

CURRICULUM VITAE

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EDUCATION

Ph.D. (Polymer Science), The University of Akron, Akron, OH 12/1999
Structure and Phase Behavior of a Series of Main-Chain Chiral Liquid Crystalline Polyesters
Advisor: Prof. Stephen Z. D. Cheng

B.S. (Polymer Chemistry), University of Science and Technology of China, P. R. China 06/1995
Synthesis and Characterization of Dimers of Biphenyl Derivatives
Advisor: Prof. Caiyuan Pan

PROFESSIONAL EXPERIENCE

Professor	Department of Materials Science and Engineering, Drexel University, Philadelphia, PA	2011-Present
Visiting Associate Professor	Max-Planck Institute for Polymer Research, Mainz, Germany (Sabbatical stay)	02/2010-07/2010
Associate Professor	Department of Materials Science and Engineering, Drexel University, Philadelphia, PA	2007-2011
Visiting Assistant Professor	Air Force Research Laboratory, WPAFB, OH	06/2004-08/2004
Assistant Professor	Department of Materials Science and Engineering, Drexel University, Philadelphia, PA	2002-2007
Postdoctoral Fellow	Maurice Morton Institute of Polymer Science, The University of Akron, Akron, OH	2000-2001

RESEARCH INTERESTS

- Structure and morphology of polymeric materials for energy and biomedical applications
- Hierarchical nanomanufacturing via combining holographic polymerization and self assembly;
- Polymer nanocomposites and nanofibers: structures, morphology, properties and applications;
- Block copolymer hierarchical self-assembly: structure, morphology and applications.

AWARDS AND RECOGNITIONS

- Outstanding Alumni Award, University Akron, Department of Polymer Science, **2017**
- Inaugural Provost's Award for Outstanding Mid-Career Scholarly Achievement, **2016**
- Outstanding Research Award, College of Engineering, Drexel University, **2016**
- North American Thermal Analysis Society, President, **2016**
- North American Thermal Analysis Society, Fellow, **2014**
- Editorial advisory board member, Macromolecules, ACS Macro Lett, **2014-2017**
- Editorial advisory board member, Chinese Chemical Letter, **2014 -**
- Outstanding Service Award, Materials Science and Engineering, Drexel University **2014**
- Chair Professor, Soochow University, **2013 -**
- Editorial advisory board member, Materials Research Express, **2013 -**
- American Physical Society Fellow, **2012**
- Invited Attendee, National Academy of Engineering Japan-America Frontiers of Engineering Symposium, **2012**
- Outstanding Research Award, College of Engineering, Drexel University, **2012**
- International Advisory Panel, Materials Research Express, **2012 -**
- National Science Foundation Creativity Award **2011**
- Alexander von Humboldt Research Fellowship for Experienced Researchers **2010**
- Outstanding Research Award, Materials Science and Engineering, Drexel University **2010**
- Editorial advisory board member, POLYMER, **2010-**
- Outstanding Teaching Award, Materials Science and Engineering, Drexel University **2007**
- Invited attendee, Interdisciplinary, globally leading polymer science and engineering, NSF Polymer workshop, **2007**
- NSF-CAREER Award **2003-2008**
- ASM Bradley Stoughton Award for Young Teachers **2006**
- DuPont Young Faculty Award **2005-2007**
- Outstanding Oversea Young Scientist selected by National Science Foundation of China **2006-2009**.
- Outstanding Research Award, Materials Science and Engineering, Drexel University **2006**
- PERKIN ELMER - ICTAC (International Confederation for Thermal Analysis and Calorimetry) Young Scientist Award **2004**
- NRC/US (National Research Council/US) AFOSR (Air Force of Scientific Research) Summer Faculty Fellowship Award **2004**
- Mettler -Toledo Thermal Analysis Educational Turi Award **2003**
- 3-M Non -Tenured Faculty Award **2003-2005**
- The Excellence Award from the North Coast Thermal Analysis Society (NCTAS) **1999**

PUBLICATIONS

Over 135 peer-reviewed scientific papers and book chapters; over 60 conference proceedings; over 110 invited lectures. H-index = 35, total citation over 4,500 based on web of science. CYL and his lab have received news coverage from *National Science Foundation, American Chemical Society, Materials Research Society, Physical Review Focus, the Royal Chemical Society, PhysOrg.com, Nanovip.com, Nanotech-now.com, ASM International, Spektrum Der Wissenschaft, ICTAC, Journal of Chemical Education, Drexel*, etc.

