

## Michael R. Bockstaller

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### Professional Preparation

University of Karlsruhe, Karlsruhe (Germany)	Chemistry (Diplom)	1990-1996
Johannes Gutenberg University, Mainz (Germany)	Chemistry (Dr. rer. nat.)	2000-2005
Postdoctoral Associate, MIT, Cambridge MA	Mat. Sci. & Eng.	2000-2004
Lecturer, RWTH Aachen, Aachen (Germany)	Chemistry	2004-2005

### Appointments

07/14 – present	Professor, Department of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA 15213
03/11 – present	Adjunct Professor, Department of Chemistry, Carnegie Mellon University, Pittsburgh, PA 15213
07/10 – 06/14	Associate Professor, Department of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA 15213
4/05 – 05/10	Assistant Professor, Department of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, PA 15213
3/04 – 3/05	Emmy-Noether Research Group Leader, Department of Technical and Macromolecular Chemistry, RWTH Aachen University, Aachen (Germany)
7/00 – 2/04	Postdoctoral Associate, Department of Materials Science and Engineering, MIT, Cambridge, 02139 MA
4/99 – 12/99	Visiting Scientist, Foundation of Research and Technology Hellas - Institute for Electronic Structure and Laser Technology, Iraklion (Greece)
1/98 – 12/98	Teaching Assistant, Dept. of Chemistry., Johannes Gutenberg University, Mainz (Germany)
9/97 – 7/00	Research Assistant, Max-Planck Institute for Polymer Research, Mainz (Germany)

### Awards and Honors

2014	Fellow of the American Physical Society
2008	The Philbrook Prize (by the Department of Materials Science and Engineering)
2003	Emmy Noether grant recipient of the German Science Foundation
2000	Feodor-Lynen fellowship award by Alexander von Humboldt Foundation

### Membership and Activities in Honorary Fraternities, Professional Societies

1. Member, American Chemical Society
2. Member, Materials Research Society
3. Member, American Physical Society
4. Member, German Physical Society
5. Fellow, Alexander von Humboldt Association
6. Member, Hematologic Malignancies Program at the University of Pittsburgh Cancer Institute

## Publications

### A Archival Papers

1. Bockstaller, M. R. Progress in Polymer Hybrid Materials. *Progr. Polym. Sci.* **40**, (2015), 1-2.
2. Dang, A.; Ojha, S.; Hui, C. M.; Mahoney, C.; Matyjaszewski, K.; Bockstaller, M. R. High-Transparency Polymer Nanocomposites Enabled by Polymer-Graft Modification of Particle Fillers. *Langmuir* **30**, (2014), 14434-14442.
3. Grabowski, C. A.; Koerner, H.; Meth, J. S.; Dang, A.; Hui, C. M.; Matyjaszewski, K.; Vaia, R. A. Performance of Dielectric Nanocomposites: Matrix-Free, Hairy Nanoparticle Assemblies and Amorphous Polymer-Nanoparticle Blends. *ACS Applied Materials & Interfaces* **6**, (2014), 21500-21509.
4. Hakem, I. F.; Benmouna, A.; Benmouna, R.; Ferebee, R.; Benmouna, M.; Bockstaller, M. R. Interpretation of small-angle scattering of block copolymer/nanoparticle blends using random phase approximation. *European Physical Journal E* **37**, (2014), 14054, 1-9.
5. Hilburg, S. L.; Elder, A. N.; Chung, H.; Ferebee, R. L.; Bockstaller, M. R.; Washburn, N. R. A universal route towards thermoplastic lignin composites with improved mechanical properties. *Polymer* **55**, (2014), 995-1003.
6. Hui, C. M.; Dang, A.; Chen, B.; Yan, J.; Konkolewicz, D.; He, H.; Bockstaller, M. R.; Matyjaszewski, K. Effect of Thermal Self-Initiation on the Synthesis, Composition, and Properties of Particle Brush Materials. *Macromolecules* **47**, (2014), 5501-5508.
7. Hui, C. M.; Pietrasik, J.; Schmitt, M.; Mahoney, C.; Choi, J.; Bockstaller, M. R.; Matyjaszewski, K. Surface-Initiated Polymerization as an Enabling Tool for Multifunctional (Nano-)Engineered Hybrid Materials. *Chemistry of Materials* **26**, (2014), 745-762.
8. Narayanan, S.; Hajzus, J. R.; Treacy, C. E.; Bockstaller, M. R.; Porter, L. M. Polymer Embedded Silver-Nanowire Network Structures - A Platform for the Facile Fabrication of Flexible Transparent Conductors. *ECS Journal of Solid State Science and Technology* **3**, (2014), P363-P369.
9. Qiao, Y.; Ferebee, R.; Lee, B.; Mitra, I.; Lynd, N. A.; Hayat, J.; Bockstaller, M. R.; Tang, C. Symmetric Poly(ethylene oxide-b-styrene-b-isoprene) Triblock Copolymers: Synthesis, Characterization, and Self-Assembly in Bulk and Thin Film. *Macromolecules* **47**, (2014), 6373-6381.
10. Ryu, H. J.; Sun, J.; Avgeropoulos, A.; Bockstaller, M. R. Retardation of Grain Growth and Grain Boundary Pinning in Athermal Block Copolymer Blend Systems. *Macromolecules*, **47**, (2014), 1419-1427.
11. Schneider, D.; Schmitt, M.; Hui, C. M.; Sainidou, R.; Rembert, P.; Matyjaszewski, K.; Bockstaller, M. R.; Fytas, G. Role of Polymer Graft Architecture on the Acoustic Eigenmode Formation in Densely Polymer-Tethered Colloidal Particles. *ACS Macro Letters* **3**, (2014), 1059-1063.

