

Excellence in Graduate Polymer Research Symposium, Salt Lake City, 2009

Organizers: H. N. Cheng (Hercules), Erica H. Martin (Rohm and Haas), Christopher J. Ellison (University of Texas), and Timothy E. Long (Virginia Tech)

Acknowledgments:

Sponsored by Polymer Division (POLY), cosponsored by Presidential Event (PRES), Young Chemists Committee (YCC), Division of Professional Relations (PROF), and Society Committee on Education (SOCED)

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Poster Session (Sunday Evening, March 22, 2009)

(1250955) Understanding the role of glycosaminoglycans in cell surface binding of poly(glycoamidoamine) DNA delivery vectors.

P. M. McLendon, E. M. Davis, T. M. Reineke (Virginia Tech)

(1249943) Structural analysis of heterogeneity in spider dragline silk using stable isotope-labeled sequential peptides and solid-state NMR.

E. Yamaguchi (Tokyo Univ. of Agriculture and Technology)

(1251020) Grafting of linear and branched PEO via siloxane tethers for enhanced protein resistance.

R. Murthy, C. E. Shell, B. M. Bailey, M. A. Grunlan (Texas A&M Univ.)

(1235791) Anionic Synthesis of Chain-end and In-chain, Cyano-functionalized Polystyrenes by Hydrosilation of Allyl Cyanide with Silyl hydride-functionalized Polystyrenes.

R. P. Quirk, J. E. Janoski, S. R. Chowdhury, C. Wesdemiotis, D. E. Dabney (Univ. of Akron)

(1212154) Conformational programmable polymers based on restricted rotation with atropisomeric recognition motif.

Y. Zhang, K. D. Shimizu (Univ. of South Carolina)

(1237449) Crosslinking of reactive lyotropic liquid crystals for phase retention.

L. Sievens-Figueroa, C. A. Guymon (Univ. of Iowa, Chem & Biochem Engineering)

(1249031) Synthesis and directed magnetic assembly of ferromagnetic cobalt nanoparticles and cobalt oxide nanowires.

P. Y. Keng, J. Pyun (Univ. of Arizona)

(1246073) Elaboration of octavinylsilsesquioxane: A perfect nano-building block .

S. Sulaiman, A. Bhaskar, J. Zhang, R. Guda, T. Goodson III, R. M. Laine (Univ. of Michigan)

(1236354) Pyrene functionalized hollow polymer capsules.

X. Liu and A. Basu (Brown Univ.)

(1251596) Effects of surface modification of the filler on the impact toughness of polypropylene/CaCO₃ nanocomposites.
L. Yong, H. Chen, C.-M. Chan, J. Wu (Hong Kong Univ. of Science and Technology)

Oral Session 1. (Monday Morning, March 23, 2009)

Session Chairs: H. N. Cheng and Timothy E. Long

8:30 am Introductory Remarks.

8:35 am (1246578) Polynorbornenes prepared by pulsed-addition ring-opening metathesis polymerization.
J. B. Matson, S. C. Virgil, R. H. Grubbs (Caltech)

9:00 am (1251016) Kinetic and mechanistic studies of N-heterocyclic carbene-mediated zwitterionic polymerization of cyclic esters.
E. J. Shin, W. Jeong, D. A. Culkin, J. L. Hedrick, R. M. Waymouth (Stanford Univ.)

9:25 am (1232280) Site-isolation of polymer bound catalysts from small, ionic molecules and their use in one-pot cascade reactions using PDMS membranes.
A. L. Miller II, N. B. Bowden (Univ. of Iowa, Chemistry)

9:50 am (1250746) Sulfonium ion adducts from quasiling polyisobutylene and alkyl mono- or di-sulfides.
D. Morgan, C. Stokes, R. F. Storey (Univ. of Southern Mississippi)

10:15am Intermission.

10:30 am (1227691) Concurrent and/or sequential ATRP and RAFT polymerization: Taking the best of each world.
R. Nicolay, K. Matyjaszewski (Carnegie Mellon Univ.)

10:55 am (1231817) Construction of degradable end-linked polymer networks using ATRP and "click" chemistry.
J. A. Johnson, J. T. Koberstein, N. J. Turro (Columbia Univ.)

11:20 am (1234989) Construction of Functionalizable, Crosslinked Nanostructures.
G. Sun, N. S. Lee, W. L. Neumann, J. N. Freskos, J. J. Shieh, R. B. Dorshow, K. L. Wooley (Washington Univ. in St. Louis)

Oral Session 2. (Monday Afternoon, March 23, 2009)

Session Chairs: Erica H. Martin and Christopher J. Ellison

1:15 pm Introductory Remarks.

1:20 pm Recognition of Poster Presenters.

- 1:30 pm (1250720) Architecture Effects on Multivalent Binding by Helical Polypeptide-Based Glycopolymers.
S. Liu, M. Bergström, S. Ohlson, K. L. Kiick (Univ. of Delaware, Materials Science)
- 1:55 pm (1250998) Silica-poly(benzyl-L-glutamate) Core-Shell Particles of Controlled Shell Content.
E. Soto-Cantu, P. S. Russo (Louisiana State Univ.)
- 2:20 pm (1251589) Neutron scattering analysis of the dynamics and structure of semiflexible, self-assembled peptide chain networks.
M. C. Branco, D. J. Pochan, J. P. Schneider, N. Wagner (Univ. of Delaware, Chemical Engineering)
- 2:45 pm (1232168) Polymerization for signal amplification of antibody-based biodetection.
H. J. Avens, C. N. Bowman (Univ. of Colorado)
- 3:10 pm Intermission.
- 3:25 pm (1228447) Imprint lithography based hydrogel particles and the effect of shape and size on biodistribution.
K. P. Herlihy, T. J. Merkel, J. Nunes, C. L. Brannen, J. M. DeSimone (Univ. of North Carolina)
- 3:50 pm (1229306) Novel thieno-[3,4-b]thiophene semiconducting polymers for high performance solar cells.
Y. Liang, D. Feng, L. Yu (Univ. of Chicago)
- 4:15 pm (1243888) High gas barrier from confined crystallization of polyethylene oxide in nanolayer assemblies.
H. Wang, J. K. Keum, A. Hiltner, E. Baer, B. D. Freeman (Case Western Reserve)
- 4:40 pm Remarks by ACS Immediate Past President Bruce Bursten.
- 4:50 pm Networking Reception.