures for co-delivery of drug and gene: Achieving synergy in suppressing cancer cell proliferation. **Y -Y. Yang**, N. Wiradharma, Y. W. Tong

9:40 —369. Polymeric gene delivery vectors: Role of molecular architecture. **S. Venkataraman**, W. L. Ong, C. Y. Ke, S. T. B. Mohamed, S. C. J. Loo, Y. Y. Yang

10:00 — Intermission.

10:20 —370. Polysaccharides with tailored nanostructures for biomedical applications. **M. J. Kipper**, S. Boddohi, S. S. Yonemura

10:50 —371. Biodegradable temperature and pH-dually responsive poly(beta-amino ester)s and their nanoparticles for

2009 Spring Meeting

drug delivery. X. Lu, K. D. Cremeans, H. Tang, E. A. Van Kirk, W. J. Murdoch, **Y. Shen**

11:10 —372. Optimization of glucan particle mediated DNA transfection of macrophages. **E. Soto**, S. Amano, S. Kahlon, G. Ostroff

11:30 —373. Curcumin-containing polymers as anticancer prodrugs. **H. Tang**, C. J. Murphy, B. Zhang, K. D. Cremeans, E. A. Van Kirk, W. J. Murdoch, Y. Shen

11:50 —374. Polyvalent display of human holo-transferrin on bacteriophage Q β via oxime ligation and copper-catalyzed azide-alkyne cycloaddition click reaction. **D. Banerjee**, M. G. Finn

Section B

Unknown Site -- Unknown Room

General Papers

Polymer Characterization and Special Topics

D. Garcia, *Organizer*

H. Liu and K. C. Gupta, *Organizers, Presiding*

8:00 —375. Multifrequency DSC applied to dynamic relaxation phenomena of natural polymers. **A. Mija**, N. Guigo, L. Vincent, N. Sbirrazzuoli

8:20 —376. Investigation of the composition and growth of in vitro natural rubber using high resolution size exclusion chromatography. **C. C. K. Chiang**, A. J. Heidenreich, W. Xie, C. M. McMahan, J. E. Puskas

8:40 —377. Use of mechanochemical devulcanized ground rubber tire powder (GRT) as a potential filler in epoxy composites. **S. Yagneswaran**, N. Tomar, D. W. Smith Jr., J. Cellura, G. Wallace

9:00 —378. Semifluorinated polymer system with ionic liquids. **R. Verma**, N. Tomar, D. W. Smith Jr.

9:20 —379. Quantum chemistry and molecular dynamics simulation studies of proton transport in the fluoroalkylphosphonic acid based electrolyte. **Q. Liu**, O. Borodin, G. D. Smith

9:40 —380. Thermally crosslinkable poly (acrylonitrile-co-1-vinylimidazole) as melt processable carbon fiber precursor. **W. Deng**, A. Lobovsky, S. T. Iacono, W. P. Hoffman, D. W. Smith Jr.

10:00 — Intermission.

10:20 —381. *Para*-octaiodophenylsilsesquioxane, [*p*-IC₆H₄SiO_{1.5}]₈, a nearly perfect nanobuilding block. **M. Roll**, M. Z. Asuncion, S. Sulaiman, J. Kampf, P. Mathur, R. M. Laine

10:40 —382. New flame-resistant rigid-rod random copolymers with flexibilizing structural units. **T. D. Dang**, Z. Bai, N. Venkatasubramanian, A. B. Morgan, J. A. Shumaker, M. D. Houtz

11:00 —383. Biodegradable poly(butylene succinate) copolymers containing minor amounts of succinate derived from other diols. H -S. Hsu, Y -C. Shih, **M. Chen**

11:20 —384. Thermoresponsive cellulose by ATRP graft copolymerization of comonomers. **K. C. Gupta**

11:40 —385. Nonthermal microwave effect on the ring opening polymerization of epsilon-caprolactone. **L. Liu**, S. Cai

Section C

Unknown Site -- Unknown Room

Polymers in Electrophotography

2009 Spring Meeting

Y. Tong, T. W. Smith, and W. T. Ferrar, *Organizers*

8:30 —386. Suspensions of pigment nanoparticles in aqueous solutions: Effect of pH and energy input on morphology and rheology. **A. Pacek**

9:00 —387. Design and properties of micro/nanostructured surfaces for digital color printing. **K -Y. Law**, H. Zhao

9:30 —388. Efficient and robust charge-transporting polymers for highly efficient polymer light-emitting diodes. F. Huang, Y -J. Cheng, M. S. Liu, P -I. Shih, C. Shu, **A. K -Y. Jen**

10:00 — Intermission.

