

## 2008 Fall NATIONAL ACS MEETING

Philadelphia (Aug. 17-21, 2008)

Program Meeting Chair: [Christine Landry-Coltrain](#)

**Deadline for Abstracts and Polymer Preprints: March 17, 2008.\***

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

### ACS-wide Thematic Programming

**Overall Theme: Chemistry for Health: Catalyzing Translational Research; Sub-theme: Drug design, Drug delivery, and Drug assay**

#### [Aerogels, Foams and Other Nanoporous Materials](#) (.pdf file)

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#### [5th Controlled/living Radical Polymerization Symposium](#)

Krzysztof Matyjaszewski, J.C. Warner University Professor of Natural Sciences, Department of Chemistry, Carnegie Mellon University, 4400 Fifth Avenue, Pittsburgh, PA 15213, USA, Phone: 412-268-3209 (office) FAX: 412-268-6897, Email: [km3b@andrew.cmu.edu](mailto:km3b@andrew.cmu.edu).

#### [8th International Biorelated Polymers Symposium](#)

Ray Ottenbrite, Department of Chemistry, Virginia Commonwealth U, Richmond, VA 23284, (804) 828-7513, fax (804) 367-8599, [ottenbrite@vcu.org](mailto:ottenbrite@vcu.org); Carmen Scholz, Department of Chemistry, University of Alabama in Huntsville, John Wright Drive, MSB 333, Huntsville, AL 35899, Phone: 256-824-6188, Fax: 256-824-6349, [cscholz@chemistry.uah.edu](mailto:cscholz@chemistry.uah.edu).

#### **Carbohydrate-Polymer Hybrids: Biomaterials and Therapeutics, Cosponsored with CARB**

Newell Washburn, Departments of Chemistry and Biomedical Engineering, Carnegie Mellon University, 700 Technology Drive, Pittsburgh, PA 15219; (412) 268-2130, [washburn@andrew.cmu.edu](mailto:washburn@andrew.cmu.edu); Neil R. Cameron, Department of Chemistry, University of Durham, South Road, Durham, U.K., DH1 3LE, Tel. +44 191 3342008, Fax. +44 191 3844737, [n.r.cameron@durham.ac.uk](mailto:n.r.cameron@durham.ac.uk); Heather D. Maynard, Department of Chemistry and Biochemistry and California Nanosystems Institute, University of California, Los Angeles, 607 Charles E. Young Drive East, Los Angeles, CA 90095, Phone: 310-267-5162, [maynard@chem.ucla.edu](mailto:maynard@chem.ucla.edu).

#### [Polymeric Delivery for Therapeutics](#)(pdf file) cosponsored with COLL

Sarah E. Morgan, School of Polymers and High Performance Materials, University of Southern Mississippi, 118 College Dr., #10076, Hattiesburg, MS 39406; 601-266-5296, [sarah.morgan@usm.edu](mailto:sarah.morgan@usm.edu); Bob Lochhead, The School of Polymers and High Performance Materials, The University of Southern Mississippi, 118 College Drive, Hattiesburg MS 39406, Phone: 601 266 5945, [robert.lochhead@usm.edu](mailto:robert.lochhead@usm.edu).

#### **Microwave-Assisted Chemistry: Organic and Polymer Synthesis, Cosponsored with ORGN**

Ulrich S. Schubert, Laboratory of Macromolecular Chemistry and Nanoscience, Eindhoven University of Technology and Dutch Polymer Institute (DPI), P.O. Box 513, Eindhoven 5600 MB Netherlands, [u.s.schubert@tue.nl](mailto:u.s.schubert@tue.nl), Phone: +31 40 247 4083, Richard Hoogenboom, Laboratory of Macromolecular Chemistry and Nanoscience, Eindhoven University of Technology and Dutch Polymer Institute, PO Box 513, Eindhoven 5600 MB Netherlands, [r.hoogenboom@tue.nl](mailto:r.hoogenboom@tue.nl), Phone: +31 40 247 5303; C. Oliver Kappe, Christian Doppler Laboratory for Microwave Chemistry, Karl-Franzens-University of Graz, Heinrichstrasse 28, Graz A-8010 Austria, Phone: +43-316-3805352, Fax: +43-316-3809840, [oliver.kappe@uni-graz.at](mailto:oliver.kappe@uni-graz.at).

#### **Polymers in Flat Panel Display Technologies, cosponsored with PMSE**

Jehuda Greener, Flat Panel Display Technologies, Rohm and Haas Electronic Materials, P.O.Box 60799, Rochester, NY 14606, Phone: 585-719-2435, [JGreener@rohmmaas.com](mailto:JGreener@rohmmaas.com). Jason Brooks, Universal Display Corporation, 375 Phillips Blvd, Ewing, NJ 08618, Phone: 609-671-0980, Fax: 609-671-0995, [jbrooks@universaldisplay.com](mailto:jbrooks@universaldisplay.com).

## 2008 Fall Meeting

### **Conducting Polymers, Molecular Wires, and Devices: A Tribute to Alan MacDiarmid**

Wayne E. Jones Jr., Department of Chemistry, Institute for Materials Research, and Center for Research on Environmental Systems, State University of New York, Vestal Parkway East, Binghamton, NY 13902, Phone: 607-777-2421, Fax: 607-777-4478, [wjones@binghamton.edu](mailto:wjones@binghamton.edu); Samson A. Jenekhe, Department of Chemical Engineering and Department of Chemistry, University of Washington, Benson Hall, Box 351750, Seattle, WA 98195-1750, Phone: 206-543-5525, Fax: 206-685-3451, [jenekhe@u.washington.edu](mailto:jenekhe@u.washington.edu).

### **Formulating Polymeric Materials in Consumer Products**

Robert Lochhead, The School of Polymers and High Performance Materials, University of Southern Mississippi, 118 College Drive, Hattiesburg, MS 39406, Phone: 601-266-5945, Fax: 601-266-5504, [robert.lochhead@usm.edu](mailto:robert.lochhead@usm.edu). Sarah E. Morgan, School of Polymers and High Performance Materials, University of Southern Mississippi, 118 College Dr., #10076, Hattiesburg, MS 39406, Phone: 601-266-5296, [sarah.morgan@usm.edu](mailto:sarah.morgan@usm.edu).

### **Heroes of Chemistry in Materials Advanced Applications (co-sponsored with PMSE and ACS Corporate Associates)**

Christine Landry-Coltrain, Kodak Research Laboratories, Eastman Kodak Company, Build. 82/Floor 6, Rochester, NY 14450-2109, Phone: 585-722-3683, [christine.landry-coltrain@kodak.com](mailto:christine.landry-coltrain@kodak.com). Abhimanyu Patil, ExxonMobil Research & Engineering Company, 1545 Route 22 East, Annandale, NJ 08801, Phone: 908-730-2639, Fax: 908-730-2536, [abhimanyu.o.patil@exxonmobil.com](mailto:abhimanyu.o.patil@exxonmobil.com)

### **Hybrid Nanomaterials: Impact on Modern Materials and Opportunities for Industrial Applications**

Bhanu P. S. Chauhan, Engineered Nanomaterials Laboratory, Department of Chemistry and Physics, William Paterson University, 300, Pompton Road, Wayne, NJ 07470-2103, Phone: 973-720-2470, Fax: 973-720-2338, [chauhanbps@wpunj.edu](mailto:chauhanbps@wpunj.edu). Richard Durand Jr., Sun Chemical Corporation, 631 Central Avenue, Carlstadt, NJ 07072, Phone: 888-786-4657, Fax: 201-933-5658, [richard.durand@sunchemical.com](mailto:richard.durand@sunchemical.com). Jason Rouse, Sun Chemical Corporation, 631 Central Avenue, Carlstadt, NJ 07072, Phone: 888-786-4657, Fax: 201-933-5658, [jason.rouse@na.sunchem.com](mailto:jason.rouse@na.sunchem.com).

### **Organic Thin Films for Photonics Applications (pdf file)**

Warren N. Herman, Laboratory for Physical Sciences, University of Maryland, College Park, 8050 Greenmead Dr, College Park, MD 20740, Phone: 301-935-6474, Fax: 301-935-6723, [herman@lps.umd.edu](mailto:herman@lps.umd.edu); Stephen H. Foulger, School of Materials Science & Engineering, Clemson University, 262 Serrine Hall, Clemson, SC 29634, Phone: 864-656-3345, [foulger@clemson.edu](mailto:foulger@clemson.edu); Steven R. Flom, Optical Sciences Division, Naval Research Laboratory, Washington, DC 20375, Phone: 202-767-3795, [flom@nrl.navy.mil](mailto:flom@nrl.navy.mil).

### **Paul J. Flory Polymer Educational Award (in honor of Frank Kelley)**

William J. MacKnight, Polymer Science and Engineering Department, Silvio O. Conte National Center for Polymer Research, University of Massachusetts, 120 Governors Drive, Amherst, MA 01003, Phone: 413-577-1412, Fax: 413-545-0082, [wmacknight@polysci.umass.edu](mailto:wmacknight@polysci.umass.edu). Richard J. Farris, Polymer Science and Engineering Department, Silvio O. Conte National Center for Polymer Research, University of Massachusetts Amherst, Amherst, MA 01003, Phone: 413-577-1312, Fax: 413-545-0082, [rjfarris@polysci.umass.edu](mailto:rjfarris@polysci.umass.edu).

### **2008 Industrial Polymer Scientist Award in Honor of S. Richard Turner**

Timothy E. Long, Department of Chemistry, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061-0212, Phone: (540)231-2480, [telong@vt.edu](mailto:telong@vt.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](mailto:dana.garcia@arkemagroup.com).

**POLY-downloaded 6/30/2008, so this is the "tentative" final version; room locations may change so make sure to consult the official web version prior to the meeting.**

## **DIVISION OF POLYMER CHEMISTRY**

2008 Fall Meeting

**Program, 236th ACS National Meeting, Philadelphia, PA, August 17-21, 2008**

C. Landry-Coltrain, *Program Chair*

**SUNDAY MORNING**

Section A

Sheraton Philadelphia City Center -- Liberty Blrm A

**5th Controlled/living Radical Polymerization Symposium**

**Tutorial — Fundamentals of Controlled Radical Polymerization**

*Cosponsored by HEALTH<sup>+</sup>*

K. Matyjaszewski, *Organizer*

M. Buback and T. Fukuda, *Presiding*

**8:20** — Introductory Remarks.

**8:30** —1. Current status of controlled/living radical polymerization. **K. Matyjaszewski**

**9:15** —2. Propagation and termination of radicals: Detailed analysis of polymerization kinetics via pulsed-laser-assisted techniques and high-pressure experiments. **M. Buback**

**10:00** —3. What can a polymer scientist learn from a synthetic radical chemist and vice versa? **A. Studer**

**10:45** — Intermission.

**10:55** —4. Science of concentrated polymer brushes. **T. Fukuda**

**11:40** —5. Using CRP tools to introduce peptides and proteins into the world of polymer science. **H. G. Börner**

Section B

Sheraton Philadelphia City Center -- Salon 5/6

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

D. Garcia, *Organizer*

M. Scandone, *Organizer, Presiding*

**8:30** —6. Synthesis of semiconducting nanoparticles. **C. T. Adkins**, H. Muchalski, M. J. Cohen, E. Harth

**8:50** —7. Morphology and thermal behavior of modified Maghnia bentonite/poly(styrene-co-methacrylic acid)/poly(isobutyl methacrylate-co-4-vinylpyridine) nanocomposites. **S. Djadoun Sr.**, A. Habi

**9:10** —8. Nanocomposites from silica nanoparticles polynorbornenes with pendant cholesterols. **T. A. P. Seery**, S -K. Ahn, D. Penaloza, D. J. Sandberg, R. Kasi

**9:30** —9. Functional thin film nanoassemblies for electrochemical energy conversion devices. **A. A. Argun**, J. N. Ashcraft, I. J. Gomez, M. A. Esquivel, P. T. Hammond

**9:50** —10. Polyelectrolyte decorated superparamagnetic nanoparticles. **Q. Yuan**, G. L. Baker

**10:10** —11. Chemometric analysis and visualization tools for IR spectral searching. **M. Scandone**, D. Garcia

**10:30** —12. Ultrathin photopatternable polymer layers as platforms for generation of tailored polymer surface chemistries. **I. Blakey**, A. K. Whittaker

## 2008 Fall Meeting

**10:50 —13.** Controlled carbocationic polymerization of bicyclo[2,2,1]hepta-2,5-diene. **N. Mijid Taylor**, R. M. Peetz

Section C

Sheraton Philadelphia City Center -- Liberty Blrm D

### Polymeric Delivery for Therapeutics

#### Drug Delivery

*Cosponsored by COLL and HEALTH#*

R. Lochhead, *Organizer*

S. E. Morgan, *Organizer, Presiding*

**8:30 —14.** Acrylate copolymers for drug eluting stents. **V. Davé**, G. Papandreou, B. White

**9:00 —15.** Polymer/dendrimer supported organoplatinum drugs. **B. A. Howell**

**9:25 —16.** Raft synthesis of functional poly(ethylene glycol)-based acrylic copolymers and their conjugation to desferrioxamine for chelation therapy. **N. A. A. Rossi**, I. Mustafa, M. D. Scott, J. K. Jackson, H. M. Burt, J. N. Kizhakkedathu

**9:55 —** Intermission.

**10:05 —17.** Free volume of polyelectrolyte multilayer films comprising nanoblended layers. **S. Pas**, J. F. Quinn, F. Caruso, A. J. Hill

**10:35 —18.** A novel delivery system for the bioregulatory agent nitric oxide. **H. A. Liu**, H. Osuna, C. Miller, K. J. Balkus Jr.

**11:00 —19.** Engineering zein films with controlled hydrophilicity through alternative solvents and UV/ozone treatment. **K. Shi**, J. L. Kokini, Q. Huang

**11:25 —20.** Novel nanotechnology platform: Design and synthesis. **M. K. Pandey**, R. Tyagi, V. B. Tucci, V. Kumar, B. Gupta, S. K. Sharma, J. Kumar, V. S. Parmar, A. C. Watterson

Section D

Sheraton Philadelphia City Center -- Liberty Blrm C

### Microwave-Assisted Chemistry: Organic and Polymer Synthesis

#### Tutorial

*Cosponsored by ORGN and PMSE*

R. Hoogenboom and C. O. Kappe, *Organizers*

R. S. Varma, *Presiding*

U. S. Schubert, *Organizer, Presiding*

**8:30 —** Introductory Remarks.

**8:45 —21.** Introduction to microwave chemistry – a tutorial. **C. O. Kappe**

**10:40 —** Intermission.

**11:00 —22.** Microwave-assisted polymer synthesis – a tutorial. **R. Hoogenboom**

Section E

Sheraton Philadelphia City Center -- Liberty Blrm B

### Carbohydrate-Polymer Hybrids: Biomaterials and Therapeutics

2008 Fall Meeting

## Glycopolymer Therapeutics

*Cosponsored by CARB and HEALTH#*

H. D. Maynard, *Organizer*

N. R. Cameron and N. R. Washburn, *Organizers, Presiding*

**8:00** — Introductory Remarks.

**8:05 —23.** Site-directed conjugation of clicked glycopolymers to form glycoprotein mimics. **D. M. Haddleton**, J. Geng, G. Mantovani, J. Lindqvist

**8:35 —24.** Multivalent glyconanoparticles from RAFT polymers: Synthesis and characterization. **A. L. Parry**, S. G. Spain, J. Ellis, N. R. Cameron

**8:55 —25.** RAFT polymerization: Toward acid or thiol degradable crosslinked glycopolymers micelles. L. Zhang, S. Pearson, **M. H. Stenzel**

**9:25 —26.** One pot approach for the establishment of dendritic polymers with various oligosaccharide architectures. D. Appelhans, H. Komber, **B. Voit**, A. F. Thünemann, B. Brutschy, N. Morgner, S. Richter, R. Bienert

**9:45 —27.** One-pot CuAAC/LRP protocols: Toward "click processes"? **G. Mantovani**, J. Lindqvist, J. Geng, D. M. Haddleton

**10:05** — Intermission.

**10:20 —28.** Controlling cellular responses to materials via the use of polysaccharide-derivatized polymers. **K. L. Kiick**

**10:50 —29.** Synthesis of thiol-reactive glycopolymers by ATRP. **V. Vazquez Dorbatt**, H. D. Maynard

**11:10 —30.** Well-defined synthetic glycopolymers as multivalent ligands for biorecognition. **J. Lindqvist**, G. Mantovani, J. Geng, D. M. Haddleton

**11:30 —31.** Characterization of the role of charge and linker chemistry in the inhibition of bacterial toxins by glycopeptides. **R. Maheshwari**, K. L. Kiick

**11:50 —32.** One-pot synthesis of neoglycopolymer by stepwise "click chemistry" and living radical polymerization. **J. Geng**, G. Mantovani, J. Lindqvist, D. H. Haddleton

## SUNDAY AFTERNOON

Section A

Sheraton Philadelphia City Center -- Liberty Blrm A

## 5th Controlled/living Radical Polymerization Symposium

### Atom Transfer Radical Polymerization

*Cosponsored by HEALTH#*

K. Matyjaszewski, *Organizer*

M. Sawamoto and R. Poli, *Presiding*

**1:30 —33.** System design and materials synthesis via transition metal-catalyzed living radical polymerization. **M. Sawamoto**, T. Terashima, M. Ouchi

**1:55 —34.** Iron-based atom transfer radical polymerization of styrene derivatives. **A. Sen**, R. Luo

**2:20 —35.** Catalyst performance in atom transfer radical polymerization: A closer look. **N. V. Tsarevsky**, W. A. Braunecker, W. Tang, Y. Kwak, K. Matyjaszewski

**2:45 —36.** Atom transfer radical addition (ATRA) catalyzed by ppm amounts of copper complexes. **T. Pintauer**

## 2008 Fall Meeting

**3:10 —37.** Atom transfer radical polymerization of vinyl acetate by copper halide/terpyridine catalyst. H. Tang, M. Radosz, **Y. Shen**

**3:35** — Intermission.

**3:45 —38.** Controlled radical polymerization by use of half-sandwich chromium complexes. U. Baisch, Y. Champouret, **R. Poli**, L. Tang, J. L. Conway, K. M. Smith

**4:10 —39.** ATRP of methyl methacrylate catalyzed by novel homo- and heterobimetallic ruthenium complexes. **A. Demonceau**, Y. Borguet, S. Delfosse, X. Sauvage, L. Delaude, L. Bareille, P. Le Gendre, C. Moïse

**4:35 —40.** Stereospecific living radical polymerization for simultaneous control of molecular weight and tacticity. **M. Kamigaito**, K. Satoh

**5:00 —41.** The color of quasilinging atom transfer radical polymerization. I. Szanka, T. Fónagy, **B. Iván**, G. Kali, G. Szarka, M. Szesztay, K. Verebélyi