12. K. C. Jha, H. Liu, M. R. Bockstaller, H. Heinz; "Facet Recognition and Molecular Ordering of Ionic Liquids on Metal Surfaces" *J. Phys. Chem. C* **117**, (2013), 25969-25981.
13. S. Ojha, A. Dang, C. M. Hui, C. Mahoney, K. Matyjaszewski, M. R. Bockstaller "Strategies for the Synthesis of Thermoplastic Polymer Nanocomposite Materials with High Inorganic Filling Fraction" *Langmuir* **29**, (2013), 8989-8996.
14. R. Zhang, G. Singh, A. Dang, L. Dai, M. R. Bockstaller, B. Akgun, S. Satija, A. Karim; "Nanoparticle-Driven Orientation Transition and Soft Shear Alignment in Diblock Copolymer Films via Dynamic Thermal Gradient Field" *Macromol. Rapid Commun.* **34**, (2013), 1642-1647.
15. A. Dang, C. M. Hui, R. Ferebee, J. Kubiak, T. Li, K. Matyjaszewski, M. R. Bockstaller; "Thermal Properties of Particle Brush Materials: Effect of Polymer Graft Architecture on the Glass Transition Temperature in Polymer-Grafted Colloidal Systems" *Macromolecular Symposia*, **331-332**, (2013), 9-18.
16. J. Choi, C. M. Hui, M. Schmitt, J. Pietrasik, S. Margel, K. Matyjaszewski, M. R. Bockstaller; "Effect of Polymer-Graft Characteristics on Structure Formation in Particle Brush Assemblies" *Langmuir* **29**, (2013), 6452-6459.
17. S. Narayanan, J. Choi, L. Porter, M. R. Bockstaller; "Flexible Transparent Metal/Polymer Composite Materials Based on Optical Resonant Laminate Structures" *ACS Appl. Mater. Interfaces* **5**, (2013), 4093-4099.
18. I. F. Hakem, A. M. Leech, J. Bohn, J. P. Walker, M. R. Bockstaller; "Analysis of Heterogeneity in non-Specific PEGylation Reactions of Biomolecules" *Biopolymers* **99**, (2013), 427-435.
19. Ryu, H. J.; Fortner, D. B.; Lee, S.; Ferebee, R.; De Graef, M.; Misichronis, K.; Avgeropoulos, A.; Bockstaller, M. R. "Role of Grain Boundary Defects During Grain Coarsening of Lamellar Block Copolymers" *Macromolecules* **46**, (2013), 204-215.
20. Hakem, I. F.; Leech, A. M.; Bohn, J.; Walker, J. P.; Bockstaller, M. R. "Analysis of Heterogeneity in Non-Specific PEGylation Reactions of Biomolecules" *Biopolymers*, DOI: 10.1002/bip.22193.
21. Kalu, E. E.; Mimi, D.; Bockstaller, M. R. "Synthesis, Characterization, Electrocatalytic and Catalytic Activity of Thermally Generated Polymer-Stabilized Metal Nanoparticles" *Int. J. Electrochem. Sci.* **7**, (2012), 5297-5313.
22. Ryu, H. J.; Fortner, D.; Rohrer, G. S.; Bockstaller, M. R. "Measuring the Relative Grain Boundary Energies in Block Copolymer Microstructures" *Phys. Rev. Lett.*, **108**, (2012), 107801.
23. Choi, J.; Hui, C. M.; Pietrasik, J.; Dong, H.; Matyjaszewski, K.; Bockstaller, M. R. "Toughening fragile matter: mechanical properties of particle solids assembled from polymer-grafted hybrid particles synthesized by ATRP" *Soft Matter*, **8**, (2012), 4072-4082.
24. Listak, J.; Jia, X.; Plichta, A.; Zhong, M.; Matyjaszewski, K.; & Bockstaller, M. R. "Effect of block molecular weight distribution on the structure formation in block copolymer/homopolymer blends" *Journal of Polymer Science Part B: Polymer Physics*, **50**(2), (2012), 106-116.

25. Keul, H.; Ryu, H. J.; Moeller, M.; Bockstaller, M. R. "Anion effect on the shape evolution of gold nanoparticles during seed-induced growth in imidazolium-based ionic liquids" *Physical Chemistry Chemical Physics*, **13**(30), (2011), 13572-13578.
26. Voudouris, P.; Choi, J.; Gomopoulos, N.; Sainidou, R.; Dong, H.; Matyjaszewski, K.; Bockstaller, M. R.; Fytas, G. "Anisotropic elasticity of quasi-one-component polymer nanocomposites" *ACS Nano*, **5**(7), (2011), 5746-5754.
27. Pietrasik, J.; Hui, C.; Chaladaj, W.; Dong, H.; Choi, J.; Jurczak, J.; Bockstaller, M.; Matyjaszewski, K. "Silica-Polymethacrylate Hybrid Particles Synthesized Using High-Pressure Atom Transfer Radical Polymerization", *Macromolecular Rapid Communications*, **32**(3), (2011), 295-301.
28. Keul, H.; Moeller, M.; Bockstaller, M. "Selective exposition of high and low density crystal facets of gold nanocrystals using the seeded-growth technique", *Crystal Engineering Communications*, **13**(3), (2011), 13572-13578.
29. Bockstaller, M.; Ryu, H.-J.; Ojha, S.; Choi, J. "1D periodic bimetallic superstructures by co-assembly of ternary block copolymer/nanoparticle blends", *Journal of Materials Chemistry*, **20**, (2010), pp. 9339-9341.
30. Hakem, I.; Leech, A.; Johnson, J.; Donahue, S.; Walker, J.; Bockstaller, M. "Understanding Ligand Distributions in Modified Particle and Particlelike Systems", *Journal of the American Chemical Society*, **132**, (2010), pp. 16593-16598.
31. Jia, X.; Listak, J.; Witherspoon, V.; Kalu, E.; Yang, P.; Bockstaller, M. "Effect of Matrix Molecular Weight on the Coarsening Mechanism of Polymer-Grafted Gold Nanocrystals", *Langmuir*, **26**, (2010), pp. 12190-12197.
32. Choi, J.; Dong, H.; Matyjaszewski, K.; Bockstaller, M. "Flexible Particle Array Structures by Controlling Polymer Graft Architecture", *Journal of the American Chemical Society*, **132**, (2010), pp. 12537-12539.
33. Ojha, S.; Beppler, B.; Dong, H.; Matyjaszewski, K.; Garoff, S.; Bockstaller, M. "Impact of Polymer Graft Characteristics and Evaporation Rate on the Formation of 2-D Nanoparticle Assemblies", *Langmuir*, **26**, (2010), pp. 13210-13215.
34. Bockstaller, M.; Bartneck, M.; Keul, H.; Singh, S.; Czaja, K.; Bornemann, J.; Bockstaller, M.; Moeller, M.; Zwadlo-Klarwasser, G.; Groll, J. "Rapid Uptake of Gold Nanorods by Primary Human Blood Phagocytes and Immunomodulatory Effects of Surface Chemistry", *ACS Nano*, **4**, (2010), pp. 3073-3086.
35. J. Listak, I. F. Hakem, H. Ryu, S. Rangou, N. Politakos, K. Misichronis, A. Avgeropoulos, M. R. Bockstaller; "Effect of Chain Architecture on the Compatibility of Block Copolymer/Nanoparticle Blends", *Macromolecules* **42**, (2009), 5766-5773.
36. P. Voudouris, J. Choi, H. Dong, M. R. Bockstaller, K. Matyjaszewski, G. Fytas; "Effect of Shell Architecture on the Static and Dynamic Properties of Polymer-Coated Particles in Solution", *Macromolecules* **42**, (2009), 2721-2728.