Referred Journal Papers (* denotes corresponding authors)

1. Bai, F.; Chien, L. C.; Li, C. Y.; Cheng, S. Z. D.*; Petschek, R. Synthesis and Characterization of Isoregic Chiral Smectic Polyesters. *Chem. Mater.* **1999**, 11, 1666-1671.
2. Cheng, S. Z. D.*; Zhu, L.; Li, C. Y.; Honigfort, P. S.; Keller, A. Size Effect of Metastable States on Semicrystalline Polymer Structures and Morphologies. *Thermochim. Acta* **1999**, 332, 105-113.
3. Li, C. Y.; Cheng, S. Z. D.*; Ge, J. J.; Bai, F.; Zhang, J. Z.; Mann, I. K.; Harris, F. W.; Chien, L. C.; Yan, D. H.; He, T. B.; Lotz, B. Double Twist in Helical Polymer "Soft" Crystals. *Phys. Rev. Lett.* **1999**, 83, 4558-4561. (this work has been selected as the cover picture of POLYMER journal for the whole year of 2000; and was reported by Physical Review Focus and Spektrum Der Wissenschaft magazines, 2000).
4. Li, C. Y.; Yan, D. H.; Cheng, S. Z. D.*; Bai, F.; Ge, J. J.; Calhoun, B. H.; He, T. B.; Chien, L. C.; Harris, F. W.; Lotz, B. Helical Single-Lamellar Crystals Thermotropically Formed in a Synthetic Nonracemic Chiral Main-Chain Polyester. *Physical Review B* **1999**, 60, 12675-12680.
5. Li, C. Y.; Yan, D. H.; Cheng, S. Z. D.*; Bai, F.; He, T. B.; Chien, L. C.; Harris, F. W.; Lotz, B. Double-Twisted Helical Lamellar Crystals in a Synthetic Main-Chain Chiral Polyester Similar to Biological Polymers. *Macromolecules* **1999**, 32, 524-527.
6. Li, S. J.; Hsu, B. L.; Li, F. M.; Li, C. Y.; Harris, F. W.; Cheng, S. Z. D.* A Study of Polyimide Thermoplastics Used as Tougheners in Epoxy Resins - Structure, Property and Solubility Relationships. *Thermochim. Acta* **1999**, 341, 221-229.
7. Cheng, S. Z. D.*; Li, C. Y.; Calhoun, B. H.; Zhu, L.; Zhou, W. W. Thermal Analysis: The Next Two Decades. *Thermochim. Acta* **2000**, 355, 59-68.
8. Cheng, S. Z. D.*; Li, C. Y.; Zhu, L. Commentary on Polymer Crystallization: Selection Rules in Different Length Scales of a Nucleation Process. *European Physical Journal E* **2000**, 3, 195-197.
9. Ge, J. J.; Zhang, J. Z.; Zhou, W. S.; Li, C. Y.; Jin, S.; Calhoun, B. H.; Wang, S. Y.; Harris, F. W.; Cheng, S. Z. D.* Phase Structures, Transition Behavior and Surface Alignment in Polymers Containing Rigid-Rod Backbones with Flexible Side Chains - Part Vi - Novel Band Structures in a Combined Main-Chain/Side-Chain Liquid Crystalline Polyester: From Liquid Crystal to Crystalline States. *J Mater. Sci.* **2000**, 35, 5215-5223.
10. Li, C. Y.; Cheng, S. Z. D.*; Ge, J. J.; Bai, F.; Zhang, J. Z.; Mann, I. K.; Chien, L. C.; Harris, F. W.; Lotz, B. Molecular Orientations in Flat-Elongated and Helical Lamellar Crystals of a Main-Chain Nonracemic Chiral Polyester. *J. Am. Chem. Soc.* **2000**, 122, 72-79.
11. Li, C. Y.; Ge, J. J.; Bai, F.; Zhang, J. Z.; Calhoun, B. H.; Chien, L. C.; Harris, F. W.; Lotz, B.; Cheng, S. Z. D.* Phase Transformations in a Chiral Main-Chain Liquid Crystalline Polyester Involving Double-Twist Helical Crystals. *Polymer* **2000**, 41, 8953-8960.