Section B

Sheraton Philadelphia City Center -- Salon 5/6

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

D. Garcia, *Organizer*

H. Liu, *Organizer, Presiding*

**1:00 —42.** Click chemistry as a versatile synthetic tool to diblock copolymers based on polypeptides. **W. Agut**, D. Taton, S. Lecommandoux

**1:20 —43.** Evaluation of novel absorbable cyanoacrylate adhesives for medical applications. H. Liu, C. Vailhe, **S. Gonzalez**

**1:40 —44.** Hybrid poly(2-hydroxyethyl methacrylate) and dendritic polymer hydrogels as scaffolds for corneal tissue engineering. **A. M. Oelker**, M. W. Grinstaff

**2:00 —45.** Synthesis and characterization of [2,4-dinitrophenyl (DNP)] functionalized polypyrroles: Conductive polymers with biospecific binding capacity toward mast cells. **I. M. Khan**, **D. Reuven**, B. Sannigrahi, B. Baird, D. Sil, H. G. Craighead, L. Bellan

**2:20 —46.** New well-defined polystyrene star-shaped or cross-linked polymer based on macromonomers and octafunctional silsesquioxanes. **H. Harris**, B. Nohra, O. Gavot, P. J. Lutz

**2:40 —47.** Poly(triol  $\alpha$ -ketoglutarate) as biodegradable, chemoselective, and mechanically tunable elastomers. M. N. Yousaf, **D. G. Barrett**

**3:00 —48.** Responsive hyperbranched polymers: Shape-persistent double-hydrophilic block copolymers. **K. J. Thurecht**, C. Alexander, S. M. Howdle, D. J. Irvine

**3:20 —49.** Synthesis of fluorescent conjugated polymer with varying percentage loading of dipyrrolequinoxaline receptor for fluoride and cyanide anions detection. **C. N. Malele**, S. S. Pinnock, A. Eshraghi, W. E. Jones Jr

**3:40 —50.** Improved synthesis and chemical modification of a beta-O-4 type artificial lignin polymer. D. M. Wallace, N. Brauner, W. Niceswanger, **P. M. Iovine**

**4:00 —51.** Use of crosslinked poly(orthosilicate)s as organic solvent absorbent. **H. Bulbul Sonmez**, K. Karadag, G. Onaran

Section C

Sheraton Philadelphia City Center -- Liberty Blrm D

### Polymeric Delivery for Therapeutics

2008 Fall Meeting

## Nanoparticles and Imaging

*Cosponsored by COLL and HEALTH#*

S. E. Morgan, *Organizer*

R. Lochhead, *Organizer, Presiding*

**1:30 —52.** Drug delivery and imaging using nanoparticles produced by block-copolymer directed Flash NanoPrecipitation. **R. K. Prud'homme**

**2:30 —53.** Supramolecular encapsulation of guest molecules in macromolecular carriers. **S. M. Grayson**, D. M. Eugene, B. A. Laurent, M. D. Giles

**3:00 —54.** Polymer modified nanoparticles for targeted imaging and therapy. **S. G. Boyes**, M. D. Rowe, W. Svoboda, W. Maksaarekul, C.-C. G. Chang

**3:30 —** Intermission.

**3:40 —55.** Synthesis, modeling and relaxivities of contrast agents for MRI. **P. Huffstetler**, W. Miles, C. Reinholz, J. D. Goff, M. R. J. Carroll, R. C. Woodward, T. St. Pierre, R. M. Davis, J. S. Riffle

**4:05 —56.** On-demand drug delivery from polymeric implants by external triggering. **R. Hoogenboom**, M. A. M. E. Vertommen, S. A. Rovers, D. T. A. Van Asseldonk, J. T. F. Keurentjes

**4:35 —57.** Prodrug strategies for stable drug nanoparticles. **M. Herrera**, V. Kumar, R. K. Prud'homme

**5:00 —58.** Synthesis of thermally-responsive gold-decorated nanostructures from block copolymers synthesized by RAFT polymerization. **A. E. Smith**, X. Xu, C. L. McCormick

Section D

Sheraton Philadelphia City Center -- Liberty Blrm C

## Microwave-Assisted Chemistry: Organic and Polymer Synthesis

### Organic Synthesis

*Cosponsored by ORGN and PMSE*

U. S. Schubert and R. Hoogenboom, *Organizers*

N. E. Leadbeater, *Presiding*

C. O. Kappe, *Organizer, Presiding*

**1:00 —59.** Microwave heating as a safe, versatile tool for reactions involving gaseous reagents. **N. E. Leadbeater**, C. M. Kormos

**1:35 —60.** Microwave-assisted synthesis of imidazolium salts. **A. Démonceau**, M. Hans, L. Delaude

**2:00 —61.** Microwave-assisted syntheses of heterocyclic compounds. **D. Armstrong**

**2:25 —62.** Microwave-assisted tandem processes for the synthesis of N-heterocycles. **M. Abid**, B. Torok, X. Huang

**2:50 —** Intermission.

**3:10 —63.** Nonthermal microwave effects in organic synthesis: Myth or reality? **C. O. Kappe**, J. M. Kremsner

**3:45 —64.** Synthesis and reactions of calixarenes using microwave irradiation. **S. P. Bew**

**4:10 —65.** Upscaling the synthesis of 1-butyl-3-methyl-imidazolium chloride under microwave irradiation. **T. Erdmenger**, R. M. Paulus, R. Hoogenboom, U. S. Schubert

**4:35 —66.** Aminocarbonylation by a pressurized continuous flow reactor and comparison with batch-type techniques. **Z. Szekelyhidi**, C. Csaba, B. Borcsek, I. Kovacs, Z. Bajko, U. Laszlo, F. Darvas

Sheraton Philadelphia City Center -- Liberty Blrm B

## Carbohydrate-Polymer Hybrids: Biomaterials and Therapeutics

### Glycopolymer Biomaterials

*Cosponsored by CARB and HEALTH#*

N. R. Cameron, *Organizer*

N. R. Washburn and H. D. Maynard, *Organizers, Presiding*

**1:30 —67.** Glycosylated chemokine antagonists inhibit aneurysm formation. **E. L. Chaikof**

**2:00 —68.** Polysaccharide hydrogels with controlled temporal structures. C. Chung, S. Sahoo, C -H. Chou, **J. A. Burdick**

**2:30 —69.** Bioresorbable hyaluronic acid hydrogels for tissue engineering applications. **S. A. Bencherif**, A. Srinivasan, A. Jiang, J. O. Hollinger, K. Matyjaszewski, N. R. Washburn

**2:50 —** Intermission.

**3:05 —70.** Polysaccharide-poly(oxyethylene)-based hydrogel interpenetrating networks for resorbable implantable devices. **A. Coury**, K. Greenawalt, H. Kramer, R. Corazzini, J. Colt, K. Skinner, L -P. Yu, T. Jozefiak

**3:35 —71.** Heparin-containing hydrogels for modulating endothelial cell responses. **T. Nie**, A. D. Baldwin, R. E. Akins Jr., K. L. Kiick

**3:55 —72.** Glycopolymer contrast agents for fluorescence and MRI detection of DNA delivery. J. M. Bryson, K. M. Fichter, J -H. Lee, W -J. Chu, **T. M. Reineke**

**4:25 —73.** Hydroxypropyl cellulose as multifunctional initiator for controlled polymerizations. **E. Östmark**, D. Nyström, J. Lindqvist, A. Carlmark, E. Malmström

**4:45 —74.** Surface functionalization of quantum dots with well-defined biotinylated glycopolymers. **R. Narain**

### Young Industrial Investigators

*Sponsored by ORGN, Cosponsored by MEDI and POLY*

### SUNDAY EVENING

Pennsylvania Convention Center -- Hall C

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

D. Garcia, *Organizer*

**6:00 - 8:00**

**75.** Ionic self-assembled multilayers in electroactive-polymer actuators. **R. Montazami**, V. Jain, S. Liu, Q. Zhang, J. R. Heflin

**76.** Glylons-generic name for hydroxylated polyamides. **I. I. Negulescu**, P. S. Russo, W. H. Daly, C. Rosu, R. Laine

**77.** Size exclusion chromatography of bioderived poly(hydroxy alkanoate)s. **I. I. Negulescu**, R. Cueto, M. G. Wing, B. Stevens, K. Rusch, A. Jacobs



## 2008 Fall Meeting

78. Reaction of chitosan with trityl chloride and phthalic anhydride in homogeneous ionic liquid solutions. **C. Stefanescu**, W. H. Daly, I. I. Negulescu
79. X-ray diffraction characterization of solid nanocomposites containing laponite and montmorillonite. **E. A. Stefanescu**, I. I. Negulescu, W. H. Daly
80. Solute responsiveness of stimuli-responsive polymers in the solution and solid state. **H. Fu**, K.-S. Liao, D. E. Bergbreiter
81. Synthesis and structural characteristics of perfluorocyclobutane(pfcb) and polyethylene glycol(peg) block polymers. **D. K. Brown**, D. W. Smith Jr.
82. Preparation of epichlorohydrin-crosslinked carboxymethyl starch as a novel biodegradable superabsorbent polymer. **C. Katepetch**, **R. Rujiravanit**
83. Morphological control of segmented polyurethane/silica nanocomposites by tailoring crystallization of hard/soft segments. **M. A. Hood**, B. Wang, J. J. LaScala, J. M. Sands, F. L. Beyer, J. A. Orlicki, A. J. Hsieh, M. VanLandingham, C. Y. Li
84. Polyethylene-clay nanocomposites by in situ polymerization with immobilized iron catalysts. **L. P. Stubbs**
85. Morphology and mechanical properties of wheat gluten/thiol-functionalized alumina blends. **J. Dong**, D. Wu, L. M. McGrath, R. S. Parnas, A. D. Asandei
86. Modular design of photoregulated chiroptical switching elements: Fluorine-substituted oligomers. **G. D. Jaycox**
87. A negative-type photosensitive poly(benzoxazole) based on poly(o-hydroxy amide), a novel ester-type cross-linker, and a photobase generator. **K. Mizoguchi**, M. Ueda
88. Coordinative helical nanoporous polymer fabricated by template polymerization of hydrogen-bonded columnar liquid crystal. **S. Ishihara**, Y. Furuki, S. Takeoka
89. Ionic liquid 1-butyl-3-methylimidazolium cyanamide (bmim [dca]) as a solvent and catalyst for acylation of maltodextrin. **A. Biswas**, R. L. Shogren, J. L. Willett
90. Synthesis of novel rod-coil polymers bearing cholesterol mesogens and the study of their liquid crystallinity. **Y. Zhou**, R. Kasi
91. MALDI-TOF/TOF MS measurements of PMMA. **C. R. Becer**, A. Baumgaertel, M. Gottschaldt, U. S. Schubert
92. Melt characterization of ultrahigh molecular weight polyethylene fibers using samples restrained to constant length. **A. Wampler**
93. Synthesis and characterization of model materials as part of the "microscale polymer processing 2" project. **P. Chambon**, C. M. Fernyhough, A. J. Ryan
94. Semifluorinated aryl ether network polymers. **K. N. Tackett II**, S. T. Iacono, D. W. Smith Jr.
95. Heterogeneous Ti(IV) catalysts for the preparation of epoxy alcohols. **X. Yang**, A. W. Jensen
96. Extended dissolution studies of cellulose in ionic liquids. **T. Erdmenger**, J. Vitz, C. Haensch, U. S. Schubert
97. Facile method for the synthesis of cleavable block copolymers. **N. Chikkannagari**, A. Klaiherd, S. Thayumanavan
98. Facile synthesis of aromatic polyamide dendrimers with trifluoroacetamide groups at their periphery via a convergent method. **K. Endo**, Y. Ito, M. Ueda
99. Integrated fluorescent polymer systems for optical applications. **T. S. Lee**, T. H. Kim, C. K. Kwak, J. H. Lee
100. Light emitting conjugated polymers incorporating thiophene-phenylene monomer. G. Balaji, **V. Sivamurugan**, S. Valiyaveetil

## 2008 Fall Meeting

- 101.** Novel copolymers of 2-phenyl-1,1-dicyanoethylene with 4-fluoro- and pentafluorostyrene. **G. B. Kharas, E. Hanawa, B. L. Hill**
- 102.** Novel poly(dimethylsiloxane-urea)-montmorillonite nanocomposites. **I. I. Nugay, E. Yilgor, I. Yilgor**
- 103.** Phase behavior of regioregular poly(3-alkylthiophene)/polystyrene blends. **Y. Lee, J. K. Kim**
- 104.** Polycondensation of propargylic carbonate derivatives and bisphenols catalyzed by palladium catalyst. **T. Koizumi, H. Nishino, N. Nishioka, T. Ishida**
- 105.** Synthesis and characterization of fluorine-contained polyimides with the diamondoid pendants on the backbone. **Z. Bai, E. Fossum, B. E. Moore, T. D. Dang**
- 106.** Synthesis of aramides by polycondensation of aromatic dicarboxylic acids with aromatic diamines containing ether linkages. **Y. Shoji, K. Mizoguchi, M. Ueda**
- 107.** Synthesis of magnetite nanoparticles in the presence of a polymer based on ionic liquid. Y. Zhai, Q. Zhang, R. Li, A. Dong, F. Liu, **G. Gao**
- 108.** Water-soluble poly(para-phenylene): Synthesis and FRET effect for peptide sensing. **C. K. Kwak, K.-O. Kim, D. M. Kim, T. S. Lee**
- 109.** Effects of sonication on the thermal behaviors of nanocomposites containing bismaleimides and carbon nanofibers/nanotubes. **D. H. Wang, W. C. Lee, L.-S. Tan**
- 110.** Methacrylate nanoparticles by crosslinking of block copolymer micelles in organic solvents. **S. Tea, F. Schacher, A. H. E. Mueller**
- 111.** Improving compatibilization of wheat gluten blends by in situ silica particles synthesis. S. Hemsri, C. P. Simpson, L. M. McGrath, **R. S. Parnas, A. D. Asandei**
- 112.** Click polyester: Synthesis of polyesters containing triazole units in the main chain via click chemistry. **A. Takasu, Y. Nagao**
- 113.** Synthesis and characterization of hydrophilic silicone copolymers and macromonomers for ophthalmic application. **D. Pavlovic, J. G. Linhardt, J. F. Künzler, D. A. Shipp**
- 114.** Stabilization of nanoparticles by macromolecules combining phosphorus dendrimers and 15-membered triolefinic azamacrocycles. **G. Franc, E. Badetti, M. Moreno-Mañas, J.-P. Majoral, R.-M. Sebastian, A.-M. Caminade**
- 115.** A study of hydrogen bonding in poly(styrene-co-methacrylic acid)/poly(styrene-co-4-vinylpyridine) systems. **S. Djadoun Sr., Z. Benabdelghani Sr., K. Elmiloudi Sr., A. Etxeberria Sr.**
- 116.** Novel nanoparticles of polyolefin-PEG AB<sup>3</sup> block copolymers. **K. Matoishi, S. Nakatsuka, N. Nagai, T. Fujita**
- 117.** Inverse gas chromatography as an alternative method for the analysis and characterization of polymers. Z. Y. Al-Saigh, **A. Al-Ghamdi**
- 118.** Deviation from Bovey model by solvent in free radical polymerization of acrylate. **H. Tanaka, K. Soga**
- 119.** Novel functionalization of poly(phenylene ether) at each monomer unit via poly(addition-condensation) mechanism. **Y. Segawa, W. Sinananwanich, M. Ueda**
- 120.** Synthesis of a hyperbranched polythioketal with 100% degree of branching. **W. Sinananwanich, M. Ueda**
- 121.** Unsaturated polyimide prepared under mild reaction conditions by nucleophilic substitution reaction through C-N bond formation. **A. Parthiban, H. Yu, C. L. L. Chai**
- 122.** Synthesis and characterization of poly(n-butylacrylate) macroinitiators and diblock copolymers of poly(n-butylacrylate-b-caprolactone). **A. Parthiban, A. Likhitsup, H. Yu, C. L. L. Chai**

## 2008 Fall Meeting

- 123.** Synthesis and characterization of PMMA based macroinitiators and AB type diblock copolymers of poly(methyl methacrylate-*b*-caprolactone). **A. Parthiban**, A. Likhitsup, H. Yu, C. L. L. Chai
- 124.** Living ring opening polymerization of  $\epsilon$ -caprolactone by a Ti benzyloxy derived from the Cp<sub>2</sub>TiCl SET reduction of benzaldehyde. **A. D. Asandei**, Y. Chen, O. Adebolu, C. P. Simpson
- 125.** Copolymerization of amino acid functionalized norbornene monomers: Synthesis of amphiphilic block copolymers forming reverse micelles. **S. Sutthasupa**, F. Sanda, T. Masuda
- 126.** Nanocomposites containing gold nanoparticles bonded with multifunctionalized poly(*p*-methylstyrene). **R. C. Tsiang**, H -M. Huang
- 127.** Preparation of electrospun polymethyl methacrylate/silver nanofibrous mat for use as a filter media. **H -S. Bae**, C -N. Kim, M -J. Park, S -M. Lee, I -K. Kang
- 128.** Surface modification of magnetite nanoparticles for molecular imaging. **S -M. Lee**, S -J. Kim, M -J. Park, H -S. Bae, K. M. K. Selim, Y -M. Chang, B -H. Lee, I -K. Kang
- 129.** Study on the gradient structure of polysilicone-polyacrylate blend film. L. Wei, **C. Zhang**, Y. Hu, F. Huang
- 130.** Effects of substrate on the surface properties of silicon containing acrylate blend films. **L. Wei**, **C. Zhang**, Y. Hu, F. Yang
- 131.** Nonisothermal crystallization kinetics of tremolite/PA1010 composites. X. Liu, Z. Li III, J. Fang, **F. Liu**
- 132.** Study on the factors effected on the molecular weight of poly(N,N-dimethylacrylamide). J. Yu, C. Tian, **F. Liu**, M. Yang
- 133.** Preparation of soybean protein isolate-sodium dodecyl sulfate microcapsules by complex coacervation. W. Liu, X. Zhu, X. Gu, Z. Zhang, **X. Z. Kong**
- 134.** Kinetics studies on polymerization of acrylamide using sodium bisulfite as initiator. Q. Chen, J. Fang, G. Jiang, G. Gao, Q. Zhang, **F. Liu**

## MONDAY MORNING

Section A

Sheraton Philadelphia City Center -- Liberty Blrm A

## 5th Controlled/living Radical Polymerization Symposium

### RAFT and Degenerative Transfer Processes

*Cosponsored by HEALTH<sup>®</sup>*

K. Matyjaszewski, *Organizer*

G. Moad and S. Perrier, *Presiding*

**8:00 —135.** New features of the mechanism of RAFT polymerization. **G. Moad**, Y. K. Chong, R. Mulder, E. Rizzardo, S. H. Thang