37. M. K. Gaines, S. D. Smith, J. Samseth, M. R. Bockstaller, R. B. Thompson, K. Ø. Rasmussen, R. J. Spontak; "Nanoparticle-regulated phase behavior of ordered block copolymers", *Soft Matter* **4**, (2008), 1609-1612.
38. H.-J. Ryu, L. Sanchez, H. A. Keul, A. Raj, M. R. Bockstaller; "Imidazolium-Based Ionic Liquids as Efficient Shape-Regulating Solvents for the Synthesis of Gold Nanorods", *Angew. Chem. Int. Ed.* **47**, (2008), 7639-7643. *Angew. Chem.* **120**, (2008), 7751-7755.
39. H. Keul, M. Moeller, M. R. Bockstaller; "Effect of Solvent Isotopic Replacement on the Structure Evolution of Gold Nanorods", *J. Phys. Chem. C* **112**, (2008), 13483-13487.
40. J. Listak, W. Jakubowski, L. Mueller, A. Plichta, K. Matyjaszewski, M. R. Bockstaller; "Effect of Symmetry of Molecular Weight Distribution in Block Copolymers on Formation of 'Metastable' Morphologies", *Macromolecules* **41**, (2008), 5919-5927.
41. E. Boz, A. J. Nemeth, K. B. Wagener, K. Jeon, R. Smith, F. Nazirov, M. R. Bockstaller and R. G. Alamo; "Well-Defined Precision Ethylene/Vinyl Fluoride Polymers: Synthesis and Crystalline Properties", *Macromolecules* **41**, (2008), 1647-1653.
42. A.H. Habib, C.L. Oudeck, P. Chaudhary, M. R. Bockstaller and M.E. McHenry; "Evaluation of Iron-Cobalt/Ferrite Core-shell Nanoparticles for Cancer Thermotherapy", *J. Appl. Phys.* **103**, (2008), 07A307, 1-4.
43. L. Bombalski, H. Dong, J. Listak, K. Matyjaszewski, M. R. Bockstaller; "Null-Scattering Particle Inclusions Using Controlled Radical Polymerization", *Adv. Mater.* **19**, (2007), 4486-4490.
44. H. Keul, M. Moeller, M. R. Bockstaller; "Shape-Evolution of Gold Nanorods Under Controlled Secondary Growth Conditions", *Langmuir* **23**, (2007), 10307-10315.
45. I.-F. Hakem, A. Boussaid, H. B. Taleb, M. R. Bockstaller; "Temperature, Pressure and Isotope Effects on the Structure of Liquid Water: A Lattice Approach", *J. Chem. Phys.* **127**, (2007), 224106.
46. I.-F. Hakem, J. Lal and M. R. Bockstaller; "Mixed Solvent Effect on Lithium-Coordination to Poly(ethylene oxide)", *J. Polym. Sci. Part B: Polym. Phys.*, **44**, (2006), 3642-3650.
47. R. J. Spontak, R. Shankar, M. K. Bowman, A. S. Krishnan, M. W. Hamersky, J. Samseth, M. R. Bockstaller and K. O. Rasmussen; "Selectivity- And Size-Induced Segregation of Molecular And Nanoscale Species in Microphase-Ordered Triblock Copolymers", *Nano Letters*, **6**, (2006), 2115-2120.
48. J. Listak and M. R. Bockstaller; "Stabilization of Grain Boundary Morphologies in Lamellar Block Copolymer/Nanoparticle Blends", *Macromolecules*, **39**, (2006), 5820-5825.
49. M. R. Bockstaller, R. A. Mickievitch and E. L. Thomas; "Block Copolymer Nanocomposites: Perspectives for Tailored Functional Materials", *Adv. Mater.*, **17**, (2005), 1331-1349.
50. P. Kosseyrev, M. R. Bockstaller and E. L. Thomas; "Grating Structures By Controlled Dewetting of Photo-Patterned Polymer Solutions", *Langmuir*, **21**(3), (2005), 814-817.

51. I.-F. Hakem, J. Lal and M. R. Bockstaller; “Binding of Monovalent Ions to PEO in Solution – Relevant Parameters and Structural Transitions”, *Macromolecules*, **37**, (2004), 8431-8440.
52. M. R. Bockstaller and E. L. Thomas; “Proximity Effects in Binary Block Copolymer/Particle Blends”, *Phys. Rev. Lett.*, **93**(16), (2004), 166106, 1-4.
53. M. R. Bockstaller and E. L. Thomas; “Optical Properties of Mesoscopically Ordered, Polymer-Based Photonic Nanocomposite Materials”, *J. Phys. Chem. B*, **176**, (2003), 10017-10024.
54. M. Maldovan, M. R. Bockstaller, E. L. Thomas, and C. W. Carter; “Validation of the Effective Medium Approximation For Dielectric Permittivity of Nanoparticle Filled Materials”, *Appl. Phys. B*, **76**, (2003), 877-884.
55. M. R. Bockstaller, Y. Yonit, S. Margel and E. L. Thomas; “Size-Selective Organization of Enthalpic Compatibilized Nanocrystals in Ternary Block Copolymer/Particle Mixtures”, *J. Am. Chem. Soc.*, **125**, (2003), 5276-5277.
56. M. R. Bockstaller, R. Kolb and E. L. Thomas; “Metallodielectric Photonic Crystals Based on Diblock Copolymer Systems”, *Adv. Mater.*, **13**(23), (2001), 1783-1786.
57. M. R. Bockstaller, W. Koehler, G. Wegner, D. Vlassopoulos and G. Fytas; “Characterization of Cylindrical Association Colloids Formed by Rodlike Polyelectrolytes”, *Macromolecules*, **34**(18), (2001), 6353-6358.
58. M. R. Bockstaller, W. Koehler, G. Wegner, D. Vlassopoulos and G. Fytas; “Levels of Structure Formation in Aqueous Solutions of Anisotropic Association Colloids”, *Macromolecules*, **34**(18), (2001), 6359-6366.
59. M. R. Bockstaller, G. Fytas and G. Wegner; “Side Group Rotational Mobility in Hairy-Rod Polymers: A Dielectric Spectroscopy Study”, *Macromolecules*, **34**(10), (2001) 3497-3499.
60. M. R. Bockstaller, W. Koehler, G. Wegner, D. Vlassopoulos and G. Fytas; “Hierarchical Structure Formation in Aqueous Solutions of Rodlike Polyelectrolytes”, *Macromolecules*, **33**(11), (2000), 3951-3953.