10:20 —389. Electron-transport agents in polyamides for organic photoreceptors. **W. T. Ferrar**, D. S. Weiss, M. F. Molaire, X. Jin, L. J. Sorriero

10:50 —390. Imide based resins. **G. Sacripante**

11:20 —391. Organic nanocomposite photoconductive materials with high photosensitivity. **H. Chen**

Applications in Nanoscience

One-Dimensional Materials

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

THURSDAY AFTERNOON

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Section A

Nanostructured Materials for Future Therapy

Nanoparticles

Cosponsored by PMSE, BTEC, and NANO

S. Lin-Gibson, *Organizer*

X. Jia and Y. Yeo, *Organizers, Presiding*

1:30 —392. Multiplexed bioimaging of cancer biomarkers in human thyroid lesions. **M. L. Becker**, M. D. Roy, W. S. Goldner, W. W. West

2:00 —393. Nanoparticles for targeted PET imaging. **E. D. Pressly**, C. J. Hawker

2:20 —394. Photonic, cationic, pH-responsive shell-crosslinked nanoparticle probes for optical imaging and monitoring in vivo. **N. S. Lee**, G. Sun, W. L. Neumann, J. N. Freskos, J. J. Shieh, R. B. Dorshow, K. L. Wooley

2:40 —395. Polymer modified gadolinium nanoparticles as theragnostic devices for the targeted imaging and treatment of cancer. **M. D. Rowe**, S. G. Boyes, C -C. G. Chang

3:00 — Intermission.

3:20 —396. Synthesis and evaluation of novel partly-fluorinated block copolymers as MRI imaging agents. H. Peng, I. Blakey, B. Dargaville, F. Rasoul, S. Rose, **A. K. Whittaker**

3:40 —397. Targeted thermal elimination of cancer using radiofrequency heating of gold nanoparticles. **P. Cherukuri**, C. Moran, S. A. Curley

2009 Spring Meeting

4:00 —398. Effects of a methacrylic silane on some physicochemical properties of resin-based biomimetic composite. **J. Antonucci**, D. Skrtic

4:20 —399. Developing a new generation of nanostructured TiO₂ and hybrid based bone cements. **P. Charpentier**, S. Khaled, A. Rizkalla

4:40 — Concluding Remarks.

Section B

Unknown Site -- Unknown Room

General Papers

Liquid Crystalline Polymers and Related Topics

D. Garcia, *Organizer*

M. B. Runge, *Organizer, Presiding*

12:00 —400. New liquid crystal diglycidyl ether bearing azomethine linkage cured by aromatic diamines. **A. M. Issam**, R. Ratnamalar

12:20 —401. Entropically driven smectic A and A₂ phases occurring in binary mixtures of rigid-rod helical polysilanes with different molecular weights. **K. Okoshi**, A. Suzuki, M. Tokita, M. Fujiki, J. Watanabe

12:40 —402. Poly(pyridinium salt)s derived from α,ω -diaminoalkanes: Thermotropic liquid-crystalline and photoluminescence properties. **H. D. Mandal**, P. K. Bhowmik, H. Han, A. K. Nedeltchev

1:00 —403. Poly(pyridinium salt)s with organic counterions derived from aromatic diamine containing tetraethyleneoxy units exhibiting thermotropic liquid-crystalline and photoluminescence properties. **H. D. Mandal**, P. K. Bhowmik, H. Han, A. K. Nedeltchev, J. A. Jimenez-Hernandez, P. M. McGannon

1:20 —404. Prolate spheroid domains formed by 2 wt% amorphous segment in an asymmetric LC block copolymer/LC homopolymer mixture. **M. Tokita**, S. Masuyama, M.-A. Adachi, J. Watanabe

1:40 — Intermission.

2:00 —405. Unusual formation of smectic A structure in crosslinked monodomain elastomer of main-chain LC polyester with 3-methylpentane spacer. **R. Ishige**, M. Tokita, Y. Naito, C. Y. Zhang, J. Watanabe

2:20 —406. Twisted intramolecular charge transfer molecule as a covalently integrated reporter of polymer dynamics. J. D. Biberdorf, C. W. Cone, D. A. Vanden Bout, **B. J. Holliday**

2:40 —407. Investigation of the self-assembly of diblock comb polymers into ordered arrays. **M. B. Runge**, C. E. Lipscomb, L. Ditzler, M. K. Mahanthappa, A. V. Tivanski, N. B. Bowden

3:00 —408. Hydrophobic shell loading of PB-b-PEO vesicles. **W. Mueller**, K. Koynov, K. Fischer, S. Hartmann, S. Pierrat, T. Basché, M. Maskos

3:20 —409. Fluorescence kinase and phosphatase assays using conjugated polyelectrolytes. **C. Tan**, Y. Xie, Y. Jiang

Section C

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Polymers in Electrophotography

Y. Tong, T. W. Smith, and W. T. Ferrar, *Organizers*

2009 Spring Meeting

1:30 —410. Organic photoreceptors. **D. S. Weiss**

2:00 —411. Polyester based toner resins. **G. Sacripante**

412. Withdrawn.

2:30 —413. Polymers in electrophotography. **G. P. Marshall**

3:00 —414. Single-layered photoreceptors based on photoconductive nanoparticles of phthalocyanines. **Y. Wang**

3:30 —415. Toner materials and manufacturing. **D. Tyagi**

Applications in Nanoscience

Novel Structures

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