**8:25 —136.** Recent developments in RAFT polymerization techniques: Design of stimuli-responsive systems relevant to biomedicine. **C. L. McCormick III**

**8:50 —137.** RAFT polymerization, a versatile tool for the production of nanostructures. **S. Perrier**

**9:15 —138.** RAFT-mediated polymerization of N-vinylpyrrolidone. **B. Klumperman**, G. Pound, Z. Eksteen, D. Barnard

**9:40 —139.** Mechanism of Z-RAFT star polymerization. D. Boschmann, M. Drache, M. Fröhlich, G. Zifferer, **P. Vana**

**10:05 —** Intermission.

## 2008 Fall Meeting

**10:15 —140.** Reversible chain transfer catalyzed polymerization (RTCP): A new family of living radical polymerization with germanium, tin, phosphorus, and nitrogen compound catalysis. **A. Goto**, Y. Tsujii, T. Fukuda

**10:40 —141.** RAFT star polymer formation: Detailed assessment of poly(acrylate) radical reaction pathways via ESI-MS. **G. Hart-Smith**, H. Chaffey-Millar, C. Barner-Kowollik

**11:05 —142.** Progress in reverse iodine transfer polymerization (RITP) in miniemulsion and emulsion. J. Tonnar, **P. Lacroix-Desmazes**

**11:30 —143.** Living radical polymerizations of vinylidene fluoride in supercritical carbon dioxide. **S. Beuermann**, M. Imran-ul-haq

**11:55 —144.** Kinetics and colloidal stability of RAFT miniemulsion polymerization of MMA using comblike polymeric surfactant. **P. Ni**, X. Zhou, H. Cao, X. Zhu

Section B

Sheraton Philadelphia City Center -- Liberty Blrm B

## 8th International Biorelated Polymers Symposium

### Tutorial

*Cosponsored by HEALTH#*

C. Scholz, *Organizer*

E. Chiellini, *Presiding*

R. M. Ottenbrite, *Organizer, Presiding*

**8:30 —145.** Introduction to biorelated polymers for bioapplications. **R. M. Ottenbrite**

**9:00 —146.** Biomaterials: Evolving therapies and uses. **A. Coury**

**9:45 —** Intermission.

**10:05 —147.** Advances in biosurface analytical methods applied to biomimetic systems and new macromolecular architectures. **R. C. Advincula**

**10:50 —148.** Material science of resorbable polymeric biomaterials and the impact of processing and morphology on performance. **M. Jaffe**, G. Collins, S-U. Yoo, J. Rafalko

Section C

Sheraton Philadelphia City Center -- Salon 5/6

## Polymeric Delivery for Therapeutics

### Controlled Polymer Architectures

*Cosponsored by COLL and HEALTH#*

R. Lochhead, *Organizer*

S. E. Morgan, *Organizer, Presiding*

**8:30 —149.** End functional polymers from living radical polymerization as bioconjugates. **D. M. Haddleton**, G. Mantovani, J. Lindqvist, M. W. Jones, D. Brayden, S. Ryan, R. Randev, J. Nicolas

**9:30 —150.** Responsive block copolymer micelles functionalized with biologically-relevant ligands. **B. S. Sumerlin**, P. De, S. R. Gondi

**10:00 —151.** RAFT synthesis and aqueous solution studies of biocompatible AB diblock and ABC triblock copolymers based on phosphorylcholine. B. Yu, **A. B. Lowe**

## 2008 Fall Meeting

10:30 — Intermission.

10:40 —152. Synthesis and evaluation of novel sacchride-peptide hybrid copolymers as siRNA delivery agents. F. L. Lin, H. Urakami, **Z. Guan**

11:10 —153. Synthesis of targeted polymeric carriers utilizing RAFT polymerization for the potential delivery of siRNAs. **A. W. York**, F. Huang, C. L. McCormick

11:35 —154. Comb-like reducible polyamidoamine for efficient gene transfection. **M. Khan**, N. Bte Mohd Rafiq, G. Beniah, Y-Y. Yang

Section D

Sheraton Philadelphia City Center -- Salon 3/4

## Microwave-Assisted Chemistry: Organic and Polymer Synthesis

### Polymer Synthesis

*Cosponsored by ORGN and PMSE*

R. Hoogenboom and C. O. Kappe, *Organizers*

A. I. Cooper, *Presiding*

U. S. Schubert, *Organizer, Presiding*

8:25 —155. Microwave initiated living free radical polymerization: Optimization of the preparative scale synthesis of Rasta resins. **J. M. Pawluczyk**, R. T. McClain, J. J. Mulhearn Jr., D. J. Rudd, C. Denicola, C. W. Lindsley

8:50 —156. Microwave-assisted polymerization of 2-oxazolines: Ionic liquids as solvents and fluorinated aromatic monomers. R. Hoogenboom, C. Guerrero Sanchez, M. Lobert, **U. S. Schubert**

9:25 —157. Microwave-assisted aget-atrp of vinyl monomers. **Z. Cheng**, L. Zhang, J. Zhu, X. Zhu

9:50 —158. The influence of microwave heating on initiator decomposition and polymerization initiation steps of free radical polymerization reactions. **A. D. Smith**, J. P. Robinson, E. Lester, K. J. Thurecht, D. J. Irvine, S. Kingman

10:15 — Intermission.

10:35 —159. Combinatorial microwave synthesis of nanoporous poly(aryleneethynylene)s. **A. I. Cooper**, N. L. Campbell, J -X. Jiang, E. Stockel, R. Dawson, S. Higgins, H. Niu, R. Clowes

11:10 —160. Cationic ring opening polymerization of 2-ethyl-2-oxazoline with acetyl halide initiators. **C. R. Becer**, R. M. Paulus, R. Hoogenboom, U. S. Schubert

11:35 —161. Microwave heating for dispersion copolymerization of 2-ethylhexyl methacrylate and vinylbenzyl chloride and functional group conversions in a fluorinated solvent. **R. Karnati**, W. T. Ford

Section E

Sheraton Philadelphia City Center -- Liberty Blrm C

## Aerogels, Foams and Other Nanoporous Materials

### New Methods for Material Design

D. A. Schiraldi and N. Leventis, *Organizers*

M. A. B. Meador, *Organizer, Presiding*

8:30 — Introductory Remarks.

8:35 —162. Tutorial: Architectural design en route to scaleable 3-D multifunctional nanomaterials. **D. R. Rolison**, J. W.

## 2008 Fall Meeting

Long

**9:15 —163.** Template-directed preparation of nano- and micron-sized pores in self-supporting organic-inorganic hybrid membranes. **M. M. Collinson**, Z.-X. Lu

**9:45 —164.** Highly-transparent polymer modified aerogels. **G. Gould**, D. Ou, R. Begag, W. E. Rhine

**10:15 —** Intermission.

**10:30 —165.** Assemblies of nanoparticles as 3-D scaffolds for new materials design: From polymer crosslinked aerogels to polymer matrix composites. **N. Leventis**, C. Sotiriou-Leventis, S. Mulik, V. Patil, D. Mohite, Y. Zhang, H. Lu

**11:00 —166.** Periodic nanoporous materials – from magnetic frameworks to supercapacitors. **S. H. Tolbert**, T. Brezesinski, T. Quickel, V. H. Le, J. Wang, B. S. Dunn

**11:30 —167.** Enzyme encapsulation in silica aerogels. **A. C. Pierre**

Section F

Sheraton Philadelphia City Center -- Liberty Blrm D

## 2008 Industrial Polymer Scientist Award in Honor of S. Richard Turner

T. E. Long, *Organizer*

**8:25 —** Introductory Remarks.

**8:30 —168.** Adventures in polymer synthesis. **D. N. Schulz**, L. Baugh, A. O. Patil, R. T. Stibrany, D. J. Lohse

**8:55 —169.** Hyperbranched polyesters: From basic understanding to applications. **B. Voit**

**9:20 —170.** Precision amphiphilic polymers. **K. B. Wagener**, E. B. Berda

**9:45 —** Intermission.

**10:00 —171.** Discovery and development of new catalysts for the synthesis of small molecules and polymers. **G. W. Coates**

**10:25 —172.** The design and synthesis of polymers with thermally stable, second order, nonlinear optical properties. **G. C. Willson**

**10:50 —173.** Polyelectrolytes and ion-containing polymers: Getting recharged about their potential! **T. E. Long**

**11:15 —** Award Presentation.

**11:20 —174.** From step-growth polyester polymerization to alternating radical copolymerization: Synthesizing polymers that enable applications. **S. R. Turner**

## MONDAY AFTERNOON

Section A

Sheraton Philadelphia City Center -- Liberty Blrm A

## 5th Controlled/living Radical Polymerization Symposium

### Stable Free Radical Polymerization

## 2008 Fall Meeting

*Cosponsored by HEALTH#*

K. Matyjaszewski, *Organizer*

B. Charleux and S. Yamago, *Presiding*

**1:30 —175.** In situ synthesis of amphiphilic block copolymer micelles: Use of a poly(methacrylic acid)-based macroalkoxyamine initiator. C. Dire, **B. Charleux**, L. Couvreur, S. Magnet

**1:55 —176.** Development of new alkoxyamines for nitroxide-mediated radical polymerization. **R. B. Grubbs**, A. C. Greene

**2:20 —177.** Radical end-functionalization of polymers prepared by sg1 nmp. Y. Guillaneuf, P -E. Dufils, L. Autissier, D. Gigmes, **D. Bertin**

**2:45 —178.** Synthesis of well-defined diblock copolymers with thermally exchangeable dynamic covalent bonds and their transformation to star-like nanogels. **H. Otsuka**, Y. Amamoto, Y. Matsuda, A. Takahara

**3:10 —179.** New thiobismuthine cocatalyst in organobismuthine-mediated living radical polymerization. **S. Yamago**

**3:35 —** Intermission.

**3:45 —180.** Formation, dissociation, and radical exchange of organo-cobalt complexes in mediating living radical polymerization of vinyl monomers. **B. B. Wayland**, S. Li, C -H. Peng, M. Fryd

**4:10 —181.** Metal-coordination: An effective lever for cobalt-mediated radical polymerization. **A. Debuigne**, C. Jérôme, R. Jerome, R. Poli, C. Detrembleur

**4:35 —182.** Borane-mediated control radical polymerization: Preparation of well-defined fluoropolymers for high energy density capacitors. **T. C. M. Chung**, Z. Zhang

**5:00 —183.** Cp<sub>2</sub>TiCl-catalyzed controlled radical polymerizations of isoprene initiated from epoxides, aldehydes and halides. **A. D. Asandei**, C. P. Simpson, H. S. Yu

Section B

Sheraton Philadelphia City Center -- Liberty Blrm B

## 8th International Biorelated Polymers Symposium

### Tutorial and Self-assembling Systems

*Cosponsored by HEALTH#*

R. M. Ottenbrite, *Organizer*

K. Kataoka, *Presiding*

C. Scholz, *Organizer, Presiding*

**1:30 —** Introductory Remarks.

**1:35 —184.** Supramolecular nanodevices for gene and drug delivery: Challenge to smart molecular therapy. **K. Kataoka**

**2:20 —185.** Antimicrobial polymer films and coatings. **K. J. Wynne**, P. Kurt, K. Brunson, A. Chakravorty, D. Ohman, L. Wood

**3:05 —** Intermission.

**3:15 —186.** New shapes for drug delivery: Persistent circulation of filomicelles opens the dosage window for sustained tumor shrinkage. **D. E. Discher**

**3:35 —187.** Design of dual stimuli-responsive nanogels by self-assembly of thiol-terminated poly(n-isopropylacrylamide)-graft pullulan. **N. Morimoto**, F. M. Winnik, K. Akiyoshi

**3:55 —188.** Intracellular protein delivery with self-assembled cationic nanogels. **K. Akiyoshi**, H. Ayame, N. Morimoto

Section C

## 2008 Fall Meeting

Sheraton Philadelphia City Center -- Salon 5/6

### Polymeric Delivery for Therapeutics

#### Hydrogels and Personal Care

*Cosponsored by COLL and HEALTH#*

S. E. Morgan, *Organizer*

R. Lochhead, *Organizer, Presiding*

**1:30 —189.** Oil absorption and delivery system polymer technology for skin and hair care. **S. Jordan**, A. Batra, M. Meerbote, X. Zhang, L. Kosensky, J. Amos, Y -S. Kim

**2:00 —190.** Continuous and bicontinuous porous hydrogel systems through emulsion templating. **M. S. Silverstein**, T. Gitli, O. Kulygin

**2:30 —191.** Silicone elastomer particles in skin care applications. **D. T. Liles**, F. Lin

**3:00 —** Intermission.

**3:10 —192.** Production of hydrogels containing heparin-mimetic sulfated peptides for controlled delivery of therapeutic growth factors. **S. H. Kim**, K. L. Kiick

**3:35 —193.** Novel biodegradable peptide based hydrogel fabricated via click chemistry for cell delivery. **S. Q. Liu**, R. Ee, **Y -Y. Yang**

**4:00 —194.** Increasing the curcumin water solubility by chemically modified starch. **H. Yu**, Q. Huang

**4:25 —195.** Thermo-sensitive polymer gels for tunable, therapeutic delivery. **J. B. Chiu**, K. C. Wang, R. Ramcharitar, F. Wan, C. V. Krishnan, B. S. Hsiao, B. Chu

Section D

Sheraton Philadelphia City Center -- Salon 3/4

### Microwave-Assisted Chemistry: Organic and Polymer Synthesis

#### Polymers and Nanomaterials

*Cosponsored by ORGN and PMSE*

U. S. Schubert and C. O. Kappe, *Organizers*

S. Perrier, *Presiding*

R. Hoogenboom, *Organizer, Presiding*

**1:00 —196.** Microwave assisted RAFT polymerization. **S. Perrier**

**1:35 —197.** Microwave-assisted synthesis: An efficient route to prepare new heterocyclic polymers. **C. Marestin**, E. Chauveau, V. Martin, R. Mercier

**2:00 —198.** Microwave-assisted synthesis of hydantoin monomers for antibacterial polymeric materials. **M. Iannelli**, F. Bergamelli, G. Galli

**2:25 —199.** Nanostructured surfaces from block copoly(2-oxazoline)s prepared by microwave-assisted cationic ring-opening polymerization. N. Lefèvre, C -A. Fustin, R. Hoogenboom, U. S. Schubert, **J -F. Gohy**

**2:50 —** Intermission.

**3:10 —200.** Microwave-assisted transformations and synthesis of polymer nanocomposites and nanomaterials. M. N. Nadagouda, V. Polshettiwar, **R. S. Varma**



## 2008 Fall Meeting

**3:45 —201.** The observation of renucleation in microwave reactions of nanomaterials. **A. L. Washington II**, G. F. Strouse

**4:10 —202.** In situ active ion etching of growing indium phosphide nanocrystals: Microwave induced thermal decomposition of ionic liquids. **D. D. Lovingood**, G. F. Strouse

**4:35 —203.** Microwave irradiation: A closer look at heating efficiencies. **R. Hoogenboom**, T. F. A. Wilms, U. S. Schubert

**5:00 —** Concluding Remarks.

Section E

Sheraton Philadelphia City Center -- Liberty Blrm C

## Aerogels, Foams and Other Nanoporous Materials

### Organic Porous Structures

M. A. B. Meador, D. A. Schiraldi, and N. Leventis, *Organizers*

M. F. Bertino, *Presiding*

**1:30 —204.** Cellulosic aerogels for energy applications. **A. Rigacci**

**2:00 —205.** Foam-like advanced materials based on clay aerogels. **D. A. Schiraldi**, M. D. Gawryla, E. M. Arndt

**2:30 —206.** Effects of temperature and loading rate on the mechanical properties of a polymethylene diisocyanate (PMDI) foam. **B. Song**

**2:50 —207.** Nanocomposite reinforced polymer foams made via freeze-drying of low glass transition temperature latexes. **C. A. L. Colard**, R. A. Cave, N. Grossiord, S. A. F. Bon

**3:10 —** Intermission.

**3:20 —208.** Hydrophilic nanoporous 1,2-polybutadiene via surface-initiated atom transfer radical polymerization. **F. Guo**, K. Jankova, M. E. Vigild, S. Ndoni

**3:40 —209.** Synthesis and characterization of carbon aerogel nanocomposites containing double-walled carbon nanotubes. **M. A. Worsley**, J. H. Satcher, T. F. Baumann

**4:00 —210.** Catalysis study on palladium-hatn-pim. **S. Tan**, H. J. Mackintosh, P. M. Budd, B. S. Ghanem, N. B. McKeown

Section F

Sheraton Philadelphia City Center -- Liberty Blrm D

## Heroes of Chemistry in Materials Advanced Applications

*Cosponsored by PMSE and CORP*

A. Patil and C. Landry-Coltrain, *Organizers, Presiding*

**1:00 —** Introductory Remarks.

**1:05 —** Introduction of Rohm and Haas team. **T. Wood.**

**1:10 —211.** Aquaset™ acrylic thermosetting binders. **G. Gappert, B. Weinstein**, H. Morris, X. Tang, W. Finch, R. Dobrowolski, P. Nedwick, G. Clamen

**1:50 —** Introduction of IBM team. **T. C. Chen.**

**1:55 —212.** Chemical amplification resists: Enabler of Moore's law. **H. Ito, C. G. Willson**

**2:40 —** Intermission.

## 2008 Fall Meeting

**2:55 —213.** Dyneema®, the world's strongest fiber(TM) and its use in personal and vehicle armor. **K. Mencke, R. Steeman**

**3:35 —** Introduction of Bill Maxwell for the Mobil 1 team. **P. H. Helferty.**

**3:40 —214.** Environmental benefits of synthetic lubricants: Progress since the 1998 Heroes of Chemistry Award for Mobil 1. **W. Maxwell**

**4:20 —215.** New class of lubricant viscosity modifiers. G. verStrate, **R. Bloch**, M. Struglinski, J. Johnston, R. West

## Undergraduate Research Poster Session: Polymer Chemistry

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

### MONDAY EVENING

Pennsylvania Convention Center -- Hall C

Section A

### Sci-Mix

C. Landry-Coltrain, *Organizer*

**8:00 - 10:00**

75, 77, 79-81, 85, 90-91, 94, 111. See previous listings.

308-309, 312, 314-315, 338, 340, 345, 369, 374, 389, 392, 414, 421, 425, 427-436, 438-439, 445-448, 451, 453, 456, 458-459, 462-464, 466, 470, 473-474, 478-479, 481-482, 484-490, 492. See subsequent listings.