## **B Sections or Chapters in Edited Monographs or Similar Volumes**

1. Choi, J., & Bockstaller, M. R. Quasi-One Component Polymer Nanocomposite Materials. In Matyjaszewski, Krzysztof; Moeller, Martin (Eds.) *Polymer Science: A Comprehensive Reference*. Amsterdam: Elsevier. Vol. 7, 313-326, (2012).
2. L. Bombalski, J. Listak and M. R. Bockstaller; “Microphase-Separated Polymer Composites - Structure, Properties and Opportunities”, *Ann. Rev. Nano-Research*, (2007), 1, 1-38.
2. M. R. Bockstaller and E. L. Thomas; “Nanostructures Derived from Phase Separated Polymers”, *Encyclopedia for Nanoscience and Nanotechnology*, Marcel Dekker Inc. (2004), 2641-2656.

## C Books

1. Michael R. Bockstaller, A. Avgeropoulos (Eds.), **Handbook of Polymer Assembly – From Structure to Function** (WILEY-VCH, target date for publication: 2015).
2. T. Cooper, S. R. Flom, M. R. Bockstaller, C. Lopez (Eds.), **Materials for High-Performance Photonics II**, MRS Proceedings Vol. 1394, (2012), Cambridge University Press.
3. T. Cooper, S. R. Flom, M. R. Bockstaller, C. Lopez (Eds.), **Materials for High-Performance Photonics**, MRS Proceedings Vol. 1392, (2011), Cambridge University Press.

## D Papers in Symposium or Conference Proceedings Fully Reviewed Prior to Publication

1. Dang, A., Hui, C. M., Matyjaszewski, K., & Bockstaller, M. Design and fabrication strategies for high transparency polymer nanocomposites with dynamic tunable optical response. *SPIE Organic Photonics and Electronics*, 9181, 91810U–91810U, 2014.
2. Choi, J.; Dong, H.; Matyjaszewski, K.; Bockstaller, M. "Plastic Mesocrystal Materials – Effect of Polymer-Graft Architecture on the Properties of Particle Brush Systems", *MRS Fall Meeting*, 2010.
3. M. R. Bockstaller and E. L. Thomas; “Hierarchically Ordered Block Copolymer/Nanocrystal Multicomponent Materials”, MRS Proceedings, 780, L 9.1, 2003.
4. M. R. Bockstaller and E. L. Thomas; “Design Criteria for Self-Organized Photonic Multicomponent Materials”, *SPIE Organic Photonics and Electronics*, 2003.

## E Other Papers in Symposium or Conference Proceedings

1. Zhang, R., Lee, B., Douglas, J., Kumar, S., Bockstaller, M., & Karim, A. Directed Phase Separation of Brush-coated Nanoparticles in Miscible and Immiscible Polymeric Thin Films. *Bulletin of the American Physical Society*, 60, (2015).
2. Bockstaller, M. R. Role of Polymer-Graft Architecture on the Cohesive Interactions, Assembly and Thermo-Mechanical Properties of Particle Brush Materials. *Bulletin of the American Physical Society*, 59, (2014).
3. Zhang, R., Singh, G., Bockstaller, M., & Karim, A. Directed Assembly of Polymeric Films Filled with Gold Nanoparticles. *Bulletin of the American Physical Society*, 59, (2014).
4. Grabowski, C., Opsitnick, E., Koerner, H., Meth, J., Bockstaller, M., Durstock, M., & Vaia, R. Dielectric Performance of Polymer Nanocomposites: Matrix Free, Hairy Nanoparticle Assemblies and Amorphous Polymer-Nanoparticle Blends. *Bulletin of the American Physical Society*, 59, (2014).
5. Koerner, H., Bockstaller, M., Dang, A., Mahoney, C., Matyjaszewski, K., Hui, C.-M., & Vaia, R. Physical Aging within Hairy NanoParticle Assemblies. *Bulletin of the American Physical Society*, 59, (2014).

6. Zhang, R., Singh, G., Dang, A., Bockstaller, M., & Karim, A. Dynamic Temperature Gradient Effects on Directed Self Assembly of Thin Films of Block Copolymer/Au Nanoparticle Multicomponent Systems. *Bulletin of the American Physical Society*, 59, (2013).
7. K. Matyjaszewski, C. M. Hui, H. Dong, S. Ojha, J. Choi, J. Pietrasik, M. R. Bockstaller "Nanostructured Functional Hybrid Materials by ATRP" *ACS National Meeting*, 245, POLY, (2013).
8. H. J. Ryu, M. R. Bockstaller "On the Effect of Additives on Grain Coarsening in Block Copolymer Melts" *ACS National Meeting*, 243, PMSE, (2012).
9. S. Narayanan, S. Fu, M. R. Bockstaller, L. Porter, "Networked Metal Nanowire-Polymer Composites for Flexible, Transparent and Conducting Devices" *AVS 59<sup>th</sup> Annual International Symposium*, Tampa, (2012).
10. J. Choi, C. M. Hui, J. Pietrasik, K. Matyjaszewski, M. R. Bockstaller "Functional Materials Based on Precision-Engineered Particle Brush Systems", *ACS National Meeting*, 243, POLY, (2012).
11. J. Choi, H. Dong, K. Matyjaszewski, M. R. Bockstaller "Quantitative measurement of mechanical properties in particle film assemblies: Fragile-to-crazing transition." *ACS National Meeting*, 242, 265-PMSE, (2011).
12. J. Choi, C. M. Hui, S. Ohja, J. Pietrasik, K. Matyjaszewski, M. R. Bockstaller "Functional nanocomposite materials based on precision-engineered particle brush systems." *ACS National Meeting*, 242, 541-POLY, (2011).
13. I. F. Hakem, J. Walker, J. Bohn, M. R. Bockstaller "Experimental and theoretical evaluation of ligand distributions in surface-modified nanoparticle systems." *ACS Symposium Series*, 242, 413-COLL, (2011).
14. C. M. Hui, S. Ojha, J. Pietrasik, H. Dong, M. R. Bockstaller, K. Matyjaszewski "Enthalpy interaction driven uniform distribution of inorganic particles in a polymer matrix." *ACS National Meeting*, 242, 449-POLY, (2011).
15. Ojha, S., Hui, C. M., Matyjaszewski, K., & Bockstaller, M. "Transparent nanocomposites for protective coating applications." 242, 208-PMSE, (2011).
16. I. F. Hakem, J. Walker, A. Leech, M. R. Bockstaller "Understanding Ligand Distributions in Modified Particle Systems", *ACS National Meeting (Boston)*, 240, 242-INORG, (2010).
17. M. R. Bockstaller, L. Bombalski, H. Dong, K. Matyjaszewski, "Tailoring the scattering properties of particle additives using atom transfer radical polymerization", *ABSTR PAP AM CHEM SOC*, 235, 305-COLL, (2008).
18. M. R. Bockstaller, H. A. Keul, M. Moeller (2008). "Surface reconstruction effects on the structural evolution of gold nanorods", *ABSTR PAP AM CHEM SOC*, 235, 1021-INOR, (2008).
19. J. Listak, H.-J. Ryu, R. Sofia, A. Avgeropoulos, M. R. Bockstaller, "Effect of chain architecture on particle miscibility in block copolymer-nanoparticle blends", *ABSTR PAP AM CHEM SOC*, 235, 383-PMSE, (2008).