12. Ge, J. J.; Li, C. Y.; Xue, G.; Mann, I. K.; Zhang, D.; Wang, S. Y.; Harris, F. W.; Cheng, S. Z. D.*; Hong, S. C.; Zhuang, X. W.; Shen, Y. R. Rubbing-Induced Molecular Reorientation on an Alignment Surface of an Aromatic Polyimide Containing Cyanobiphenyl Side Chains. *J. Am. Chem. Soc.* **2001**, *123*, 5768-5776.
13. Li, C. Y.; Cheng, S. Z. D.*; Weng, X.; Ge, J. J.; Bai, F.; Zhang, J. Z.; Calhoun, B. H.; Harris, F. W.; Chien, L. C.; Lotz, B. Left or Right, It Is a Matter of One Methylene Unit. *J. Am. Chem. Soc.* **2001**, *123*, 2462-2463.
14. Li, C. Y.; Ge, J. J.; Bai, F.; Calhoun, B. H.; Harris, F. W.; Cheng, S. Z. D.*; Chien, L. C.; Lotz, B.; Keith, H. D. Early-Stage Formation of Helical Single Crystals and Their Confined Growth in Thin Film. *Macromolecules* **2001**, *34*, 3634-3641.
15. Wang, B. J.; Li, C. Y.; Hanzlicek, J.; Cheng, S. Z. D.*; Geil, P. H.; Grebowicz, J.; Ho, R. M. Poly(Trimethylene Terephthalate) Crystal Structure and Morphology in Different Length Scales. *Polymer* **2001**, *42*, 7171-7180.
16. Yang, J.; Sidoti, G.; Liu, J.; Geil, P. H.; Li, C. Y.; Cheng, S. Z. D.* Morphology and Crystal Structure of Ctfmp and Bulk Polymerized Poly(Trimethylene Terephthalate). *Polymer* **2001**, *42*, 7181-7195.
17. Cheng, S. Z. D.*; Li, C. Y., Structure and Formation of Polymer Single Crystal Textures. In *Textures of Materials, Pts 1 and 2*, 2002; Vol. 408-4, pp 25-37.
18. Jing, A. J.; Taikum, O.; Li, C. Y.; Harris, F. W.; Cheng, S. Z. D.* Phase Identifications and Monotropic Transition Behaviors in a Thermotropic Main-Chain Liquid Crystalline Polyether. *Polymer* **2002**, *43*, 3431-3440.
19. Li, C. Y.; Jin, S.; Weng, X.; Ge, J. J.; Zhang, D.; Bai, F.; Harris, F. W.; Cheng, S. Z. D.*; Yan, D. H.; He, T. B.; Lotz, B.; Chien, L. C. Liquid Crystalline Phases, Microtwinning in Crystals and Helical Chirality Transformations in a Main-Chain Chiral Liquid Crystalline Polyester. *Macromolecules* **2002**, *35*, 5475-5482.
20. Weng, X.; Li, C. Y.; Jin, S.; Zhang, D.; Zhang, J. Z.; Bai, F.; Harris, F. W.; Cheng, S. Z. D.* Helical Twist Senses, Liquid Crystalline Behavior, Crystal Microtwins, and Rotation Twins in a Polyester Containing Main-Chain Molecular Asymmetry and Effects of the Number of Methylene Units in the Backbones on the Phase Structures and Morphologies of Its Homologues. *Macromolecules* **2002**, *35*, 9678-9686.
21. Ge, J. J.; Hong, S. C.; Tang, B. Y.; Li, C. Y.; Zhang, D.; Bai, T.; Mansdorf, B.; Harris, F. W.; Yang, D.; Shen, Y. R.; Cheng, S. Z. D.* Assembly of Photopolymerizable Discotic Molecules on an Aligned Polyimide Layer Surface to Form a Negative Retardation Film with an Oblique Optical Axis. *Adv. Funct. Mater.* **2003**, *13*, 718-725.
22. Ko, F.*; Gogotsi, Y.; Ali, A.; Naguib, N.; Ye, H. H.; Yang, G. L.; Li, C. Y.; Willis, P. Electrospinning of Continuous Carbon Nanotube-Filled Nanofiber Yarns. *Adv. Mater.* **2003**, *15*, 1161-1165.
23. Li, C. Y.; Jin, S.; Weng, X.; Cheng, S. Z. D.* Phase Transformations in Chiral Non-Racemic Main-Chain Liquid Crystalline Polyesters Involving Double-Twist Helical Crystals. *NATAS Notes* **2003**, *34*, 5-12.
24. Tang, B. Y.; Jing, A. J.; Li, C. Y.; Shen, Z. H.; Wang, H. B.; Harris, F. W.; Cheng, S. Z. D.* Role of Polymorphous Metastability in Crystal Formation Kinetics of 2,3,6,7,10,11-Hexa(4'-Octyloxy-Benzoyloxy)-Triphenylene Discotic Molecules. *Crystal Growth & Design* **2003**, *3*, 375-382.
25. Cai, W. W.; Li, C. Y.*; Li, L. Y.; Lotz, B.; Keating, M. N.; Marks, D. Submicrometer Scroll/Tubular Lamellar Crystals of Nylon 6,6. *Adv. Mater.* **2004**, *16*, 600-605.