### TUESDAY MORNING

Sheraton Philadelphia City Center -- Liberty Blrm A

Section A

## 5th Controlled/living Radical Polymerization Symposium

### Controlled Architecture and Functionality by CRP

*Cosponsored by HEALTH#*

K. Matyjaszewski, *Organizer*

S. P. Armes and Y. Yagci, *Presiding*

**8:00 —216.** Use of atom transfer radical coupling reactions for the synthesis of various macromolecular structures. **Y. Yagci**, Y. Yuksel Durmaz, B. Aydogan, I. Cianga

**8:25 —217.** Synthesis of well-defined diblock copolymer of aromatic polyether and poly(methyl methacrylate) by chain-growth condensation polymerization and atom transfer radical polymerization. **T. Yokozawa**, T. Ando, N. Ajioka, A. Yokoyama

**8:50 —218.** Block copolymers from ATRP and RAFT polymerization. **D. A. Shipp**, C. D. Petruczok, V. Malepu, T. Tran

**9:15 —219.** Controlled radical polymerization employed for the preparation of nanostructured and multifunctional polymers for thin film application. **B. I. Voit**, S. Fleischmann, H. Komber, M. Messerschmidt, Z. Oezyurek, J. Stadermann

**9:40 —220.** Well-defined polymers bearing alkene/norbornene functionalities and their transformations into complex

## 2008 Fall Meeting

structures by multiple living polymerizations. **J. Ma**, C. Cheng, G. Sun, Z. Li, K. L. Wooley

**10:05** — Intermission.

**10:15** —**221**. Synthesis of primary amine-based branched copolymers by living radical polymerization. Y. Li, **S. P. Armes**

**10:40** —**222**. Precisely controlling the architecture of nanoscale polymeric materials by copolymerization of cross-linkers. **H. Gao**, K. Matyjaszewski

**11:05** —**223**. Stimuli-responsive degradable amphiphilic conetworks: Key-role of ATRP. **P. Dubois**, L. Mespouille, O. Coulembier, P. Degée

**11:30** —**224**. Functionalization of star-shaped polymer structures for design of reactive nanoparticles. **F. E. Du Prez**, M. Lammens, D. Fournier

**11:55** —**225**. Tadpole-shaped copolymers via ATRP, click chemistry and ring opening polymerization. **Z -C. Li**, F -S. Du, Y -Q. Dong

Section B

Sheraton Philadelphia City Center -- Liberty Blrm B

## 8th International Biorelated Polymers Symposium

### Synthesis

*Cosponsored by HEALTH<sup>+</sup>*

R. M. Ottenbrite and C. Scholz, *Organizers*

K. Anwer and U. Edlund, *Presiding*

**8:30** — Introductory Remarks.

**8:35** —**226**. Synthesis of peptide ribonucleic acid (PRNA)-DNA chimera and interaction with DNA and RNA. **T. Wada**, N. Sawa, Y. Maeda, H. Sato, H. Chon, S. Kanaya, Y. Inoue

**8:55** —**227**. Functionalized polymers for gene therapy: Discovery, optimization and clinical development. **J. Sparks**, J. G. Fewell, M. Matar, G. Slobodkin, J. Rice, E. Brunhoeber, C. Pence, D. H. Lewis, K. Anwer

**9:15** —**228**. Functional polymeric nanocarriers as nonviral gene delivery vectors. **S. Venkataraman**, C. Y. Ke, Y. Y. Yang

**9:35** —**229**. Hybrid elastin mimetic polymers with alternating molecular architecture. **S. E. Grieshaber**, K. L. Kiick, X. Jia

**9:55** — Intermission.

**10:05** —**230**. Synthesis of poly(amino acids) and poly(amino acid) block copolymers with controlled molecular weight. **C. Scholz**, W. Vayaboury

**10:25** —**231**. Functionalization of surfaces in porous resorbable scaffolds. **U. Edlund**, M. Kallrot, A -C. Albertsson

**10:45** —**232**. Poly(vinyl alcohol) based materials for postoperative adhesion prevention in surgery. **J. Kressler**, Y. Jiang, C. Weis, E. K. Odermatt

**11:05** —**233**. Rational design and exploration of polymer space through combinatorial and high-throughput approaches with the application in mind. **R. Rojas**, J. Kohn

**11:25** —**234**. Structural analysis and mechanical characterization of hyaluronic acid-based doubly crosslinked networks. **A. K. Jha**, R. A. Hule, D. J. Pochan, X. Jia

Section C

Sheraton Philadelphia City Center -- Salon 5/6

2008 Fall Meeting

## Polymeric Delivery for Therapeutics

### Polymeric Micelles and Vesicles

*Cosponsored by COLL and HEALTH#*

R. Lochhead, *Organizer*

S. E. Morgan, *Organizer, Presiding*

**8:30 —235.** Star-shaped unimolecular micelles: Tuning the host abilities from hydrophobic to hydrophilic guest molecules. **O. G. Schramm**, R. Hoogenboom, U. S. Schubert

**9:00 —236.** Synthesis of linear and branched poly(trimethylene carbonate-co-lactide) copolymers and an investigation of chemical structure on hydrolytic degradation. **V. Truong**, A. K. Whittaker, I. Blakey

**9:30 —237.** Aminoglycoside-ionopolymeric nanoplexes for treating intracellular bacterial pathogens. **N. Pothayee**, M. Vadala, A. Ranjan, N. Jain, M. Seleem, N. Sriranganathan, J. S. Riffle

**9:55 —** Intermission.

**10:10 —238.** A novel linear dendritic amphiphilic block copolymer as a viable drug delivery carrier. **Z. Poon**, S. Chen, P. T. Hammond

**10:35 —239.** Acrylation of PCL-PEO copolymers to slow the passive release of doxorubicin from self-assembled polymersomes. **J. S. Katz**, D. H. Levine, D. A. Hammer, J. A. Burdick

**11:00 —240.** Polymersomes as carriers for genetic and protein therapeutics. **D. A. Christian**, S. Cai, D. M. Bowen, Y. H. Kim, J. D. Pajerowski, D. E. Discher

**11:25 —241.** Ca alginate composite microcapsules for cell encapsulation. **M. A. Jafar Mazumder**, N. Burke, F. Shen, M. Potter, H. D. H. Stover

Section D

Sheraton Philadelphia City Center -- Liberty Blrm C

## Paul J. Flory Polymer Educational Award in Honor of Frank Kelley

### Technology Transfer of Polymer Research: Benefits and Challenges

R. J. Farris and W. J. MacKnight, *Organizers*

F. N. Harris, *Presiding*

**9:00 —** Introductory Remarks. **R. J. Farris, F. N. Harris** .

**9:15 —242.** Polymer technology development at Virginia Tech over the last 30 years. **J. E. McGrath**

**9:45 —243.** The art of managing academic science or macromolecular engineering novel biomaterials. **J. P. Kennedy**

**10:15 —** Intermission.

**10:30 —244.** Commercialization of innovation. **L. C. Yanyo**

**11:00 —245.** Development of industrial relations at the Polymer Science and Engineering Department at the University of Massachusetts Amherst. **W. J. MacKnight**, J. D. Capistran

**11:30 —246.** Layered polymeric systems: The quest for "high value added" products. **E. Baer**

Section E

Sheraton Philadelphia City Center -- Freedom Blrm H

2008 Fall Meeting

## Aerogels, Foams and Other Nanoporous Materials

### Characterization and Control of Structure

M. A. B. Meador and N. Leventis, *Organizers*

D. A. Schiraldi, *Organizer, Presiding*

**9:00 —247.** Mechanical properties of L<sub>3</sub>-templated nanostructured silica. **I. A. Aksay**, H. Sai, D. M. Dabbs

**9:30 —248.** Simulation of the evolution of the nanostructure of crosslinked silica-aerogels under compression. **H. Lu**, B. Fu, N. Daphalapurkar, J. Hanan, C. Sotiriou-Leventis, N. Leventis

**10:00 —249.** Nanoporous polymers and nanocomposites synthesized within high internal phase emulsions. **M. S. Silverstein**, J. Normatov

**10:30 —250.** Visualizing clay aerogel composite formation. **M. D. Gawryla**, D. A. Schiraldi

**10:50 —** Intermission.

**11:00 —251.** Fabrication of low-shrinkage microporous 3-D polymer structures through interference lithography. **Y. Xu**, A. Hayek, X. Zhu, T. Okada, J. H. Moon, S. Barlow, S. R. Marder, S. Yang

**11:20 —252.** Control of cellular structure via nanofiller size and surface chemistry. **B. K. Goren**, L. Chen, L. S. Schadler, R. Ozisik

**11:40 —253.** Characterizing the pore size distribution in nanoporous materials. **A. J. Hill**, S. J. Pas, M. R. Hill, B. D. Freeman

Section F

Sheraton Philadelphia City Center -- Liberty Blrm D

## Conducting Polymers, Molecular Wires, and Devices: A Tribute to Alan MacDiarmid

S. A. Jenekhe and W. E. Jones Jr., *Organizers, Presiding*

**8:30 —** Introductory Remarks.

**8:40 —254.** Conductor-dielectric transition in polyaniline nanofiber networks: Role of fiber-fiber interfaces. **A. J. Epstein**, N-R. Chiou, O. Adetunji

**9:10 —255.** Substrate directed modification and enhancement of conducting polymer thin films and nanomaterials. **W. E. Jones Jr.**, J. J. Martin, P. N. Kariuki, J. Chiguma

**9:30 —256.** Conductive hybrid nanocomposites based on polymer/PANI/CNT nanocomposites. **M. Narkis**, E. Zelikman, A. Siegmann, P. Pötschke, L. Valentini, J. M. Kenny

**9:50 —257.** White light luminescent FRET dye doped bionanofibers and micropatterned electrochromic nanofibers. **G. A. Sotzing**

**10:20 —** Intermission.

**10:35 —258.** Conducting polymer electrochemistry: From polyacetylene batteries to supercapacitors and electrochromic displays. **J. R. Reynolds**

**11:05 —259.** Polymer semiconductor nanowires: Synthesis, morphology, charge transport, and device applications. **S. A. Jenekhe**

**11:25 —260.** In situ polymerization of a thin skin of self-doped polyaniline to improve electronic performance of carbon

## 2008 Fall Meeting

nanotube networks. W. Cheung, Y. Ma, D. Wei, A. Bogozi, P. L. Chiu, L. Wang, F. Pontoriero, R. Mendelsohn, **H. He**

**11:45 —261.** Synthesis and applications of conducting polymer nanofibers. **R. B. Kaner**, C. O. Baker, R. W. Kojima, H. D. Tran, J. M. D'Arcy, V. Barahona, S. Virji, B. H. Weiller

**12:15 —** Concluding Remarks.

### TUESDAY AFTERNOON

Section A

Sheraton Philadelphia City Center -- Liberty Blrm A

## 5th Controlled/living Radical Polymerization Symposium

### Macroscopic Properties of Polymers Made by CRP

*Cosponsored by HEALTH#*

K. Matyjaszewski, *Organizer*

G. Hadziioannou and B. Voit, *Presiding*

**1:30 —262.** Stabilization of the perforated lamellar microstructure in block copolymers with asymmetric block polydispersity. **M. Bockstaller**, J. Listak, W. Jakubowski, L. Mueller, A. T. Plichta, K. Matyjaszewski

**1:55 —263.** The effect of molecular structure on thermo-mechanical properties of acrylate based segmented, gradient and random copolymers prepared by ATRP. **K. Koynov**, A. Juhari, A. Best, T. Pakula, K. Matyjaszewski

**2:20 —264.** Gradient copolymers synthesized by controlled radical polymerization: Novel materials with unusual properties and applications. **J. M. Torkelson**, M. M. Mok, R. W. Sandoval, J. Kim, C. L. H. Wong, C. M. Dettmer, S. T. Nguyen

**2:45 —265.** Nanocarbons with tunable electronic structure from well-defined copolymers containing polyacrylonitrile prepared by controlled radical polymerization. **T. Kowalewski**, J. P. McGann, D. Yaron, L. A. McCullough, K. Matyjaszewski

**3:10 —266.** Versatile synthetic routes for conjugated rod-coil block copolymers and their use in solar cell devices. **G. Hadziioannou**

**3:35 —** Intermission.

**3:45 —267.** Imaging of designer macromolecules: Molecular characterization and material properties. **S. S. Sheiko**

**4:10 —268.** Structure and dynamics of silica nanoparticle tethered polymer brushes. V. Goel, J. Pietrasik, K. Matyjaszewski, **R. Krishnamoorti**

**4:35 —269.** Design and synthesis of electroactive dendron end-functionalized macromolecules via living-free radical polymerizations: Electrograting on conducting surfaces. **R. C. Advincula**

**5:00 —270.** Baroplastic in different topologies and used as compatibilizer. **M. H. Acar**, S. Inceoglu

Section B

Sheraton Philadelphia City Center -- Liberty Blrm B

## 8th International Biorelated Polymers Symposium

### Tissue Engineering and Polymer Degradation

*Cosponsored by HEALTH#*

R. M. Ottenbrite and C. Scholz, *Organizers*

M. Haratake and P. Markland, *Presiding*

## 2008 Fall Meeting

1:30 — Introductory Remarks.

1:35 —271. Surface grafting of polyglycerols to red blood cell membranes: Toward immunocamouflaged erythrocytes. **N. A. A. Rossi**, R. K. Kainthan, M. D. Scott, D. E. Brooks, J. N. Kizhakkedathu

1:55 —272. Water soluble bivalent ligands to engage receptors and control cellular responses in mast cells. **B. Sannigrahi**, B. Jones, I. M. Khan, B. Baird, D. Sil

2:15 —273. Effect of microstructure on hydrolytic degradation of poly(L-lactic acid). **N. Vasanthan**, O. Ly, H. Ly

2:35 —274. Polymers from functional macrocyclic lactones: Enzymatic ring opening polymerization, biodegradation and biocompatibility. **I. van der Meulen**, M. de Geus, H. Antheunis, R. Deumens, B. A. Joosten, A. Heise, C. E. Koning

2:55 — Intermission.

3:05 —275. Novel nanostructured hybrid polyurethanes featuring unique bulk degradation and controllable drug delivery. **Q. Guo**, P. T. Knight, P. T. Mather

3:25 —276. Development of tunable, fibrous elastomeric scaffolds and their cellular interactions. **J. L. Ifkovits**, J. J. Devlin, J. A. Burdick

3:45 —277. Emulsion-templated porous polymers enabling 3-D cell growth. **R. J. Carnachan**, M. Bokhari, A. Määttä, N. R. Cameron, S. Przyborski

4:05 —278. Synthesis of linear and star poly(lactide-co-glycolide fumarate) macromers as biodegradable crosslinkable scaffolds for tissue engineering. W. Xu, **X. He**, E. Jabbari

4:25 —279. Effects of physical form on in vitro degradation of an absorbable biomaterial made from poly(glycolide-co-lactide). **M. Deng**, G. Chen, F. Cichocki, D. Burkley, J. Zhou, R. Vetrecin

Section C

Sheraton Philadelphia City Center -- Liberty Blrm D

## Conducting Polymers, Molecular Wires, and Devices: A Tribute to Alan MacDiarmid

W. E. Jones Jr. and S. A. Jenekhe, *Organizers*

J. J. Martin, *Presiding*

1:30 —280. Highly conductive PEDOT nanofibers obtained by combination of electrospinning and vapor-phase polymerization. **A. Laforgue**, L. Robitaille

1:50 —281. Electronic structure and properties dithienothiophene and dithienopyrrole containing materials. **S. R. Marder**, X. Zhan, X. Zhang, S. Odom, S. Barlow, S. Ohira, J.-L. Bredas, B. Kippelen, B. Domercq, W. Postcavage, P.-T. Wu, J. M. Hancock, S. A. Jenekhe, T. Steckler, J. R. Reynolds

2:20 —282. Controlling reactivity and delocalization in organic electronic materials through molecular design. **J. D. Tovar**, A. Caruso Jr., D. A. Guthrie, P. A. Peart

2:40 —283. Soliton theory revisited. **X. Lin**

3:00 — Intermission.

3:20 —284. The path to predicting charge-carrier mobilities in organic semiconductors: Description of the charge transport parameters. **J.-L. Bredas**

3:50 —285. Synthesis and characterization of regioregular, polyphilic 3-(semifluoroalkyl thiophene) homopolymers and alternating copolymers. **S. Watt**, B. Wang, M. Hong, D. M. Collard

4:10 —286. Unanticipated photoconductivity and current rectification in thin DNA films: Experiment and theory. D. Y. Zang, C. Oh, **R. Venkatramani**, D. N. Beratan

## 2008 Fall Meeting

**4:30 —287.** Thiazolothiazole-thiophene copolymers for printable organic field-effect transistors. **I. Osaka**, R. Zhang, G. Sauvé, T. Kowalewski, R. D. McCullough

**4:50 —** Concluding Remarks.

Section D

Sheraton Philadelphia City Center -- Liberty Blrm C

### **Paul J. Flory Polymer Educational Award in Honor of Frank Kelley**

#### **Technology Transfer of Polymer Research: Benefits and Challenges**

W. J. MacKnight, *Organizer*

R. J. Farris, *Organizer, Presiding*

**1:30 —288.** Technology transfer at Lawrence Livermore: Sol-gel materials and processes for polymeric and inorganic aerogels, nanoporous materials and tailored materials. **J. D. LeMay**

**2:00 —289.** Future directions of the polymer program at the University of Akron. **S. Z. D. Cheng**

**2:30 —290.** Technology transfer triumphs, trends, and troubles. **T. B. Thompson**

**3:00 —** Intermission.

**3:15 —291.** Challenges for the future of technology transfer and industrial/academic collaborative research. **D. L. M. Proenza**

**3:45 —292.** Polymer education, research and technology transfer. **F. N. Kelley**

**4:15 —** Open Discussion. Tech transfer. **R. Farris** .

**4:45 —** Concluding Remarks. **S. Cheng** .

Section E

Sheraton Philadelphia City Center -- Freedom Blrm G

### **Aerogels, Foams and Other Nanoporous Materials**

#### **Hybrid Materials**

M. A. B. Meador and D. A. Schiraldi, *Organizers*

N. Leventis, *Organizer, Presiding*

**1:30 —293.** Superhydrophobic surfaces and coatings. **A. V. Rao**

**2:00 —294.** Hybrid organic-inorganic aerogels. **D. A. Loy**, K. A. DeFriend, D. J. Boday

**2:30 —295.** Assembly and properties of hierarchically structured nanocomposites. **E. P. Giannelis**

**3:00 —296.** Adapting polymer cross-linking of silica based aerogels to a safer, industry friendly process. **M. A. B. Meador**, A. S. Weber, A. Hindi, K. Deshpande, S. White, G. Gould

**3:30 —** Intermission.

**3:40 —297.** Compressive behavior of crosslinked mesoporous silica aerogels at high strain rates. **H. Lu**, H. Luo, S. Mulik, C. Sotiriou-Leventis, N. Leventis



## 2008 Fall Meeting

**4:10 —298.** Nanofiber reinforced aerogel synthesis, manufacturing and characterization. **L. Li**, B. Yalcin, M. A. B. Meador, M. Cakmak