20. J. Listak, W. Jakubowski, L. Mueller, A. Plichta, K. Matyjaszewski, "Stabilization of the perforated lamellar microstructure in block copolymers with asymmetric block polydispersity", ABSTR PAP AM CHEM SOC, 235, 31-PMSE, (2008).
21. M. R. Bockstaller, J. Listak, W. Jakubowski, A. Plichta, K. Matyjaszewski, "Stabilization of the metastable microstructures in block copolymers with asymmetric block polydispersity", ABSTR PAP AM CHEM SOC, 236, 262-POLY, (2008).
22. M. R. Bockstaller; "Block copolymer/particle nanocomposite materials: Perspectives for functional materials", ABSTR PAP AM CHEM, 231, 366, (2005).
23. M. R. Bockstaller, E. P. Chan and E. L. Thomas; "Structure-Property Relations in Hierarchically Ordered Polymer/Particle Mixtures", ABSTR PAP AM CHEM, 226, 194, (2003).
24. C. K. Ullal, R. Tripathi, M. R. Bockstaller, T. Breiner and E. L. Thomas; "Fabrication of Photonic Crystals by Holographic Patterning of Surface-Modified Nanocrystals", ABSTR PAP AM CHEM, 224, 355, (2002).
25. M. R. Bockstaller and E. L. Thomas; "Vectorial Particle Sequestering during Self-Assembling Processes", ABSTR PAP AM CHEM, 224, 236, (2002).
26. M. R. Bockstaller and E. L. Thomas; "Optical Properties of Polymer-Based Metallodielectric Nanocomposite Materials", ABSTR PAP AM CHEM, 223, (2002).

#### **4.F Published Abstracts, Discussions, Reviews**

1. M. R. Bockstaller; "The Nanotech Pioneers", by E. Edwards, *Appl. Organometal. Chem.*, (2006), 20, 875.
2. M. R. Bockstaller; "Nanoparticles - From Theory to Application", edited by G. Schmid, *Appl. Organometal. Chem.*, (2005), 19(3), 991.
3. M. R. Bockstaller; "Nanotechnology - An Introduction to Nanostructuring Techniques", by W. Koehler and W. Fritzsche, *Angew. Chem. Intl. Ed.*, (2004), 43(43), 5723-5724.
4. M. R. Bockstaller, R. Kolb and E. L. Thomas; "Metallodielectric Photonic Crystals Based on Diblock Copolymer Systems", *NLS Report - Science Highlight*, 2002.

#### **G Patents**

1. M. R. Bockstaller, Porter, Lisa M; Narayanan, Sudarshan; Choi, Jihoon; "Method for the Reduction of Absorption and Enhancement of Conductivity in Laminated Structures for Transparent Conductors and Other Applications", Technology Disclosure (October 28, 2011).
2. M. R. Bockstaller, K. Matyjaszewski "Processable Self-Organizing Nanoparticles", US and International Patent Application, US Patent 20,150,005,452, 2015.

3. M. R. Bockstaller, K. Matyjaszewski, L. Bombalski, H. Dong, "Method for reducing the scattering cross section of core-shell particles", US 8,865,797B2.

## **Professional Activities**

### **A Invited Seminar Presentations**

1. Bockstaller M. R. "Molecular Engineering Methods Towards Advanced Polymer Hybrid Materials", Department of Macromolecular Science, Case Western Reserve University, Cleveland (OH), January 14, 2015.
2. Bockstaller, M. "Block Copolymer Based Dynamically Responsive Chemical/Biological (CB) Agent Defense Material Systems," Defense Threat Reduction Agency Workshop on 'Materials for Second Skin', Natick (MA), December 5, 2014.
3. Bockstaller, M. "Hindered Transport of Solute Molecules in Cylindrical Pores," Macromex 2014 – 3<sup>rd</sup> US-Mexico Symposium on Advances in Polymer Science, Nuevo Vallarta (Mexico), December 4, 2014.
4. Bockstaller, M. "Design Strategies for Transparent Nanocomposites with Tunable Nonlinear Scattering Cross-Section," Air Force Office for Scientific Research - Workshop on Light Limiting Materials, Washington DC, October 30, 2014.
5. Bockstaller, M. "Design and Fabrication Strategies for High Transparency Polymer Nanocomposites with Dynamic Tunable Optical Response," SPIE Optics and Photonics, San Diego (CA), August 21, 2014.
6. Bockstaller, M. "Applications of SI-ATRP: From Engineered Colloids to Advanced Composite Materials," National Meeting of the American Chemical Society, San Francisco, CA. (August 14, 2014).
7. Bockstaller, M. "Hindered Transport of Solute Molecules in Cylindrical Pores," FLIR Systems, Pittsburgh (PA), March 21, 2014.
8. Bockstaller, M. "Role of Polymer-Graft Architecture on the Cohesive Interactions, Assembly and Thermo-Mechanical Properties of Particle Brush Materials," National Meeting of the American Physical Society, Denver (CO), March 5, 2014.
9. Bockstaller, M. "Particle Brush Materials - Role of polymer-graft modification on the order formation, cohesive interactions and mechanical properties of particulate materials," International Symposium on Plasticity 2014, Freeport (Bahamas), January 4, 2014.
10. M. R. Bockstaller, "Dynamically Responsive Chemical/Biological (CB) Agent Defense Material Systems", DTRA Review, Boston, December 6, 2013.
11. M. R. Bockstaller, "Multifunctional Polymer Nanocomposites with Engineered Optical, Electronic and Bioactive Properties", Nanotechnology for Defense NT4D, Tucson, November 6, 2013.