26. Chen, W. Y.; Li, C. Y.; Zheng, J. X.; Huang, P.; Zhu, L.; Ge, Q.; Quirk, R. P.; Lotz, B.; Deng, L. F.; Wu, C.; Thomas, E. L.; Cheng, S. Z. D.* "Chemically Shielded" Poly(Ethylene Oxide) Single Crystal Growth and Construction of Channel-Wire Arrays with Chemical and Geometric Recognitions on a Submicrometer Scale. *Macromolecules* **2004**, *37*, 5292-5299.
27. Chen, W. Y.; Zheng, J. X.; Cheng, S. Z. D.*; Li, C. Y.; Huang, P.; Zhu, L.; Xiong, H. M.; Ge, Q.; Guo, Y.; Quirk, R. P.; Lotz, B.; Deng, L. F.; Wu, C.; Thomas, E. L. Onset of Tethered Chain Overcrowding. *Phys. Rev. Lett.* **2004**, *93*, 028301/028301-028304.
28. Xue, C.; Jin, S.; Weng, X.; Ge, J. J.; Shen, Z.; Shen, H.; Graham, M. J.; Jeong, K. U.; Huang, H.; Zhang, D.; Guo, M.; Harris, F. W.; Cheng, S. Z. D.*; Li, C. Y.; Zhu, L. Self-Assembled 'Supra-Molecular' Structures Via Hydrogen Bonding and Aromatic/Aliphatic Microphase Separation on Different Length Scales in Symmetric-Tapered Bisamides. *Chem. Mater.* **2004**, *16*, 1014-1025.
29. Li, C. Y.*; Tenneti, K. K.; Zhang, D.; Zhang, H. L.; Wan, X. H.; Chen, E. Q.; Zhou, Q. F.*; Carlos, A. O.; Igos, S.; Hsiao, B. S. Hierarchical Assembly of a Series of Rod-Coil Block Copolymers: Supramolecular Lc Phase in Nanoenvironment. *Macromolecules* **2004**, *37*, 2854-2860.
30. Lyons, J.; Li, C. Y.; Ko, F.* Melt-Electrospinning Part I: Processing Parameters and Geometric Properties. *Polymer* **2004**, *45*, 7597-7603.
31. Zhang, S. J.; Fu, L. X.; Zhang, J.; Liu, J. J.; Yang, D. C.; Ge, J. J.; Li, C. Y.; Cheng, S. Z. D. Ordering-Induced Micro-Bands in Thin Films of a Main-Chain Liquid Crystalline Chloro-Poly(Aryl Ether Ketone). *Polymer* **2004**, *45*, 3967-3972.
32. Li, C. Y.*; Birnkrant, M. J.; Natarajan, L. V.; Tondiglia, V. P.; Lloyd, P. F.; Sutherland, R. L.; Bunning, T. J.* Polymer Crystallization/Melting Induced Thermal Switching in a Series of Holographically Patterned Bragg Reflectors. *Soft Matter* **2005**, *1*, 238-242. (Highlighted in Royal Society of Chemistry, Chemical Technology News, Sept. 2005, 2002, T2033).
33. Li, C. Y.*; Li, L. Y.; Cai, W. W.; Kodjie, S. L.; Tenneti, K. K. Nanohybrid Shish-Kebabs: Periodically Functionalized Carbon Nanotubes. *Adv. Mater.* **2005**, *17*, 1198-1202. (Cover Article).
34. Tenneti, K. K.; Chen, X. F.; Li, C. Y.*; Tu, Y. F.; Wan, X. H.; Zhou, Q. F.*; Sics, I.; Hsiao, B. S. Perforated Layer Structures in Liquid Crystalline Rod-Coil Block Copolymers. *J. Am. Chem. Soc.* **2005**, *127*, 15481-15490.
35. Birnkrant, M. J.; McWilliams, H. K.; Li, C. Y.*; Natarajan, L. V.; Tondiglia, V. P.; Sutherland, R. L.; Lloyd, P. F.; Bunning, T. J. On the Structure of Holographic Polymer-Dispersed Polyethylene Glycol. *Polymer* **2006**, *47*, 8147-8154.
36. Chen, X. F.; Tenneti, K. K.; Li, C. Y.*; Bai, Y. W.; Zhou, R.; Wan, X. H.; Fan, X. H.; Zhou, Q. F.* Design, Synthesis, and Characterization of Bent-Core Mesogen-Jacketed Liquid Crystalline Polymers. *Macromolecules* **2006**, *39*, 517-527.
37. Dillon, D. R.; Tenneti, K. K.; Li, C. Y.*; Ko, F. K.; Sics, I.; Hsiao, B. S. On the Structure and Morphology of Polyvinylidene Fluoride-Nanoclay Nanocomposites. *Polymer* **2006**, *47*, 1678-1688.
38. Kodjie, S. L.; Li, L. Y.; Li, B.; Cai, W. W.; Li, C. Y.*; Keating, M. Morphology and Crystallization Behavior of Hdpe/Cnt Nanocomposite. *J. Macromol. Sci. Part B-Phys.* **2006**, *45*, 231-245.
39. Li, L. Y.; Li, C. Y.*; Ni, C. Y. Polymer Crystallization-Driven, Periodic Patterning on Carbon Nanotubes. *J. Am. Chem. Soc.* **2006**, *128*, 1692-1699.