**4:30 —299.** Mineralization of polymer/clay aerogels: A bioinspired approach to improving mechanical properties of low density materials. **J. R. Johnson III**, D. A. Schiraldi, J. Spikowski

Section F

Sheraton Philadelphia City Center -- Salon 5/6

### Polymers in Flat Panel Display Technologies

*Cosponsored by PMSE*

J. Greener and J. Brooks, *Organizers, Presiding*

**1:00** — Introductory Remarks.

**1:05 —300.** Materials and interface engineering for high efficiency polymer light-emitting diodes. F. Huang, M. S. Liu, Y -J. Cheng, Y. Zhang, **A. K -Y. Jen**

**1:35 —301.** Nanostructured polymer layers and brushes on indium tin oxide (ITO) surfaces for efficient OLED display devices. **R. Advincula**

**2:05 —302.** Conjugated polymers containing pendant phenylenediamine moiety. **S. Zheng**, K. Vaeth

**2:35** — Intermission.

**2:45 —303.** Synthesis and characterization of pyridyl carbazole based polymeric materials for electrophosphorescent lighting-emitting devices. **J. Li**

**3:15 —304.** Flexible liquid crystal displays using combined polymers and liquid crystals. **L -C. Chien**

**3:45 —305.** Optical compensation films for liquid crystalline displays. **S. Z. D. Cheng**, F. W. Harris

**4:15 —306.** Hole mobilities of thermally polymerized triaryldiamine derivatives and their applications as hole transport materials in OLEDs. C -Y. Lin, Y -M. Chen, H -F. Chen, F -C. Fang, Y -C. Lin, W -Y. Hung, K -T. Wong, **J. Brooks**, R. C. Kwong, S. C. Xia

### TUESDAY EVENING

Section A

Pennsylvania Convention Center -- Hall C

### 5th Controlled/living Radical Polymerization Symposium

*Cosponsored by HEALTH#*

K. Matyjaszewski, *Organizer*

B. Klumperman, T. Terashima, and M. J. Nasrullah, *Presiding*

**6:00 - 8:00**

**307.** Exploration of copper beads as catalyst for atom transfer radical polymerization of styrene. **M. J. Nasrullah**, D. C. Webster, V. V. Sonalkar, T. Koralage

**308.** ATRP and ARGET of styrene and *t*-butyl acrylate using high throughput approach. **M. J. Nasrullah**, D. C. Webster, V. V. Sonalkar, R. M. Hoshaw

**309.** Branched polyisobutylene by Li<sup>+</sup> catalyzed radical polymerization of isobutylene. **V. Volkis**, R. K. Shoemaker, J. Michl

**310.** Direct synthesis of anisotropic polymer nanoparticles by ATRP. **D. J. Adams**, T. He, A. I. Cooper, S. P. Rannard

## 2008 Fall Meeting

- 311.** RAFT method for synthesis of model random polyampholytes. W. T. Ford, **L. N. D'Souza**, B. Kaur
- 312.** Rate enhanced ATRP of methyl methacrylate via high free radical initiator loadings. M. Machado, S. Faucher, **S. Zhu**
- 313.** Synthesis of branched rod-coil copolymers by the combination of ATRP and coordination polymerization. **S. Uchida**, N. Hatoyama, K. Ishizu
- 314.** Synthesis of novel proton conductive triblock copolymers via living radical polymerization. **K. Xu**, K. Li, P. Khanchaitit, Q. Wang
- 315.** Amino functionalized block copolymers via NMP and RAFT. J. Stadermann, S. Fleischmann, H. Komber, **B. I. Voit**
- 316.** Designer polymers via metal-catalyzed living radical polymerization: End-group transformation, sequence-regulated polymers, and core-functionalized star polymers. **T. Terashima**, M. Ouchi, M. Sawamoto
- 317.** Design of novel iron catalysts for living radical polymerization of functional methacrylates. **M. Ishio**, T. Terashima, M. Ouchi, M. Sawamoto
- 318.** End-functionalized polymers by quantitative alkoxy-capping in metal catalyzed living radical polymerization: Umpolung of terminal carbon-halogen bond by a modifier monomer. **K. Nakatani**, T. Terashima, M. Ouchi, M. Sawamoto
- 319.** Photoinduced living radical polymerization with highly active manganese complex. **K. Koumura**, K. Satoh, M. Kamigaito
- 320.** Template-assisted living radical polymerization: Synthesis of polymer-built-in initiators via living cationic polymerization and their template effect in sequence regulation. **S. Ida**, T. Terashima, M. Ouchi, M. Sawamoto
- 321.** Madix polymerization of vinyl phosphonates. **M. Destarac**, E. Van Gramberen, P. Dupuis, X. Vila
- 322.** Madix synthesis of P(Dadmac)-based double hydrophilic block copolymers. **M. Destarac**, E. Van Gramberen, C. Boutin, A. Guinaudeau, S. Chadel
- 323.** Kinetic behavior of  $\alpha$ -amido trifluoromethyl xanthate Madix agents: Structure-reactivity relationship. **M. Destarac**, J. Ruchmann, X. Vila, S. Z. Zard, E. Van Gramberen, D. Taton
- 324.** MADIX thermoresponsive amphiphilic block copolymers: Synthesis, characterization and application to stimutable emulsions. A. Papon, K. Karagianni, E. Van Gramberen, **M. Destarac**
- 325.** MADIX polytheque: A virtual library of architected polymers for high throughput applications. P. Atallah, J. Wilson, I. Gonzalez, J. Chavanne, G. Bacquet, **M. Destarac**
- 326.** RAFT polymerization mediated by an organometallic thiocarbonyl thio transfer agent. **R. Geagea**, R. Stefak, S. Mazières, M. Destarac
- 327.** Synthesis of highly labile SG1-based alkoxyamines under photochemical conditions. Y. Guillaneuf, J.-L. Couturier, **D. Gignes**, P. Tordo, D. Bertin
- 328.** Effective nitroxide-mediated polymerization of methyl methacrylate. Y. Guillaneuf, **D. Gignes**, S. Marque, D. Bertin, P. Tordo
- 329.** Determination of living chain fraction of poly(styrene) from nitroxide mediated polymerization by liquid chromatography under critical conditions. C. Petit, B. Luneau, E. Beaudoin, **D. Gignes**, D. Bertin
- 330.** Use of sg1-based alkoxyamine bearing a n-succinimidyl ester to achieve advanced copolymer architectures. J. Vinas, N. Chagneux, D. Gignes, T. Trimaille, A. Favier, Y. Guillaneuf, D. Bertin, **C. Lefay**
- 331.** Mechanism of reverse iodine transfer polymerization (RITP) of methyl acrylate: Kinetics and simulations. J. Tonnar, R. Severac, **P. Lacroix-Desmazes**, B. Boutevin
- 332.** Synthesis of poly(vinylbenzyl chloride) and poly(tert-butyl acrylate) by RITP: Precursors to amphiphilic block copolymers. B. N. Patra, **P. Lacroix-Desmazes**

## 2008 Fall Meeting

- 333.** Synthesis and characterization of polystyrene-block-poly lactide by combination of ATRP and ROP using tribromoethanol as initiator: Precursors to ordered nanoporous materials. M. Dirany, M. Vayer, C. Sinturel, R. Erre, **P. Lacroix-Desmazes**, B. Boutevin
- 334.** Controlled radical polymerization of 1,1,2,2-tetrahydroperfluorodecyl acrylate by reverse iodine transfer polymerization. S. Clerc, J. Tonnar, **P. Lacroix-Desmazes**
- 335.** Chain end stability of polymers prepared by (reverse) iodine transfer polymerization (RITP/ITP) in dispersed aqueous media. J. Tonnar, F. Besson, **P. Lacroix-Desmazes**, B. Boutevin
- 336.** Controlled radical polymerization of styrene by iodine transfer polymerization (ITP) in ab initio emulsion. J. Tonnar, **P. Lacroix-Desmazes**
- 337.** Controlled radical polymerization of styrene by reverse iodine transfer polymerization. J. Tonnar, R. Severac, **P. Lacroix-Desmazes**, B. Boutevin
- 338.** In situ formation of poly(butyl acrylate)-b-poly(styrene) and its use in rubber toughened polystyrene with bimodal particle size distribution. **F. J. Enriquez-Medrano**, P. Lacroix-Desmazes, M. Hernandez-Valdez, R. Guerrero-Santos
- 339.** Synthesis of double hydrophilic block copolymers by ATRP and their assembly induced by complexation. **J. Reboul**, T. Nugay, P. Lacroix-Desmazes, M. In, C. Gérardin
- 340.** Synthesis of new fluorinated gradient copolymers with complexing groups by RAFT polymerization and their properties in supercritical carbon dioxide. **T. Ribaut**, P. Lacroix-Desmazes, J. Oberdisse, B. Fournel, S. Sarrade
- 341.** ATRP of methyl methacrylate and styrene catalyzed by homobimetallic ruthenium-vinylidene complexes. **A. Demonceau**, D. Bicchielli, Y. Borguet, X. Sauvage, L. Delaude
- 342.** New synthetic methodology for polymer hybrids based on polyolefin. **H. Kaneko**, J. Saito, N. Kawahara, S. Matsuo, T. Matsugi, N. Kashiwa
- 343.** Substituent effects on the homolysis of alkoxyamines and the implications for NMP. **J. L. Hodgson**, M. L. Coote
- 344.** Amphiphilic block and "block-like" copolymers based on poly(isobornyl acrylate) and poly(acrylic acid) via ATRP. **B. Dervaux**, W. Van Camp, F. E. Du Prez
- 345.** Nanostructured hybrid hydrogels for tissue engineering and drug delivery applications. **S. A. Bencherif**, D. J. Siegwart, A. Srinivasan, J. O. Hollinger, N. R. Washburn, K. Matyjaszewski
- 346.** Synthesis and functionalization of hydroxy-terminated biocompatible polymers and nanogels with pyrene, biotin, and peptide sequences. **D. J. Siegwart**, J. K. Oh, S. A. Bencherif, A. K. Bohaty, K. Matyjaszewski
- 347.** ATRP of tulipalin A. **J. Mosnacek**, K. Matyjaszewski
- 348.** Synthesis of poly(vinylacetylene) block copolymers as precursors for nanocarbon materials. **J. Aimi**, L. A. McCullough, J. P. McGann, T. Kowalewski, K. Matyjaszewski
- 349.** Templating conducting polymers via self-assembly of block copolymers and supramolecular recognition. **L. A. McCullough**, B. Dufour, T. Kowalewski, K. Matyjaszewski
- 350.** Mass spectroscopic investigations of nanostructured carbon derived from poly(n-butyl acrylate)-b-polyacrylonitrile copolymers. **J. P. McGann**, L. A. McCullough, K. Matyjaszewski, T. Kowalewski
- 351.** Synthesis and evaluation of thermocurable hyperbranched polystyrenes for ultrathin dielectrics. **J. A. Yoon**, T. Young, J. Huang, T. Kowalewski, K. Matyjaszewski
- 352.** Use of reactive surfactants for AGET ATRP of BA in miniemulsion. **W. Li**, K. Min, K. Matyjaszewski
- 353.** Latexes with permanent and degradable crosslinks prepared by miniemulsion ATRP. **K. Min**, H. Gao, K. Matyjaszewski

## 2008 Fall Meeting

- 354.** Synthesis of low polydispersity miktoarm star copolymers by using a simple "arm-first" method. **H. Gao**, K. Matyjaszewski
- 355.** Effect of temperature and solvent on the ATRP equilibrium constants and activation rate constants. **H. Chung**, W. Tang, K. Matyjaszewski
- 356.** Atom transfer radical polymerization of acrylamides with Cu(I) and Cu(0). **W. Tang**, H. Chung, K. Min, K. Matyjaszewski
- 357.** Reversible addition-fragmentation chain transfer (RAFT) polymerization activated by copper catalyst. **Y. Kwak**, K. Matyjaszewski
- 358.** Understanding solvent effects on thermodynamic equilibria in atom transfer radical polymerization. **W. A. Braunecker**, N. V. Tsarevsky, A. Gennaro, K. Matyjaszewski
- 359.** Dibromo-trithiocarbonate iniferter and CuBr/L for concurrent ATRP and RAFT. **R. Nicolay**, K. Matyjaszewski
- 360.** Toward rapid screening of atom transfer radical polymerization catalysts by electrospray ionization mass spectrometry. **F. Di Lena**, K. Matyjaszewski
- 361.** Gas-phase characterization of atom transfer radical polymerization catalysts by energy-variable collisionally activated dissociation experiments in a quadrupole ion trap. **F. Di Lena**, K. Matyjaszewski
- 362.** One-pot synthesis of gold nanoparticles with a crosslinked shell and well-defined tethered polymer brushes. **H. Dong**, M. Zhu, H. Gao, R. Jin, K. Matyjaszewski
- 363.** Preparation of novel polyelectrolyte stabilizers for iron nanoparticles used in groundwater remediation. **P. L. Golas**, G. V. Lowry, R. D. Tilton, K. Matyjaszewski
- 364.** Clicking with ATRP: Preparation of functional materials and structure-activity correlations. **P. L. Golas**, N. V. Tsarevsky, K. Matyjaszewski
- 365.** Enhanced adhesion of PDMS surfaces functionalized by poly(n-butyl acrylate) brushes inspired by gecko foot hairs. **A. Nese**, H.-I. Lee, H. Dong, B. Aksak, B. Cusick, T. Kowalewski, K. Matyjaszewski, M. Sitti
- 366.** Synthesis of poly(methyl acrylate-b-styrene) block copolymers with varied compositions and polydispersities by ARGET ATRP with low amount of copper catalyst. **A. T. Plichta**, L. Mueller, H. Gao, W. Li, K. Matyjaszewski
- 367.** Use of high pressure to synthesize high molecular weight polystyrene and polymethacrylates via AGET ATRP. **L. Mueller**, W. Jakubowski, J. Pietrasik, P. Kwiatkowski, J. Jurczak, K. Matyjaszewski
- 368.** Synthesis of photoisomerizable block copolymers by atom transfer radical polymerization. **C -F. Huang**, K. Matyjaszewski, F -C. Chang, T. P. Russell
- 369.** Controllably living polymerizations of poly( $\epsilon$ -caprolactone)-block-poly(4-vinylpyridine) for two-phase extraction of metal ions. **C -H. Lu Jr.**, **C -F. Huang**, F -C. Chang
- 370.** Basic chemistry of propagating radicals of (meth)acrylates studied by electron spin resonance and computational chemistry with the aid of atom transfer radical polymerizations. **A. Kajiwara**, S. Arata, K. Maeda, H. Nakajima, S. Yamabe
- 371.** Equilibrium constants and activation rate coefficients for atom transfer radical polymerizations under high pressure. **M. Buback**, **J. Morick**
- 372.** Structural comparison of copper(I) complexes with tris(2-pyridylmethyl)amine in atom transfer radical addition. **W. T. Eckenhoff**, T. Pintauer
- 373.** New tetradentate ligand tris-((3,5-dimethyl-1H-pyrazol-1-yl)methyl)amine for atom transfer radical addition. **W. T. Eckenhoff**, T. Pintauer
- 374.** Kinetic studies of copper catalyzed atom transfer radical addition of carbon tetrachloride to alkenes in the presence

## 2008 Fall Meeting

of reducing agents. **M. N. Balili**, T. Pintauer

**375.** Atom transfer radical cascade reactions in the presence of catalytic amounts of copper(II) complexes with tris(2-pyridylmethyl)amine. **C. L. Ricardo**, T. Pintauer

**376.** The aqueous SI-ATRP of hydrophilic polymer brush from unplasticized polyvinyl chloride: Synthesis and characterization. **Y. Zou, J. N. Kizhakkedathu**, D. E. Brooks

**377.** Photoliving radical polymerization of methyl methacrylate by a nitroxide mediator. **E. Yoshida**

**378.** High-pressure ATRP for well-defined ultrahigh molecular-weight polymers. T. Arita, Y. Kayama, K. Ohno, **Y. Tsujii**, T. Fukuda

**379.** Surface-initiated atom transfer radical polymerization on polymeric substrates via a novel initiator fixation method. **K. Ohno**, Y. Kayama, V. Ladmiral, Y. Tsujii, T. Fukuda

**380.** Synthesis of well-defined miktoarm star copolymers consisting of aromatic polyethers and polystyrenes by chain-growth condensation polymerization and atom transfer radical polymerization. **Y. Yamazaki**, N. Ajioka, A. Yokoyama, T. Yokozawa

**381.** Synthesis of well-defined aromatic polyamide-b-polystyrene by combination of chain-growth condensation polymerization and controlled/living radical polymerization. **T. Masukawa**, S. Fujii, A. Yokoyama, T. Yokozawa

**382.** Stereospecific controlled/living radical polymerization of methacrylates with bulky substituents for stereogradient polymers. **K. Ishitake**, K. Satoh, M. Kamigaito, Y. Okamoto

**383.** Metal-catalyzed radical polyaddition as a novel polymer synthetic route: Design and analysis. **M. Mizutani**, K. Satoh, M. Kamigaito

**384.** Programmed formation and characterization of star-like nanogels prepared via a radical crossover reaction of complementarily reactive well-defined diblock copolymers. **Y. Amamoto**, M. Kikuchi, H. Masunaga, S. Sasaki, H. Otsuka, A. Takahara

**385.** Nitroxide-mediated controlled free-radical polymerization of poly(ethylene glycol)-based monomers. **J. Nicolas**, P. Couvreur, B. Charleux

**386.** Surfactant-free synthesis of amphiphilic poly(ethylene oxide)-b-poly(n-butyl acrylate) copolymers by ab initio batch emulsion polymerization under RAFT control. **B. Charleux**, J. Rieger, F. Stoffelbach, C. Bui, D. Alaimo, C. Jérôme

**387.** Use of a simple amphiphilic molecule as a stabilizer and an initiator in miniemulsion polymerization under AGET and ARGET ATRP conditions. **F. Stoffelbach**, N. Griffete, C. Bui, B. Charleux

**388.** Surfactant free ab initio emulsion polymerization of vinyl acetate using a dextran-based xanthate agent synthesized by click chemistry. **M. Save**, J. Bernard, B. Arathoon, B. Charleux

**389.** Synthesis of hybrid particles: Surface-initiated polymerization of styrene via NMP from ordered mesoporous silica. **H. Blas**, P. Pasetto, C. Boissière, C. Sanchez, M. Save, B. Charleux

**390.** Facile synthesis of well-defined macromonomers using ATRP and click chemistry. **P. D. Topham**, N. Sandon, E. S. Read, J. Madsen, A. J. Ryan, S. P. Armes

**391.** Direct synthesis of controlled-structure primary amine-based methacrylic polymers by living radical polymerization. **E. S. Read**, K. L. Thompson, S. P. Armes