12. M. R. Bockstaller, "Particle Brush Materials - A Platform for Multifunctional Nanocomposite Materials", Kaohsiung (Taiwan), November 19, 2013.
13. M. R. Bockstaller, "Particle Brush Materials - A Platform for Multifunctional Nanocomposite Materials with Orthogonal Property Combinations", Seminar, Department of Materials Science and Engineering, UC Berkeley, October 8, 2013.
14. M. R. Bockstaller, "Particle Brush Materials - A Platform for Multifunctional Nanocomposite Materials", 246th ACS National Meeting, Indianapolis, September 8, 2013.
15. M. R. Bockstaller, "Polymer Nanocomposites for Thermal Interface Materials", OSRAM Sylvania, Danvers, May 30, 2013.
16. "Particle Brush Materials – A Platform for Multifunctional Composite Materials with Orthogonal Property Combinations", Dept. for Chemical Engineering and Chemistry, Eindhoven University of Technology (Eindhoven, NL), March 14, 2013.
17. "Particle Brush Materials – A Platform for Multifunctional Composite Materials with Orthogonal Property Combinations", Max-Planck Institute for Polymer Research (Mainz, GER), March 11, 2013.
18. "Particle Brush Materials – Controlling Cohesive Interactions in Particle Solids by Surface Modification", Plasticity 13 (Nassau, BA), January 7, 2013.
19. "Particle Brush Strategies towards Thermally Conductive Transparent Nanocomposites", OSRAM Sylvania (Danvers), December 6, 2012.
20. "Particle Brush Materials – A Platform for Multifunctional Composite Materials with Orthogonal Property Combinations", 9<sup>th</sup> Hellenic Polymer Society Conference (Thessaloniki, GR), November 29, 2012.
21. "On the Relevance of (GB) Defects in Grain Coarsening in Block Copolymer Melts", 244 ACS National Meeting (Philadelphia), COLL, August 22, 2012.
22. J. Choi and M. R. Bockstaller "Particle Brush Materials for Flexible Photonic Coating Applications", National Meeting of the American Chemical Society (Philadelphia), August 20, 2012.
23. "Transparent and Non-Linear Polymer Nanocomposite Materials for Light Limiting", Workshop on Nonlinear Organic Materials for Light Limiting (WPAFB, Dayton), July 27, 2012.
24. "Block Copolymer Nanocomposites as Platform for Self-Regulating Membranes for Target Separation and Remediation", FLIR Systems (Pittsburgh), May 10, 2012.
25. "Quasi-One Component Nanocomposite Materials – Functional Materials Based on Precision-Engineered Particle Brush Systems", 243 ACS National Meeting (San Diego), POLY, March 27, 2012.
26. "On the Effect of Additives on Grain Coarsening in Block Copolymer Melts", 243 ACS National Meeting (San Diego), PMSE, March 25, 2012.

27. "Robust Particle Solid Structures Based on the Self-Assembly of Polymer-Grafted Nanoparticles", International Symposium on Plasticity (San Juan), January 5, 2012.
28. "Heterogeneity in Polymer Materials - Flaw or Feature?", University of Pennsylvania (Department of Materials Science and Engineering), October 13, 2011.
29. "Functional Materials Based on Precision Engineered Particle Brush Materials", ATRP Consortium Meeting, October 11, 2011.
30. "Functional Nanocomposites Based on Precision Engineered Particle Brush Systems", National Meeting of the American Chemical Society (Denver), August 31, 2011.
31. "Novel Routes Towards Multifunctional Polymer Nanocomposite Materials", Beijing University of Chemical Technology (Dept. of Polymer Technology), August 9, 2011.
32. "Role of Heterogeneity on the Activity of Functionalized Enzyme Systems", BUCT Biotechnology Conference (Beijing, China), August 8, 2011.
33. "Block Copolymer Nanocomposites - Perspectives for Novel Functional Materials", DTRA Program Planning Workshop on Second Skin Materials, August 4, 2011.
34. "Transparent Two-Photon Active Polymer Nanocomposites", AFOSR Workshop on Optical Limiting Materials, July 14, 2011.
35. "Why Structure Matters - Tailoring the Physical Properties of Particle Brush Systems", Tlemcen University (Algeria), June 7, 2011.
36. "Brittle-Ductile Transition in Particle Brush Assemblies", Villa Conference on Interactions Among Nanostructures, April 23, 2011.
37. "Texture Evolution in Block Copolymer Melts", National Meeting of the American Chemical Society (Anaheim), March 29, 2011.
38. "Particles Bridge the Gap - Relevance of Polymer Grafting on the Properties of Particle Brush Systems", National Meeting of the American Physical Society (Dallas), March 25, 2011.
39. "Analysis of Heterogeneity in Polymer Conjugation Reactions", FLIR Systems, February 24, 2011.
40. "Transparent and Two-Photon Active Polymer Nanocomposites", AFOSR Awardees Conference, September 2010.
41. "Quasi-transparent Particle Composites for Clear Coating Applications", ACS National Meeting (Boston), PMSE, August 2010.
42. "Understanding Ligand Distributions in Modified Particle Systems", ACS National Meeting (Boston), INORG, August 2010.
43. "Why Structure Matters – New Opportunities for Particle Brush Materials", ACS National Meeting (Boston), POLY, August 2010.

44. "Why Structure Matters – Tailoring the Physical Properties of Particle Brush Materials", ATRP Consortium Meeting, Pittsburgh, PA, April 2010.
45. "Mirroring Nature – Self-Assembled Photonic Materials Based on Block Copolymers", PhoNa Workshop on Photonic Nanotechnologies at University of Jena (Germany), April 2010.
46. "Structure Matters – Tailoring the Physical Properties of Nanocomposite Materials", ChemE Department Seminar, University of Pittsburgh, March 2010.
47. "Why Structure Matters – New Opportunities for Polymer Nanocomposite Materials", MRS Spring Meeting (San Francisco), March 2010.
48. M. R. Bockstaller; "Why Structure Matters – Tailoring the Physical Properties of Nanocomposite Materials", 11<sup>th</sup> Pacific Polymer Conference, Cairns (Australia), December 2009, *invited*.
49. M. R. Bockstaller; "Organic Salts as Shape-Inducing Solvents in Nanoparticle Synthesis", Department Seminar (Institute for Inorganic Chemistry), University of Karlsruhe (Germany), June 2009.
50. M. R. Bockstaller; "Engineering Particle Fillers for Transparent Protective Coating Applications", BAYER MaterialScience, May 2009.
51. M. R. Bockstaller; "Solid State Light Limiting Applications of Polymer Nanocomposites", AFOSR Workshop of Solid State Power Limiting Technologies, Wright Patterson Air Force Base, May, 2009.
52. M. R. Bockstaller; "Why Structure Matters – Tailoring the Physical Properties of Nanocomposite Materials", Department Seminar (Dept. of Physics), Indiana University of Pennsylvania, April 2009.
53. M. R. Bockstaller; "Effect of Particle Additives on the Microstructure Formation in Block Copolymer Particle Blends", ACS National Meeting (Salt Lake City), March 2009.
54. M. R. Bockstaller; "Tuning the Optical and Mechanical Properties of Particle Fillers by Means of Polymer Grafting", Wright Patterson Air Force Base (Materials Directorate), February 2009.
55. M. R. Bockstaller; "Tailoring the Physical Properties of Nanocomposite Materials – Why Structure Matters", National Meeting of the Hellenic Polymer Society (Ioannina, Greece), October 2008.
56. M. R. Bockstaller; "Why Structure Matters – Tailoring the Physical Properties of Nanocomposite Materials", Joint Department Seminar (Dept. of Chemical Engineering), Florida State University and FAMU, September 2008.
57. M. R. Bockstaller; "Effect of Block-Selective Polydispersity on the Stabilization of Metastable Morphologies in Block Copolymers", ACS National Meeting (Philadelphia), August 2008.
58. M. R. Bockstaller; "Opportunities for Novel Responsive Coatings Based on Polymer-Hybrid Materials", ICx-Agentase, July 2008.

59. M. R. Bockstaller; "Why Structure Matters – Tailoring the Physical Properties of Nanocomposite Materials", WILEY-VCH (Weinheim, Germany), June 2008.
60. M. R. Bockstaller; "Polymer Nanocomposites for Optical Applications", Wright Patterson Air Force Base (Materials Directorate), May 2008.
61. M. R. Bockstaller; "Why Structure Matters – Tailoring the Physical Properties of Nanocomposite Materials", PPG Coating Technology Center, May, 2008.
62. M. R. Bockstaller; "Opportunities for Novel Functional Materials Based on Polymer-Hybrid Materials", Controlled Radical Polymerization Consortium Meeting (Pittsburgh), April 2008.
63. M. R. Bockstaller; "Effect of Chain Connectivity on the Structure Formation in Block Copolymer/Nanoparticle Blends", ACS National Meeting (New Orleans), April 2008.
64. M. R. Bockstaller; "Why Structure Matters – Tailoring the Physical Properties of Nanocomposite Materials", Wright Patterson Air Force Base (Materials Directorate), September 2007.
65. M. R. Bockstaller; "Future of Polymer Nanocomposite Materials", IPNS-APS-CNS Jointed Seminar, Argonne National Laboratory, June 2007.
66. M. R. Bockstaller; "Multifunctional Polymer Composite Materials", Colloquium at the Center for Polymer Engineering, University of Akron, April 2007.
67. M. R. Bockstaller; "Structure-Property Relations in Nanostructured Composite Materials", Department Seminar, Department of Physics, University of Pennsylvania at Indiana, February 2007.
68. M. R. Bockstaller; "Synergistic Property Enhancements in Particle-Filled Mesostructured Polymers", Annual Conference of the Fine Particle Society, December 2006, San Diego, CA.
69. M. R. Bockstaller; "Structure-Property Relations in Nanostructured Composite Materials", Polymer Physics Seminar, Department of Materials Science and Engineering, Pennsylvania State University, September 2006, University Park, PA.
70. M. R. Bockstaller; "Block Copolymer/Nanoparticle Composite Materials - New Opportunities for Functional Materials", Annual Meeting of the American Chemical Society (ACS), March 2006, Atlanta.
71. M. R. Bockstaller; "Novel Approaches to Nanostructured Composite Materials", invited speaker at the SFB-seminar series at the University of Bayreuth, February 2005, Bayreuth, Germany.
72. M. R. Bockstaller; "Functional Materials Based on Core-Shell Nanoparticles, Annual Meeting of the Aachen NanoClub at the RWTH Aachen University, July 2004, Aachen, Germany.
73. M. R. Bockstaller; "Hierarchically Ordered Polymer Multicomponent Materials for Optical Applications, Institute Seminar at the National Center for Solid State Research Juelich, June 2004, Juelich, Germany.

74. M. R. Bockstaller; "Ordering Phenomena in Polymer-Based Multicomponent Materials", oral presentation at the annual meeting of the Materials Research Society (MRS), December 2003, Boston, USA.
75. M. R. Bockstaller; "Design Criteria for Self-Organized Photonic Multicomponent Materials", annual meeting of the International Society for Optical Engineering (SPIE), August 2003, San Diego, CA.
76. M. R. Bockstaller; Self-Assembled Metallodielectric Mirrors Based on Diblock Copolymer Systems, NSF German/US conference for Nanoscience and Technology, November 2001, Boston, MA.
77. M. R. Bockstaller; "Optical Properties of Polymer-Based Dispersed Metallodielectric Nanocomposite Materials", M.I.T. Microphotonics Seminar, September 2001, Boston, MA.

## **B. Regular Seminar Presentations**

1. Ferebee, R., Hakem, I. F.; Bockstaller, M., "Characterization and modeling of polymer-conjugated enzyme and membrane systems," National Meeting of the American Chemical Society, San Francisco (CA), August 12, 2014.
2. Schmitt, M., Hui, C. M., Chen, B., Choi, J., Matyjaszewski, K., Bockstaller, M. "Engineering nanoparticle interactions via surface-initiated atom transfer radical polymerization," National Meeting of the American Chemical Society, San Francisco (CA), August 12, 2014.
3. Narayanan, S., Hazijs, J., Bockstaller, M., Porter, L. "Polymer Embedded Metal-Nanowire Network Structures for Highly Reproducible and Flexible Transparent Conductors," Electronic Materials Conference, Santa Barbara, June 26, 2014.
4. Koerner, H., Bockstaller, M., Matyjaszewski, K., Vaia, R. "Dielectric Performance of Polymer Nanocomposites: Matrix Free, Hairy Nanoparticle Assemblies and Amorphous Polymer-Nanoparticle Blends," National Meeting of the American Physical Society, Denver (CO), March 4, 2014.
5. Koerner, H., Dang, A., Matyjaszewski, K., Bockstaller, M., Vaia, R. "Physical Aging within Hairy NanoParticle Assemblies," National Meeting of the American Physical Society, Denver (CO), March 4, 2014.
6. S. Narayanan, M. R. Bockstaller, L. Porter "Low Density Metal Nanowire-Polymer Composites For Flexible Transparent and Conducting Devices", MRS National Meeting, San Francisco, 4th April 2013
7. S. Narayanan, L. Porter, M. R. Bockstaller "Flexible Transparent Metal/Polymer Composite Materials Based on Optical Resonant Laminate Structures", MRS National Meeting, San Francisco, 3rd April 2013
8. S. Narayanan, S. Fu, M. R. Bockstaller, L. Porter, "Networked Metal Nanowire-Polymer Composites for Flexible, Transparent and Conducting Devices" *AVS 59<sup>th</sup> Annual International Symposium*, Tampa, (2012).