**392.** One pot synthesis of methacrylic branched copolymers by ATRP and RAFT. **J. P. Rosselgong**, S. P. Armes

**393.** Synthesis of pH-responsive amphiphilic ABC block copolymers: The generation of asymmetric vesicle membranes and their cell uptake kinetics. **A. Blanazs**, M. Massignani, G. Battaglia, S. P. Armes, A. J. Ryan

**394.** Synthesis, self-assembly and silicification of block copolymers via RAFT polymerization. **Y. Li**, L. He, S. P. Armes

## 2008 Fall Meeting

- 395.** On-line monitoring of SET-LRP reactions via rapid GPC and FT-NIR. **M. Levere**, D. M. Haddleton, S. O'Donohue, I. Willoughby
- 396.** Further investigation of single electron transfer living radical polymerization. **A. J. Grice**, M. Levere, R. M. Kowalczyk, M. E. Newton, D. M. Haddleton
- 397.** Access to cyclic polystyrene via a combination of reversible addition fragmentation chain transfer (RAFT) polymerization and click-chemistry. **A. S. Goldmann**, P.-E. Millard, D. Quémener, T. P. Davis, M. H. Stenzel, C. Barner-Kowollik, A. H. E. Müller
- 398.** New nitroxide mediators for controlled synthesis of polystyrene, poly(meth)acrylates and their copolymers. **D. F. Grishin**, E. V. Kolyakina, M. V. Pavlovskaya, M. A. Lazarev, A. A. Shchepalov
- 399.** Atypical behavior of cyclic thiocarbonylthio compounds in the free radical polymerization of styrene. F. J. Enriquez-Medrano, H. Maldonado-Textle, J. N. Cabello-Romero, J. G. Soriano-Moro, **R. Guerrero-Santos**
- 400.** Comparative study of ruthenium cyclometalated complexes as catalysts for living radical polymerization of styrene. **C. Aguilar-Lugo**, R. Le-Lagadec, R. Cerón-Camacho, L. Alexandrova
- 401.** Additive enhanced controlled and living free radical polymerization of methacrylates by stabilized nitroxide unimolecular initiators. **O. Ansong**, S. A. Jansen, Y. Wei, G. J. Pomrink, H. Lu, A. C. Patel, S. Li
- 402.** Cp<sub>2</sub>TiCl-catalyzed synthesis of styrene/isoprene copolymers by controlled radical polymerization. **A. D. Asandei**, C. P. Simpson
- 403.** Synthesis, characterization and self-assembly studies of new series of amphiphilic diblock copolymers with pendant electroactive moiety. **S. Barik**, S. Valiyaveetil
- 404.** Synthesis of perfluorinated end-capped triphilic block copolymers by ATRP combined with "click" chemistry. **S. O. Kyeremateng**, E. Amado, A. Blume, J. Kressler
- 405.** Exploiting controlled radical polymerization in the design of sinusoidal composition profiles in microphase segregated gradient copolymers. **M. M. Mok**, C. M. Dettmer, S. T. Nguyen, S. Pujari, W. R. Burghardt, J. M. Torkelson
- 406.** Gradient copolymers made by controlled radical polymerization: Applications as compatibilizing agents in novel nanostructured polymer blends. **R. W. Sandoval**, J. Kim, C. M. Dettmer, S. T. Nguyen, J. M. Torkelson
- 407.** Facile end group modification of RAFT made polymers, by radical exchange with hydrogen peroxide. **R. Pfukwa**, G. Pound, B. Klumperman
- 408.** Stealth erythrocytes: Immunocamouflage of red blood cells via atom transfer radical polymerization. **N. A. A. Rossi**, J. Tong, M. D. Scott, D. E. Brooks, J. N. Kizhakkedathu
- 409.** Effect of substrate in surface ATRP. **S. Saha**, M. L. Bruening, G. L. Baker
- 410.** Synthesis of N-vinylpyrrolidone and N-trisilylpropyl-O-vinylcarbamate copolymers. **J. L. Terrell**, J. G. Linhardt, D. A. Shipp
- 411.** Phosphorous ligand for iron-based atom transfer radical polymerization. **J. Y. Kim**, Z. Xue, S. K. Noh, W. S. Lyoo
- 412.** Iron mediated atom transfer radical polymerization using phosphorous containing ligands. **Z. Xue, S. Y. Yoon, S. K. Noh**, W. S. Lyoo
- 413.** Characterization of polyelectrolyte brushes immobilized on silicon wafer prepared by controlled radical polymerization. **M. Kobayashi**, Y. Terayama, M. Kikuchi, M. Hino, K. Ishihara, A. Takahara
- 414.** Synthesis of TiO<sub>2</sub>/PMMA nanocomposites by reversible addition fragmentation chain-transfer polymerization. **B. Hojjati**, P. A. Charpentier
- 415.** Surface modification of cellulose nanocrystals by surface-initiated atom transfer radical polymerization. **G. Morandi**, W. Thielemans

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- 416.** Biohybrid block copolymers by N-carboxyanhydride ring opening polymerization and atom transfer radical polymerization using macroinitiation. **G. J. Habraken**, C. E. Koning, A. Heise
- 417.** Macro-RAFT stabilizers: A new route to block copolymers in supercritical CO<sub>2</sub>. **M. Zong**, K. J. Thurecht, S. M. Howdle
- 418.** Controlled dispersion polymerization in supercritical CO<sub>2</sub>: Block copolymer microparticles and hydrocarbon surfactants. **K. J. Thurecht**, A. M. Gregory, M. Zong, N. J. Arrowsmith, H. Lee, A. Richez, S. M. Howdle
- 419.** Controlling chain growth: A new strategy to amphiphilic hyperbranched materials. **Y. Zheng**, W. Wang, D. J. Irvine, S. M. Howdle
- 420.** ARGET ATRP of methacrylates and acrylates with stoichiometric ligand levels. **N. Chan**, M. F. Cunningham, R. A. Hutchinson
- 421.** Grafting of thio glucose onto styrene and pentafluorostyrene containing polymers prepared via nitroxide mediated polymerization. **C. R. Becer**, D. Pilz, K. Babiuch, J. Kuebel, T. Jaehnert, M. Gottschaldt, U. S. Schubert
- 422.** High-throughput optimization of nitroxide mediated radical polymerizations as basis for the synthesis of temperature-responsive copolymers. **R. Hoogenboom**, T. M. Eggenhuisen, C. R. Becer, U. S. Schubert
- 423.** Dual initiator for the synthesis of poly(2-ethyl-2-oxazoline)-b-(styrene) copolymers via combination of controlled/living polymerization techniques. **C. R. Becer**, R. M. Paulus, S. Hoepfener, R. Hoogenboom, C. Fustin, J.-F. Gohy, U. S. Schubert
- 424.** Low polydisperse 8-arm star-shaped polymers via room temperature ATRP of pegam. **O. G. Schramm**, R. Hoogenboom, U. S. Schubert
- 425.** Surface modification of thermally expandable microspheres by (ARGET) ATRP. **M. Jonsson**, D. Nyström, O. Nordin, E. Malmström
- 426.** Synthesis of azide polymers via reversible addition-fragmentation chain transfer polymerization. **Y. Li**, B. C. Benicewicz
- 427.** Synthesis of fluorine-containing polymer by living radical polymerization. **L. He**, K. Hong, P. F. Britt, J. W. Mays, D. Bucknall
- 428.** Using RAFT techniques for the synthesis of functional polymeric materials. **R. O'Reilly**

Section B

Pennsylvania Convention Center -- Hall C

## 8th International Biorelated Polymers Symposium

*Cosponsored by HEALTH#*

R. M. Ottenbrite and C. Scholz, *Organizers*

**6:00 - 8:00**

- 429.** Viscoelastic properties of PEO hydrogels cross-linked with Laponite and stuffed with chitosan. **Q. Jin**, G. Schmidt
- 430.** Development of tunable thermo-sensitive nanocomposite hydrogels from Pluronic F127 triblock copolymer and Laponite. **C.-J. Wu**, G. Schmidt
- 431.** Nematic and columnar ordering of a PEG-peptide conjugate in aqueous solution. **M. J. Krysmann**, V. Castelletto, A. Kellarakis, **I. W. Hamley**, L. Noirez, R. A. Hule, D. J. Pochan
- 432.** Intercalating conjugates of PEG with nuclear localization signal (NLS) peptide. S. V. Vinogradov, **H. Zhang**, A. Mitin, G. Warren
- 433.** Site-specific conjugation of a well-defined functional poly(mPEG<sub>1100</sub>) methacrylate to salmon calcitonin: Design, synthesis, characterization and investigation via NMR. **R. Randev**, C. Sayers, S. Ryan, G. Mantovani, O. Keiper, C. A.

## 2008 Fall Meeting

Blindauer, D. Brayden, D. H. Haddleton

**434.** Controlling protein and cell interactions with engineered surface by PEG-modification. **H. Otsuka**, T. Satomi, K. Ueno, M. Yamamoto, N. Yamazaki, M. Fukaishi

**435.** Peptide-based inorganic nanocomposite via self-assembly of synthetic polypeptide. **X. Wang**, E. Holowka, T. J. Deming, D. J. Pochan

**436.** Hybrid biomaterials through sol-gel functionalization of peptidic hydrogels. **A. Altunbas**, N. Sharma, M. S. Lamm, R. Rughani, J. P. Schneider, D. J. Pochan

**437.** Orientation of immobilized antibody on the surface of photoresponsive azobenzene-containing polymers. **M. Mouri**, T. Ikawa, M. Narita, F. Hoshino, O. Watanabe

**438.** New membrane model for studying cell affinity. **H. Yuan**, S. Li

**439.** Synthesis of functionalized facially amphiphilic dendrimers. **D. C. González**, E. N. Savariar, S. Basu, V. Yesilyurt, S. Thayumanavan

**440.** Newly designed thermoresponsive nanomicelles with outermost surface functionalities. **M. Nakayama**, J. Akimoto, K. Sakai, T. Okano

**441.** Glutathione peroxidase-like activity of selenocystine-pullulan self-aggregates. **M. Haratake**

**442.** Hydrophobicity of graft interface influences hydration/dehydration of grafted thermoresponsive polymer brushes. **K. Nagase**, J. Kobayashi, A. Kikuchi, Y. Akiyama, H. Kanazawa, T. Okano

**443.** Toward the synthesis of clickable, stealth nanoparticles based on poly(alkyl cyanoacrylate). **J. Nicolas**, E. Borretto, D. Desmaële, K. Andrieux, P. Couvreur

**444.** Synthesis and characterization of stimuli responsive block copolymers via atom transfer radical polymerization. **S. Jung**, C -S. Ha, I. Chung

**445.** Opioid-based poly(anhydride-esters): New approach to preventing drug abuse. **W. Feng**, L. Yu, K. E. Uhrich

**446.** Synthesis and characterization of novel biodegradable poly(ester-urethane). **W. Wang**, Y. Guo, J. Otaigbe

Section C

Pennsylvania Convention Center -- Hall C

## Aerogels, Foams and Other Nanoporous Materials

M. A. B. Meador, D. A. Schiraldi, and N. Leventis, *Organizers*

**6:00 - 8:00**

**447.** Adhesion enhancement of polymeric films on glass surfaces by silane derivatives of azobisisobutyronitrile. **S. Mulik**, C. Sotiriou-Leventis, N. Leventis

**448.** Chemical modification and transport properties of nanoporous membranes. **H. Xie**, F. Zendejas, H. M. Tran, B. A. Simmons, B. J. Debusschere, M. A. Hickner

**449.** Di-isocyanate crosslinked aerogels with 1,6-bis(trimethoxysilyl)hexane incorporated in silica backbone. **S. L. Vivod**, M. A. B. Meador, B. N. Nguyen, D. J. Quade, J. P. Randall

**450.** Evaluating dimethyldiethoxysilane in polyurethane crosslinked silica aerogels. **J. P. Randall**, M. A. B. Meador, S. C. Jana

**451.** Improvement of unmodified and amine modified silica aerogels by chemical vapor deposition of cyanoacrylates. **D. J. Boday**, K. A. DeFriend, D. A. Loy, K. V. Wilson Jr.



## 2008 Fall Meeting

452. Optical investigation of gelation during rapid supercritical extraction processing of silica aerogels. **O. Nickel**, A. M. Anderson, **M. K. Carroll**

Section D

Pennsylvania Convention Center -- Hall C

### Carbohydrate-Polymer Hybrids: Biomaterials and Therapeutics

*Cosponsored by CARB and HEALTH#*

N. R. Washburn, N. R. Cameron, and H. D. Maynard, *Organizers*

**6:00 - 8:00**

453. Characterization of newly synthesized dendron-type sugars with self-assembling properties. **H. Otsuka**, N. Yamazaki, K. Ueno, H. Hakukawa

454. Cross-linkable saccharide-peptide copolymers for plasmid DNA delivery. **H. Urakami**, Z. Guan

455. Novel methods for the crosslinking of heparin. **J. E. Prata**, N. R. Washburn

456. Spherical glycopolymer brushes. **A. Pfaff**, Y. Lu, A. Walther, A. Wittemann, M. Ballauff, A. H. E. Müller

457. Synthesis of new S-glycodendrimer targeting for activation of lac operon transcription for protein biosynthesis. **A. Takasu**, T. Makino

Section E

Pennsylvania Convention Center -- Hall C

### Conducting Polymers, Molecular Wires, and Devices: A Tribute to Alan MacDiarmid

W. E. Jones Jr. and S. A. Jenekhe, *Organizers*

**6:00 - 8:00**

458. Synthesis and characterization of fluorescent conjugated polymer sensors with varying percentage loading of receptors. **A. S. Eshraghi**, C. Malele, S. Pinnock, W. E. Jones Jr.

459. Conductive polymer electrodes by microcontact printing and LBL deposition. **S. A. Petrina**, T. O. Shodiya, M. A. Hickner

460. Enhanced electronic performance of conducting polymer nanocomposites: The role of the electronic and surface chemistry of carbon nanotubes. **P. L. Chiu**, Y. Ma, A. Serrano, L. Wang, R. Mendelsohn, H. He

461. Fluorescence quenching of helical conjugated polyelectrolyte by quencher-tether-ligand (QTL) probes. **E. Ji**, K. S. Schanze

462. High field-effect mobilities for block copolymers of poly(3-hexylthiophene) and poly(octadecyl methacrylate). **A. E. Javier**, G. Sauvé, R. Zhang, R. D. McCullough

463. Investigating the photophysics of variable percent loadings of fluorescent conjugated polymers in the solid state. **S. S. Pinnock**, C. N. Malele, W. E. Jones Jr.

464. Molecular engineering of N-alkyl dithieno[3,2-b:2',3'-d]pyrroles-based copolymers for different applications. **J. Liu**, R. D. McCullough

465. Optimizing device performance in solution-deposited pentacene transistors. **S. R. Saudari**, A. Afzali, C. R. Kagan

466. Ordered P3HT/PCBM blends via electrochemical polymerization. **R. J. Patel**, M. A. Hickner

467. Synthesis and electroluminescent properties of polyacetylenes and poly(2,3-diphenyl-1,4-phenylene vinylene) derivatives. **C.-S. Hsu**

## 2008 Fall Meeting

**468.** Synthesis and characterization of novel polythiophene derivatives: The effect of side chain hydrophilicity on the mesomorphic behaviors of the polythiophene. H -S. Sohn, Y -S. Yoon, **J. C. Lee**

Section F

Pennsylvania Convention Center -- Hall C

### Hybrid Nanomaterials: Impact on Modern Materials and Opportunities for Industrial Applications

B. P. S. Chauhan, R. Durand Jr., and J. Rouse, *Organizers*

**6:00 - 8:00**

**469.** Immobilization of collagen and hyaluronic acid on hydroxyapatite/titania composite nanofibers for tissue engineering. **M -J. Park**, S -M. Lee, H -S. Bae, I -K. Kang, S -Y. Kim

**470.** Improving polymer nanocomposites: Understanding noncovalent interactions between single-walled carbon nanotubes and functionalized monomer. **B. C. Miller**, D. Linton, B. G. Sumpter, M. D. Dadmun

**471.** In situ grafting of hyperbranched poly(ether ketone) onto graphite via A3 + B2 approach in poly(phosphoric acid)/phosphorous pentoxide medium. **E -K. Choi**, S -J. Oh, L -S. Tan, **J -B. Baek**

**472.** Silica-coated inorganic-organic nanoparticles prepared with a self-templating method. Q. Zhang, **G. Gao**, D. Sun, Y. Zhai, F. Liu

**473.** Grafting of polyaniline onto the surface of amine-functionalized multiwalled carbon nanotubes. **I. Y. Jeon**, L -S. Tan, J -B. Baek

Section G

Pennsylvania Convention Center -- Hall C

### Microwave-Assisted Chemistry: Organic and Polymer Synthesis

*Cosponsored by ORGN and PMSE*

U. S. Schubert, R. Hoogenboom, and C. O. Kappe, *Organizers*

**6:00 - 8:00**

**474.** Controlled size and shape palladium nanoparticles at high concentration by microwave-assisted synthesis. **D. Xu**, S. Barbosa, S. G. Yeates

**475.** Microwave synthesis and characterization of CdSe/CdS nanocrystals. **R. E. Oyler**

**476.** Microwave-assisted synthesis of vinyl esters through ruthenium-catalyzed addition of carboxylic acids to alkynes. **A. Demonceau**, F. Nicks, L. Libert, L. Delaude

**477.** Study of microwave-induced synthesis of aromatic polyamides via the Yamazaki phosphorylation reaction. P. Carretero, R. Sandin, R. Mercier, A. E. Lozano, J. G. de la Campa, **J. de Abajo**

Section H

Pennsylvania Convention Center -- Hall C

### Organic Thin Films for Photonics Applications

S. H. Foulger and S. R. Flom, *Organizers*

W. N. Herman, *Organizer, Presiding*

**6:00 - 8:00**

**478.** Self-assembly at the dielectric-organic semiconductor interface for low-voltage organic field effect transistors. **O. Acton**, G. Ting, H. Ma, N. S. Baek, H -L. Yip, S. Hau, A. K -Y. Jen

## 2008 Fall Meeting

**479.** Novel functionalized anthradithiophene and pentacene derivatives: Photoconductive and fluorescent properties. **A. D. Platt**, W. E. Buchanan, J. Day, J. Anthony, O. Ostroverkhova

**480.** Photoinduced carrier dynamics in poly(3-hexylthiophene) studied by modified optical pump-THz probe THz spectroscopy. **Y. H. Peng**, W. Cao, M. Ballarotto, D. B. Romero, W. N. Herman, C. H. Lee

**481.** Synthesis of methyl methacrylate-based monomers containing oxadiazole pendant groups. **A. L. Foguth, P. Rungta**, V. Tsyalkovsky, D. D. Evanoff Jr., S. F. Foulger

**482.** Theoretical investigation of two-photon active emission ratiometric metal ion sensor model systems. **P. V. Lawson, J -L. Brédas**, C. J. Fahrni