9. I. F. Hakem, and M. R. Bockstaller “Ligand Distributions in Modified Particle Systems”, National Meeting of the American Chemical Society (Denver), September 1, 2011.
10. J. Choi, and M. R. Bockstaller “Quantitative Measurement of the Mechanical Properties of Particle Brush Solids”, National Meeting of the American Chemical Society (Denver), September 1, 2011.
11. H. J. Ryu, and M.R. Bockstaller, “Effect of Filler Additives on the Microstructure Evolution in Block Copolymer Melts”, ACS National Meeting (Boston), August 2010.
12. H. A. Keul, J. Groll, M. Moeller, M. R. Bockstaller; “Impact of Secondary Metal Ions on the Structure Evolution of Gold Nanocrystals During Seeded-Growth”, ACS National Meeting (San Francisco), March 2010.
13. P. Voudouris, J. Choi, H. Dong, K. Matyjaszewski, G. Fytas and M. R. Bockstaller; “ Structure and Dynamics of Polymer Grafted Core-Shell Particles”, APS National Meeting (Pittsburgh), March 2009.
14. H. J. Ryu, H. Keul and M.R. Bockstaller, “Efficient Synthesis of Gold Nanorods in Ionic Liquid Solvents”, ACS National Meeting (Salt Lake City), March 2009.
15. H. J. Ryu and M. R. Bockstaller; “Defect Structures in Block Copolymer/Nanoparticle Blends”, 15<sup>th</sup> International Conference on Texture of Materials (ICOTOM), June 2008.
16. J. Listak and M. R. Bockstaller; “Effect of Block-Selective Polydispersity on the Stabilization of Metastable Morphologies in Block Copolymers”, ACS National Meeting (New Orleans), April 2008.
17. L. Bombalski and M. R. Bockstaller; “Tuning the Optical Properties of Particle Fillers by Means of Polymer Graft Modification”, ACS National Meeting (New Orleans), April 2008.
18. H. Keul, M. Moeller and M. R. Bockstaller; “Effect of Surface Reconstruction on the Structure Evolution of Gold Nanorods”, ACS National Meeting (New Orleans), April 2008.
19. L. Bombalski and M. R. Bockstaller: “Null-Scattering Particle Fillers by ATRP-functionalization”, ACS National Meeting (Boston), August 2007.
20. J. Listak and M. R. Bockstaller; “Stabilization of High-Energy Grain Boundary Morphologies in Lamellar Block Copolymer/Nanoparticle Blends”, Gordon Research Conference on Polymer Physics, August 2006, New London, CT.
21. I.-F. Hakem, M. R. Bockstaller; “Ion-Binding to Neutral Polymers in Solution - Relevant Parameters and Structural Transitions”, oral presentation at the annual meeting of the American Physical Society (APS), March 2006, Baltimore, USA.
22. M. R. Bockstaller; “Organization Phenomena in Heterogeneous Multicomponent Soft Materials”, 13<sup>th</sup> Ostwald Colloquium of the German Chemical Society, October 2004, Ludwigshafen, Germany.



23. M. R. Bockstaller, "Hierarchical Structures in Block Copolymer/Nanocrystal Composite Materials", 7<sup>th</sup> International Conference on Nanostructured Materials, June 2004, Wiesbaden, Germany.
24. I.-F. Hakem and M. R. Bockstaller, "Thermodynamics of Multicomponent Block Copolymer/-Nanocrystal Composite Materials", Annual ORNL Workshop on Applications of Neutron Scattering, July 2003, Tallahassee, USA.
25. M. R. Bockstaller, E. L. Thomas; "Controlling Particle Sequestration in Block Copolymer/-Nanoparticle Composites", Workshop on Nanostructured Materials, November 2002, Chicago, USA.
26. M. R. Bockstaller, E. L. Thomas; "Surface Tailoring As a Means to Vectorial Sequester Particles During Self-Assembling Processes", oral presentation at the annual meeting of the American Chemical Society (ACS), August 2002, Boston, USA.
27. M. R. Bockstaller, E. L. Thomas; "Optical Properties of Dispersed Metallo-dielectric Nanocomposite Materials", oral presentation at the annual meeting of the American Chemical Society (ACS), April 2002, Orlando, USA.
28. M. R. Bockstaller, E. L. Thomas; "Metallo-dielectric Photonic Crystals based on Diblock Copolymer Systems", oral presentation at the annual meeting of the American Physical Society (APS), March 2001, Seattle, USA.
29. M. R. Bockstaller, W. Koehler, G. Wegner; "Hierarchical Structure Formation in Aqueous Solutions of Rodlike Polyelectrolytes", oral presentation at the annual meeting of the German Physical Society (DPG), February 2000, Potsdam, Germany.

### **Editorial Roles on Publications, Major Activities in Professional Meetings**

1. Editor of Handbook of Polymer Assembly for WILEY-VCH (Weinheim, Germany), publication planned in summer 2015.
2. Guest Editor, Special Issue on Progress in Polymer Hybrid Materials, *Progress in Polymer Science* (Elsevier), 2015.
3. Co-Organizer of Symposium on 'Materials for Advanced Photonics II', National Meeting of the Materials Research Society (San Francisco), April 2013.
4. Organizer of Symposium on 'Novel Surface Science Techniques Probing Solid-Liquid and Biological Interfaces', 243 ACS National Meeting (San Diego), March 2012.
5. Associate Editor 'Progress of Polymer Science', (2011-2015).
6. Co-Organizer of Symposium on 'Materials for Advanced Photonics I', National Meeting of the Materials Research Society (Boston), November 2011.
7. Continuous program chair of ACS COLL division (2011-2015).

8. Session chair in symposium on 'Advances in Polymer Nanocomposites', ACS National Meeting (Boston), POLY, August 2010.
9. Co-organizer, symposium on "Functional Particles and Their Assemblies" at 2008 spring national meeting of the American Chemical Society, New Orleans, LA.
10. Co-organizer, symposium on "Polymer Photonic Crystals", 2003 National Meeting of the American Chemical Society, Orlando, FL.