**483.** UV-curable polymeric materials derived from perfluoroalkylether-attached siloxane possessing high optical transparency and low birefringence. **D. W. Kim**, H. K. Ju, Y. Kang, C. J. Lee

Section I

Pennsylvania Convention Center -- Hall C

### Polymeric Delivery for Therapeutics

*Cosponsored by COLL and HEALTH#*

S. E. Morgan and R. Lochhead, *Organizers*

**6:00 - 8:00**

**484.** Aminated amphiphilic scorpion-like macromolecules as delivery vehicles for nucleic acids. **S. M. Sparks, A. M. Harmon**, C. L. Waite, C. M. Roth, K. E. Uhrich

**485.** Electrospun fibers to enhance neurosurgical drug therapy. **K. A. Griswold**, C. J. Prestigiacomo, M. Jaffe

**486.** Drug-carrier relationship of amphiphilic star-like (ASM) and scorpion-like macromolecules (AScM) using nuclear magnetic resonance spectroscopy. **D. E. Orban**, K. E. Uhrich

**487.** Folate-targeted polyformulations of cytotoxic nucleoside triphosphates and paclitaxel. S. V. Vinogradov, **A. Mitin**, G. Warren

**488.** Gelatin containing photopolymerized poly(ethylene glycol) diacrylate hydrogels for drug delivery. **N. Sokmen**, F. Ayhan, H. Ayhan

**489.** Hydrolytic and enzymatic degradation of scorpion-like and star macromolecules. **B. Demirdirek**, K. E. Uhrich

**490.** Incorporation of pH/salt responsive micelles into layer-by-layer films. M. G. Kellum, **C. A. Harris**, S. E. Morgan, C. L. McCormick

Section J

Pennsylvania Convention Center -- Hall C

### Polymers in Flat Panel Display Technologies

*Cosponsored by PMSE*

J. Greener and J. Brooks, *Organizers*

**6:00 - 8:00**

**491.** Effect of polymerization temperature on the reflectance properties of polymer-stabilized cholesteric liquid crystals cells. **J. Guo**, F. Liu, G. Pan, H. Cao, H. Yang

Section K

Pennsylvania Convention Center -- Hall C

### Formulating Polymeric Materials in Consumer Products

## 2008 Fall Meeting

*Cosponsored by HEALTH*

R. Lochhead and S. E. Morgan, *Organizers*

**6:00 - 8:00**

**492.** Design of bioactive-based, fast degrading polyanhydrides for personal care applications. **A. L. Carbone**, K. E. Uhrich

### WEDNESDAY MORNING

Section A

Sheraton Philadelphia City Center -- Liberty Blrm A

## 5th Controlled/living Radical Polymerization Symposium

### Organic/Inorganic Hybrids by CRP

*Cosponsored by HEALTH#*

K. Matyjaszewski, *Organizer*

E. Malmstrom and T. E. Patten, *Presiding*

**8:00 —493.** Modification of surfaces using atom transfer radical polymerization. **T. E. Patten**, J. Ell, T. L. Kuhl, D. Mulder

**8:25 —494.** Functionalization via surface-initiated living radical polymerizations. F. J. Xu, S. J. Yuan, K. G. Neoh, **E. T. Kang**

**8:50 —495.** Radical reactivity ratios at surfaces. D. L. Patton, **K. L. Beers**

**9:15 —496.** Grafting of polymer brushes via ATRP initiated from macroinitiator synthesized on surface. **I. Luzinov**, V. Klep, Y. Liu, B. Zdyrko

**9:40 —497.** Functionalization of nanoparticles via surface-initiated RAFT polymerization and click chemistry. **B. C. Benicewicz**, Y. Li

**10:05 —** Intermission.

**10:15 —498.** Surface-initiated controlled radical polymerization in large cylindrical mesopores. **M. Kruk**, L. Cao

**10:40 —499.** Surface-initiated polymerization of vinylic monomers via ATRP from ordered mesoporous silica nanoparticles with various morphologies. **M. Save**, F. Audouin, H. Blas, P. Pasetto, C. Boissière, C. Sanchez, B. Charleux

**11:05 —500.** Surface properties of cellulose readily tailored by ATRP. **E. Malmström**, E. Östmark, D. Nyström, J. Lindqvist, S. Hansson, A. Carlmark

**11:30 —501.** Preparation of magnetic nanocomposite materials using controlled radical polymerizations. B. D. Korth, P. Y. Keng, **J. Pyun**

**11:55 —502.** Synthesis of amphiphilic dendritic core-shell polymers through tandem chain walking and atom transfer radical polymerization. **Z. Guan**, G. Sun

Section B

Sheraton Philadelphia City Center -- Liberty Blrm B

## 8th International Biorelated Polymers Symposium

### Nanostructures and Biomaterials Application

*Cosponsored by HEALTH#*

R. M. Ottenbrite and C. Scholz, *Organizers*

J. R. Dorgan and J. Kressler, *Presiding*

**8:30 —** Introductory Remarks.

## 2008 Fall Meeting

- 8:35 —503.** Ecobionanocomposites: An emerging class of green materials. **J. R. Dorgan**
- 8:55 —504.** Viscosity effect and internal structure of electrospun poly[(R)-3-hydroxybutyrate] fibers. **C. Wang**, C -H. Hsu
- 9:15 —505.** Nonrandom degradation behavior of poly(3-hydroxybutyrate) in pyrolysis. **H. Ariffin**, H. Nishida, Y. Shirai, M. A. Hassan
- 9:35 —506.** Magnetic properties of natural and modified DNAs. Y -W. Kwon, C. H. Lee, E -D. Do, J -S. Kang, D -K. Oh, E -K. Koh, D -H. Choi, **J -I. Jin**, Y. H. Geerts
- 9:55 —** Intermission.
- 10:05 —507.** Kinetics and mechanisms of biocide-micelle interactions in bacterial deactivation. R. Vyhnalkova, T. van de Ven, **A. Eisenberg**
- 10:25 —508.** Polymeric nanoparticles with artificial cell membrane surface for high-affinity separation of proteins. **K. Ishihara**, Y. Goto, R. Matsuno, T. Konno, M. Takai
- 10:45 —509.** Change in solution structure of human blood protein von Willebrand factor caused by shear. **E. Themistou**, I. Singh, S. V. Balu-Iyer, P. Alexandridis, S. Neelamegham
- 11:05 —510.** Interaction of amphiphilic polymers with lipid vesicles. K. Yasuhara, **K. Kuroda**

Section C

Sheraton Philadelphia City Center -- Liberty Blrm D

## Conducting Polymers, Molecular Wires, and Devices: A Tribute to Alan MacDiarmid

W. E. Jones Jr. and S. A. Jenekhe, *Organizers*

V. J. Gelling, *Presiding*

- 8:30 —511.** Polypyrrole as a corrosion inhibitor. **V. J. Gelling**, C. A. Vetter, S. V. Kasisomayajula, X. Qi
- 8:50 —512.** Charge transport properties of solution processable (porphinato)zinc(II) ethynylenes. **P. R. Frail**, J. M. Kikkawa, P. J. Angiolillo, M. J. Therien, C. R. Kagan
- 9:10 —513.** Controlled evaporative assembly of regioregular conjugated polymer "coffee rings". **Z. Lin**, M. Byun
- 9:30 —514.** Interaction of carbazole substituted unsymmetrical coronene oligomers with perylene bisimide molecules. **V. Sivamurugan**, G. Balaji, S. Valiyaveetil
- 9:50 —** Intermission.
- 10:05 —515.** Synthesis of nanostructured regioregular poly(3-hexylthiophene) block copolymers via "click" chemistry. **M. Jeffries-El**, R. L. Laskowski, M. H. Mitchell
- 10:25 —516.** New tunable thieno[3,4-b]pyrazine building blocks and their application to low band gap materials. L. Wen, J. P. Nietfeld, C. M. Amb, **S. C. Rasmussen**
- 10:45 —517.** Synthesis of nanoporous conjugated polymer networks. **A. I. Cooper**, J -X. Jiang, R. Dawson, F. Su, H. Niu, C. D. Wood, J. T. A. Jones, Y. Khimiyak, A. Trewin
- 11:05 —518.** Withdrawn.
- 11:25 —** Concluding Remarks.

Section D

Sheraton Philadelphia City Center -- Liberty Blrm C

2008 Fall Meeting

## Organic Thin Films for Photonics Applications

### Tutorial

*Financially supported by Office of Naval Research, Air Force Office of Scientific Research*

S. H. Foulger and S. R. Flom, *Organizers*

W. N. Herman, *Organizer, Presiding*

**8:30** — Introductory Remarks.

**8:35 —519.** An overview of solid state organic photovoltaic devices. **P. A. Lane**

**9:05 —520.** Introduction to the interfacial electronic structure of metal/organic and organic/organic heterojunctions. **J - L. Bredas**

**9:35 —521.** The understanding of structure/function relationships critical to the optimization of electro-optic activity. **L. R. Dalton**

**10:05** — Intermission.

**10:25 —522.** Terahertz emission and sensing using electro-optic polymers. **L. M. Hayden**, C. V. McLaughlin, B. Polishak, S. Huang, J. Luo, T. D. Kim, A. K. Y. Jen

**10:55 —523.** Tutorial on third-order nonlinear optical/two-photon-absorbing materials and applications. **S. R. Marder**

**11:25 —524.** Magneto optic properties of regioregular polythiophene films. **A. P. Persoons**, P. Gangopadhyay, A. Lopez-Santiago

Section E

Sheraton Philadelphia City Center -- Freedom Blrm G

## Hybrid Nanomaterials: Impact on Modern Materials and Opportunities for Industrial Applications

### Electronic Materials

R. Durand Jr., *Presiding*

J. Rouse and B. P. S. Chauhan, *Organizers, Presiding*

**8:00** — Introductory Remarks. **B. P. S. Chauhan** .

**8:05 —525.** Biologically inspired organic-inorganic nanocomposites. **I. A. Aksay**

**8:50 —526.** Applications for multiwalled carbon nanotubes. **T. P. McAndrew**, P. Laurent, M. Havel, C. Roger

**9:20 —527.** Enhancing dispersion and properties of SWNT-polymer nanocomposites by controlled noncovalent interactions. **D. Linton**, B. C. Miller, H. Li, C. Feigerle, M. D. Dadmun

**9:50** — Intermission.

**10:05 —528.** Low-temperature processed dye-sensitized solar cells. **J. R. Matthews**, J. D. Goodreau

**10:35 —529.** Organic-inorganic nanocomposites for optoelectric devices. **M. D. Goodman**, J. Xu, J. Wang, M. Jeffries-El, Z. Lin

**11:05 —530.** Template directed assembly of block-copolymer films. **A. Karim**, B. C. Berry, R. Jones, X. Zhang, R. M. Briber, A. Bosse, H -C. Kim

## 2008 Fall Meeting

**11:40 —531.** Transparent photocurable fluoroimidized acrylate nanocomposite for optoelectric device encapsulation. **S - H. Hsu**, C -C. Lin, W -F. Su

Section F

Sheraton Philadelphia City Center -- Salon 5/6

## Aerogels, Foams and Other Nanoporous Materials

### Design and Application of Inorganic Aerogels

M. A. B. Meador, D. A. Schiraldi, and N. Leventis, *Organizers*

D. R. Rolison, *Presiding*

**8:30 —532.** Nanostructured energetic materials: Aerogel thermite composites. **A. E. Gash**, J. H. Satcher, R. L. Simpson, M. Pantoya

**9:00 —533.** Integrating aerogel into space and terrestrial thermal-to-electric technology. **J. Sakamoto**, J. Paik, S. Jones

**9:30 —534.** Carbon aerogels for hydrogen storage. **T. F. Baumann**, M. A. Worsley, J. H. Satcher

**10:00 —535.** Multifunctional carbon nanoarchitectures as designer platforms for electrochemical power sources. **J. W. Long**, J. C. Lytle, A. E. Fischer, M. E. Bourg, K. A. Pettigrew, D. R. Rolison

**10:30 —** Intermission.

**10:40 —536.** Aerogels in the Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> system. **F. I. Hurwitz**, D. V. Aranda

**11:10 —537.** X-ray lithography of metal and semiconductor nanoparticles. **M. F. Bertino**, R. R. Gadipalli, L. A. Martin, B. Heckman, N. Leventis, S. Guha, J. Katsoudas, R. Divan, D. C. Mancini

**11:40 —538.** Designing vanadium oxide aerogels for electrochemical power. **B. S. Dunn**, V. Augustyn, E. Baudrin, J -M. Tarascon

### WEDNESDAY AFTERNOON

Section A

Sheraton Philadelphia City Center -- Liberty Blrm A

## 5th Controlled/living Radical Polymerization Symposium

### Biorelated Polymers by CRP

*Cosponsored by HEALTH#*

K. Matyjaszewski, *Organizer*

H. D. Maynard and J. Nicolas, *Presiding*

**1:30 —539.** Synthesis of end-functionalized glycopolymers by CRP for surface patterning. **H. D. Maynard**, V. Vazquez Dorbatt, K. L. Christman

**1:55 —540.** Designing polymers with strong similarities to biology. **G. Tew**

**2:20 —541.** Polymer-protein bioconjugates via grafting-from and grafting-to with RAFT-generated polymers. **B. S. Sumerlin**, P. De, M. Li, S. R. Gondi

**2:45 —542.** Peptide and protein hybrid materials prepared by CRP and conjugation methodologies. **J. C. M. van Hest**, J. A. Opsteen, M. Nallani, S. van Dongen, L. Canalle, J. J. Cornelissen

**3:10 —543.** RAFT, a powerful tool to bioactive peptide-polymer conjugates. **H. G. Börner**, J. Hentschel

## 2008 Fall Meeting

3:35 — Intermission.

3:45 —544. Fast ATRP of N-isopropylacrylamide in water and its application to bioconjugates. **A. H. E. Mueller**, P.-E. Millard, N. C. Mougin, A. Böker

4:10 —545. Hybrid block copolymers including oligosaccharides and synthetic blocks grown by ATRP or MADIX. J. Lohmann, C. Houga, H. Driguez, J. Wilson, M. Destarac, S. Fort, J.-F. Le Meins, R. Borsali, D. Taton, **Y. Gnanou**

4:35 —546. Synthesis of biorelevant polymers by controlled radical polymerization. **J.-F. Lutz**, J. Andrieu, A. Hoth, S. Agarwal

5:00 —547. Nanostructured latex particles directly obtained by nitroxide-mediated emulsion polymerization. **J. Nicolas**, A.-V. Ruzette, B. Charleux, S. Magnet, P. Gerard

Section B

Sheraton Philadelphia City Center -- Liberty Blrm B

## 8th International Biorelated Polymers Symposium

### Sensors and Biomedical Materials

*Cosponsored by HEALTH#*

R. M. Ottenbrite and C. Scholz, *Organizers*

F. Horkay and J. Antonucci, *Presiding*

1:30 — Introductory Remarks.

1:35 —548. pH- and temperature-sensitive hydrogels based on triblock terpolymers. **S. Reinicke**, J. Schmelz, H. Schmalz

1:55 —549. pH-Responsive PEGylated nanogels as smart nanodevice for cancer diagnosis and therapy. **M. Oishi**, Y. Nagasaki

2:15 —550. Ion sensitivity of DNA gel structure. **F. Horkay**, P. J. Bassler

2:35 —551. Development of a library of polymers to decouple the mechanical and adhesive effects of biomaterials on cell proliferation and differentiation. **A. Joy**, D. Cohen, E. A. Danso, C. Shen, C. Chen, J. Kohn

2:55 — Intermission.

3:05 —552. Biodegradable poly(B-amino ester)s as substrates for mineralized tissue formation. **D. M. Brey**, J. A. Burdick

3:25 —553. Effects of filler, initiator and cavity design factor on polymerization stress developed in dental composites. **J. Antonucci**, A. Giuseppetti, J. N. R. O'Donnell, G. Schumacher, D. Skrtic

3:45 —554. Biomimetic materials for vocal fold tissue engineering. S. E. Grieshaber, A. K. Jha, **X. Jia**

Section C

Sheraton Philadelphia City Center -- Salon 5/6

## Formulating Polymeric Materials in Consumer Products

### Tutorial

*Cosponsored by HEALTH*

R. Lochhead, *Organizer*

S. E. Morgan, *Organizer, Presiding*

2:00 —555. Trends in polymers for personal care: A tutorial. **R. Lochhead**



Sheraton Philadelphia City Center -- Liberty Blrm C

## Organic Thin Films for Photonics Applications

### Photonics and Integrated Optic Devices

*Financially supported by Office of Naval Research, Air Force Office of Scientific Research*

W. N. Herman, S. H. Foulger, and S. R. Flom, *Organizers*

G. A. Lindsay, *Presiding*

**1:00 —556.** DNA and holographically directed assembly of complex photonic crystals. **P. V. Braun**

**1:30 —557.** Ordering colloids and anisotropic particles by field-assisted assembly. D. Mukhija, L. T. Shereda, R. G. Larson, **M. J. Solomon**

**2:00 —558.** Photostable and thermally stable electro-optic polymer thin films for high speed modulators applications. **R. Dinu**, D. Jin, B. Chen

**2:30 —559.** Polymer-based active plasmonic devices. **W. Park**, J. Lee, J. Xue, Q. Wu, A. Mickelson

**2:50 —** Intermission.

**3:10 —560.** Photorefractive polymers for updatable holographic displays. **R. A. Norwood**, S. Tay, P. A. Blanche, R. Voorakaranam, J. Thomas, P. St. Hilaire, C. Christenson, P. Wang, T. Gu, D. Flores, M. Yamamoto, N. Peyghambarian

**3:40 —561.** Polymer slab waveguides for all-optical switching. A. Bahtiar, K. Koynov, Y. Mardiyati, H -H. Hoerhold, **C. Bubeck**

**4:10 —562.** All-polymer surface-emitting lasers. **K. D. Singer**, E. Baer, A. Hiltner, C. Weder, T. Kazmierczak, J. Lott, L. Sharpnack, H. Song, Y. Wu, J. Andrews

**4:40 —563.** Protein and bacteria sensing using nanoparticle-fluorescent polymer complexes. U. Bunz, **V. M. Rotello**

Sheraton Philadelphia City Center -- Freedom Blrm G

## Hybrid Nanomaterials: Impact on Modern Materials and Opportunities for Industrial Applications

### Nanocatalysis

B. P. S. Chauhan and R. Durand Jr., *Organizers*

R. Joyce, *Presiding*

J. Rouse, *Organizer, Presiding*

**1:30 —564.** Organic-inorganic hybrid photonic emitters and circuits using solution processing. **V. M. Menon**

**2:05 —565.** Creation of boron nitride nanotubes and possibility for a series of novel nanocomposite materials. **H. Kuwahara**, C. Zhi, D. Golberg, Y. Bando

**2:35 —566.** Fabrication of metal and semiconductor nanowires in monodisperse size by using a genetically modified collagen-like triple helix peptide as biomimetic template. H. Bai, **H. Matsui**

**3:10 —** Intermission.

**3:25 —567.** Pt-nanocluster catalysts and their practical utility in generation of functionalized organo-silicon polymers. **B. P. S. Chauhan**, A. Sarkar, B. Balagam, M. Raghunath, E. Cinar

2008 Fall Meeting

**4:00 —568.** Thermosensitive core-shell microgel particles as carrier system for catalytic metal nanoparticles. **Y. Lu**, S. Proch, M. Schrunner, R. Kempe, **M. Ballauff**

**4:30 —569.** Concepts for catalysis of inorganic materials as observed in a marine sponge. **B. Schwenger**, D. E. Morse

#### THURSDAY MORNING

Section A

Sheraton Philadelphia City Center -- Liberty Blrm A

### 5th Controlled/living Radical Polymerization Symposium

#### Other CRP Systems and Advances in Free Radical Polymerization

*Cosponsored by HEALTH#*

K. Matyjaszewski, *Organizer*

T. Endo and G. T. Russell, *Presiding*

**8:00 —570.** Molecular design of radical ring-opening polymerizable monomers and their polymerization. **T. Endo**, K. Morino

**8:25 —571.** Main-chain degradable vinyl polymers via living radical ring opening polymerization of cyclic monomers. **J. M. Paulusse**, C. J. Hawker

**8:50 —572.** Effects of compartmentalization on ATRP polymerizations in dispersed aqueous systems. **R. W. Simms**, **M. F. Cunningham**

**9:15 —573.** Sequence-regulated vinyl polymers by metal-catalyzed radical polyaddition of designed monomers. **K. Satoh**, M. Kamigaito, T. Abe, S. Ozawa

**9:40 —574.** Ruthenacarboranes as efficient reagents for controlled synthesis of macromolecules. **D. F. Grishin**, I. T. Chizhewsky, I. D. Grishin

**10:05 —** Intermission.

**10:15 —575.** Model-based semi-batch controlled/living radical polymerization reactor technology for preparation of well-defined gradient copolymers. **S. Zhu**

**10:40 —576.** Electron spin resonance observation of dynamics, reactivity, penultimate unit effects, and structures of (meth)acrylate radicals generated from purified oligomers prepared by atom transfer radical polymerizations. **A. Kajiwara**

**11:05 —577.** Bimolecular termination in semidilute polymer solutions. **M. J. Monteiro**, G. Johnston-Hall

**11:30 —578.** Novel laser-assisted investigations into the kinetics of systems with secondary and tertiary macroradicals. M. Buback, **P. Hesse**

**11:55 —579.** Real and apparent sources of polydispersity in molecular weight distributions from radical polymerization. **G. T. Russell**

Section B

Sheraton Philadelphia City Center -- Salon 3/4

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

## 2008 Fall Meeting

D. Garcia, *Organizer*

M. J. Nasrullah, *Organizer, Presiding*

**8:30 —580.** Novel foaming processes using CO<sub>2</sub> generation from anhydride precursors. **M. Celina**

**8:50 —581.** In situ monitoring of construction and behavior of polystyrene brushes. **H -S. Lee**, L. S. Penn

**9:10 —582.** Morphological and surface properties of electrospun perfluorocyclobutyl (PFCB) polymers. **R. Verma**, S. T. Iacono, N. Tomar, D. W. Smith Jr.

**9:30 —583.** Cryogels as novel solid-supported copper catalyst system for click chemistry and their use in column reactors. **B. Dervaux**, W. Van Camp, F. E. Du Prez

**9:50 —584.** Novel perylene diimide containing polymer as an n-type material for polymer based electronic devices. **J. D. Biberdorf**, B. J. Holliday

**10:10 —585.** Synthesis and characterization of ferroelectric block copolymers containing oligoanilines. **S. Liang**, Q. Wang, J. Claude

**10:30 —586.** Novel well-defined functionalized polyolefins and polyolefin-polar polymer block copolymers: Formations and their features. **N. Nagai**, K. Nakai, M. Isokawa, S. Nakatsuka, T. Fujita

**10:50 —587.** Real succinic anhydride-terminated polyethylene oligomers: Selective formation and their self-assembled morphology in water dispersions. **A. V. S. Sainath**, M. Isokawa, M. Suzuki, N. Nagai, T. Fujita

**11:10 —588.** Synthesis of fluorinated polymers in supercritical carbon dioxide. J -G. Chen, Z -W. Liu, **Z -T. Liu**

Section C

Sheraton Philadelphia City Center -- Salon 5/6

## Formulating Polymeric Materials in Consumer Products

### Regulatory and Intellectual Property

*Cosponsored by HEALTH*

S. E. Morgan, *Organizer*

R. Y. Lochhead, *Organizer, Presiding*

**8:00 —** Introductory Remarks.

**8:15 —589.** Polymer patents, unique opportunities, unique challenges. **D. Walter**

**8:45 —590.** Putting the recent trends in U.S. patent law into perspective. **J. Neth**

**9:45 —** Intermission.

**10:00 —591.** INCI nomenclature from bench to label: What you need to know to understand nomenclature, and your understanding of product labeling of polymers in the Personal Care industry. **T. Gottschalck**

**10:30 —592.** Polymer classifications used in personal care. **E. S. Abrutyn**

**11:00 —593.** Protection of trademarks. **J. M. Samuels**

**11:30 —** Panel Discussion.

**12:00 —** Concluding Remarks.

Section D

Sheraton Philadelphia City Center -- Liberty Blrm C

2008 Fall Meeting

## Organic Thin Films for Photonics Applications

### Nonlinear Optics

*Financially supported by Office of Naval Research, Air Force Office of Scientific Research*

W. N. Herman and S. H. Foulger, *Organizers*

S. R. Flom, *Organizer, Presiding*

**8:00 —594.** Organic materials for all-optical signal processing and optical limiting. **J. W. Perry**

**8:30 —595.** Fabrication of high-performance optical devices using multiphoton absorption polymerization. L. Li, G. Kumi, E. Gershoren, **J. Fourkas**, P -T. Ho, W. N. Herman

**9:00 —596.** Theoretical principles of computational design of two-photon absorbing photochromic compounds for optical data storage. **A. E. Masunov**, I. A. Mikhailov, K. D. Belfield

**9:20 —597.** Phase-matched and phase-mismatched degenerate four-wave mixing for measuring complex  $\chi(3)$  of nonlinear thin polymer films. **W. Cao**, Y -H. Peng, C. H. Lee, W. N. Herman, J. Goldhar

**9:40 —598.** New photosensitive polymeric materials for two-photon 3-D WORM optical data storage. **K. D. Belfield**, C. O. Yanez, C. D. Andrade, S. Yao

**10:00** — Intermission.

**10:20 —599.** Supramolecular photonics: Molecular self-assembly and controlled lattice hardening for electro-optic coefficients beyond 450 pm/V. J. Luo, **A. K. Y. Jen**

**10:50 —600.** A pattern for increasing the first hyperpolarizability of a push-pull polyene dye as indicated from DFT calculations. **A. P. Chafin**, G. A. Lindsay

**11:10 —601.** High-voltage poling of a bulk slab of disperse red 1-polymethylmethacrylate guest-host polymer. **R. C. Hoffman**, T. M. Pritchett, J. A. Orlicki, A. M. Rawlett, W. N. Herman, D. H. Park

**11:30 —602.** Photoinduced birefringence in hydrogen-bonded polymer-azobenzene complexes: 2-Pyridine-azo-p-dimethylaniline in poly(4-vinyl phenol). **A. Priimagi**, J. Vapaavuori, F. J. Rodriguez, M. Kauranen, O. Ikkala, M. Kaivola

Section E

Sheraton Philadelphia City Center -- Liberty Blrm B

## Hybrid Nanomaterials: Impact on Modern Materials and Opportunities for Industrial Applications

### Functional Nanomaterials

B. P. S. Chauhan and R. Durand Jr., *Organizers*

J. Rouse, *Organizer, Presiding*

**8:00** — Introductory Remarks. **B. P. S. Chauhan** .

**8:05** — Center for Engineered Polymeric Materials: A New Model for Collaborative Research. **Nan- Loh Young**.

**8:20 —603.** Boron based nanostructures: Precursors to modern materials. **N. S. Hosmane**

**9:00 —604.** Investigation of molecular miscibility and chain dynamics in polyhedral oligomeric silsesquioxane (POSS®)/polystyrene nanocomposites. **R. Misra**, A. H. Alidedeoglu, W. L. Jarrett, S. E. Morgan

**9:30 —605.** Processing-morphology of the nanocomposites of epoxy with pristine silica. **C. Chen**, T. B. Tolle, J. W. Baur

## 2008 Fall Meeting

**10:00 —606.** Toughening mechanisms in epoxy-based hybrid nanocomposites. **R. A. Pearson**, Y -L. Liang

**10:30** — Intermission.

**10:40 —607.** Hybrid nanocomposite research at the Air Force Research Laboratory/Edwards AFB, current development for future application opportunities. **J. M. Mabry**, B. M. Moore, G. Yandek, T. S. Haddad, P. N. Ruth, L. M. McGrath

**11:10 —608.** Nanocomposite hydrogels with precipitated calcium carbonate. **M. Guvendiren**, S. Yang

**11:35 —609.** Purification of bionanoparticle-polymer hybrid materials via tangential flow filtration. **K. S. Raja**

**12:00 —610.** Hybrid inorganic-organic nanocomposites possessing amphiphilic and morphological complexities: Investigations into domain-specific nanofillers and the influence thereof on mechanical performance. **J. W. Bartels**, J. Xu, D. A. Bohnsack, T -C. Tseng, M. E. Mackay, K. L. Wooley

### THURSDAY AFTERNOON

Section A

Sheraton Philadelphia City Center -- Liberty Blrm A

## 5th Controlled/living Radical Polymerization Symposium

### Industrial Aspects of CRP

*Cosponsored by HEALTH#*

K. Matyjaszewski, *Organizer*

M. Destarac and S. Zhu, *Presiding*

**1:30 —611.** Controlled architecture polymers at Arkema: Synthesis, morphology and properties of all-acrylic block copolymers. **P. Gerard**, R. Inoubli, S. Magnet

**1:55 —612.** Synthesis of well-defined block copolymers and study of their adsorption behavior in pigment dispersions. **A. T. Termaten**

**2:20 —613.** Madix technology: From innovative concepts to industrialization. **M. Destarac**

**2:45 —614.** Novel polyolefin hybrids via controlled/living radical polymerization. **J. Saito**, N. Kawahara, S. Matsuo, H. Kaneko, T. Matsugi, N. Kashiwa

**3:10 —615.** Synthesis of functional photopolymerized macroporous poly(HIPE) by ATRP surface grafting. **A. Heise**, C. J. Duxbury, C. Koning, D. M. Cummins

**3:35** — Intermission.

**3:45 —616.** Tailor made polymeric systematic libraries via atom transfer radical polymerization. **W. Jakubowski**, N. V. Tsarevsky, P. McCarthy, K. Matyjaszewski

**4:10 —617.** Understanding the advantages and disadvantages of copper mediated living polymerization. **D. M. Haddleton**, G. Mantovani, J. Lindqvist, M. Levere, C. Fidge, A. J. Grice, P. M. Wright

**4:35 —618.** Controlled radical polymerization: How to choose between ATRP, NMP & RAFT — what is reliable from an industrial point of view? **L. Couvreur**

**5:00 —619.** Opportunities in controlled radical polymerization. **J. Spanswick**, B. Pike

**5:25** — Concluding Remarks.

Section B

Sheraton Philadelphia City Center -- Salon 3/4

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

D. Garcia, *Organizer*

R. Madathingal and S. Kulkarni, *Organizers, Presiding*

**1:00 —620.** Postsynthetic functionalization of hyperbranched polymers prepared by olefin metathesis. **I. A. Gorodetskaya**, A. A. Gorodetsky, R. H. Grubbs

**1:20 —621.** Telechelic polyolefins from renewable feedstocks using second-generation metathesis catalysts. **S. C. Jones**, L.-S. Wang, J. A. Jeffries, F. J. Motamedi, M. A. Giardello

**1:40 —622.** Effect of reaction procedure on the degree of branching and polymer properties in highly branched polyureas obtained by A<sub>2</sub>+B<sub>3</sub> polymerization. **S. Bilgin**, T. Eynur, E. Yilgor, I. Yilgor

**2:00 —623.** Addition polymerization of bicyclo[4.2.0]oct-7-ene catalyzed by an early transition metal complex. **K. Seto**, B. M. Novak

**2:20 —624.** Copolymerization of bicyclo[4.2.0]non-7-ene and norbornene. **K. Seto**, B. M. Novak

**2:40 —625.** Effect of Lewis and Brønsted acids on the homopolymerization of acrylates and their copolymerization with 1-alkenes. R. Luo, **Y. Chen**, A. Sen

**3:00 —626.** An improved method of preparing high molecular weight polyimides: Base-assisted in situ silylation of diamines. D. M. Muñoz, M. Calle, **A. E. Lozano**, J. G. de la Campa, J. de Abajo

**3:20 —627.** Homo- and copolymerization of protected glycidol via an anionic polymerization and monomer activation. **M. Gervais**, S. Carlotti, A. Deffieux

**3:40 —628.** Free radical polymerization in ionic liquids: Case for a protected radical. **D. J. Irvine**, K. J. Thurecht, P. N. Gooden, P. Licence

**4:00 —629.** Solvent-free green polymerization method for polyesters using hydrocarboxylation reactions. **R. Mathers**, D. I. Kushner, V. A. Schram

Section C

Sheraton Philadelphia City Center -- Salon 5/6

## Formulating Polymeric Materials in Consumer Products

### Products for Consumer Applications

*Cosponsored by HEALTH*

S. E. Morgan, *Organizer*

R. Y. Lochhead, *Organizer, Presiding*

**1:00 —630.** Synergistic effects of nonionic polymers on cationic polymer/surfactant interactions. **S. Jordan**, E. DiAntonio, T. Drovetskaya, J. Amos, C. Davis, M. Ladika, T. H. Kalantar, X. Zhang, S. Gaynor, L. Kreeger

**1:30 —631.** Reducing irritation potential of surfactant-based cleansers with hydrophobically-modified polymers. **M. J. Fevola**, J. J. LiBrizzi, R. M. Walters

**2:00 —632.** Protective breathable films for wound care applications. **V. Davé**, B. C. Johnson, S. Dabi

**2:30 —** Intermission.

**2:40 —633.** Polysaccharide solution properties modulated by solvent mixtures. E. Antoniou, **E. Themistou**, M. Tsianou, P. Alexandridis

## 2008 Fall Meeting

**3:10 —634.** New hydrophobically modified cationic polymeric emulsifiers with conditioning benefits for hair and skin. **B. S. Jaynes**

**3:40 —635.** Block copolymers as stabilizers for water-in-oil emulsions. T. Dimitrova, L. Saulnier, I. Van Reeth, V. Verhelst, **M. S. Starch**

Section D

Sheraton Philadelphia City Center -- Liberty Blrm C

## Organic Thin Films for Photonics Applications

### Optoelectronic Materials and Devices

*Financially supported by Office of Naval Research, Air Force Office of Scientific Research*

W. N. Herman and S. R. Flom, *Organizers*

S. H. Foulger, *Organizer, Presiding*

**1:00 —636.** Second and third row transition metal phthalocyanine based organic photovoltaics. **G. Kushto**, P. A. Lane

**1:30 —637.** Ultrafast carrier dynamics of blended and layered zinc-phthalocyanine/C60 films measured by time-resolved terahertz spectroscopy. **O. Esenturk**, E. J. Heilweil, J. S. Melinger, P. A. Lane

**1:50 —638.** Achieving high fill-factor P3HT/C60 photovoltaic devices using conductive polymer anodes. **M. Ballarotto**, W. N. Herman, D. B. Romero

**2:10 —639.** Effect of pendant group structure on the electron mobility and luminescence of oxadiazole-containing polymers. **D. D. Evanoff Jr.**, V. Tsyalkovsky, A. L. Foguth, P. Rungta, S. F. Foulger

**2:30 —640.** Microwave-assisted synthesis of conjugated semiconducting polymers: Bulk and patterned thin films. I. W. Moran, S. B. Jhaveri, **K. R. Carter**

**2:50 —** Intermission.

**3:00 —641.** Improving the conductivity of polyaniline through molecular and structural control. **Y -L. Loo**

**3:30 —642.** Ultrathin self-assembled organophosphonic acid monolayers/metal oxides hybrid dielectrics for low-voltage field-effect transistors. **H. Ma**, O. Acton, G. Ting, J. W. Ka, H -L. Yip, N. Tucker, A. K. Y. Jen

**3:50 —643.** Electroluminescence with colloidal particles. C. F. Huebner, D. D. Evanoff Jr., **S. F. Foulger**

**4:10 —644.** Nickel catalyzed synthesis of poly-(9,9-substituted) fluorenes aided by an alkyl lithium reagent. S. B. Jhaveri, **K. R. Carter**

**4:30 —645.** Preparation of chromophore enriched semifluorinated aryl ether polymers. **S. T. Iacono**, A. R. Neilson, K. Zhu, S. M. Budy, D. W. Smith Jr.

Section E

Sheraton Philadelphia City Center -- Liberty Blrm B

## Hybrid Nanomaterials: Impact on Modern Materials and Opportunities for Industrial Applications

### Functional Nanomaterials

R. Durand Jr., *Organizer*

F. Jäkle, *Presiding*

J. Rouse and B. P. S. Chauhan, *Organizers, Presiding*

## 2008 Fall Meeting

**1:30 —646.** Nanostructured materials from organoboron hybrid polymers. C. Cui, Y. Qin, **F. Jäkle**

**2:10 —647.** Corrosion resistant nanocomposite coatings for light metal alloys. **A. Singhal**, S. Bafna, K. Martin, G. Skandan

**2:40 —648.** Formulated didecyl dimethyl ammonium bicarbonate/carbonate (DDABC), a multimetal corrosion inhibitor with relevance to commercial surface preparation and coatings technologies. **T. Bedard**, J. Kimler

**3:10 —** Intermission.

**3:20 —649.** Block-copolymer-templated synthesis of ordered silicas with closed mesopores. **M. Kruk**, C. M. Hui

**3:50 —650.** Development of zeolites encapsulated silicon nanoclusters in sensor applications. **C. C. Ibeh**

**4:20 —651.** Methods for improving adhesive strength in self-assembled silica nanoparticle antireflection coatings. **J. I. Ridley**, A. L. Ritter, J. R. Heflin

**4:50 —652.** Multifunctional nanostructured hybrid membranes from biopolymer hydrogel. **V. Gopishetty**, I. Tokarev, S. Minko