40. Li, L. Y.; Yang, Y.; Yang, G. L.; Chen, X. M.; Hsiao, B. S.; Chu, B.; Spanier, J. E.; Li, C. Y.* Patterning Polyethylene Oligomers on Carbon Nanotubes Using Physical Vapor Deposition. *Nano Lett.* **2006**, 6, 1007-1012.
41. Birnkrant, M. J.; Li, C. Y.*; Natarajan, L. V.; Tondiglia, V. P.; Sutherland, R. L.; Lloyd, P. F.; Bunning, T. J.* Layer-in-Layer Hierarchical Nanostructures Fabricated by Combining Holographic Polymerization and Block Copolymer Self-Assembly. *Nano Lett.* **2007**, 7, 3128-3133.
42. Chen, X. F.; Tenneti, K. K.; Li, C. Y.*; Bai, Y. W.; Wan, X. H.; Fan, X. H.; Zhou, Q. F.*; Rong, L. X.; Hsiao, B. S. Side-Chain Liquid Crystalline Poly(Meth)Acrylates with Bent-Core Mesogens. *Macromolecules* **2007**, 40, 840-848.
43. Li, B.; Li, C. Y.* Immobilizing Au Nanoparticles with Polymer Single Crystals, Patterning and Asymmetric Functionalization. *J. Am. Chem. Soc.* **2007**, 129, 12-13.
44. Li, L. Y.; Li, B.; Yang, G. L.; Li, C. Y.* Polymer Decoration on Carbon Nanotubes Via Physical Vapor Deposition. *Langmuir* **2007**, 23, 8522-8525.
45. Li, L. Y.; Li, C. Y.*; Ni, C. Y.; Rong, L. X.; Hsiao, B. Structure and Crystallization Behavior of Nylon 66/Multi-Walled Carbon Nanotube Nanocomposites at Low Carbon Nanotube Contents. *Polymer* **2007**, 48, 3452-3460.
46. Tenneti, K. K.; Chen, X. F.; Li, C. Y.*; Wan, X. H.; Fan, X. H.; Zhou, Q. F.; Rong, L. X.; Hsiao, B. S. Hierarchical Nanostructures of Bent-Core Molecules Blended with Poly(Styrene-B-4-Vinylpyridine) Block Copolymer. *Macromolecules* **2007**, 40, 5095-5102.
47. Birnkrant, M.; Li, C. Y.*; Natarajan, L. V.; Tondiglia, V. P.; Sutherland, R. L.; Lloyd, P. F.; Jakubiak, R.; Bunning, T. J.* The Structure of a Polymer Blend in a Volume Grating. In *Linear and Nonlinear Optics of Organic Materials VIII*, Jakubiak, R., Ed. Spie-Int Soc Optical Engineering: Bellingham, 2008; Vol. 7049.
48. Li, B.; Ni, C.; Li, C. Y.* Poly(Ethylene Oxide) Single Crystals as Templates for Au Nanoparticle Patterning and Asymmetrical Functionalization. *Macromolecules* **2008**, 41, 149-155.
49. Tenneti, K. K.; Chen, X. F.; Li, C. Y.*; Wan, X. H.; Fan, X. H.; Zhou, Q. F.; Rong, L. X.; Hsiao, B. S. Competition between Liquid Crystallinity and Block Copolymer Self-Assembly in Core-Shell Rod-Coil Block Copolymers. *Soft Matter* **2008**, 4, 458-461.
50. Wang, B. B.; Li, B.; Xiong, J.; Li, C. Y.* Hierarchically Ordered Polymer Nanofibers Via Electrospinning and Controlled Polymer Crystallization. *Macromolecules* **2008**, 41, 9516-9521.
51. Wang, B. B.; Li, B.; Zhao, B.; Li, C. Y.* Amphiphilic Janus Gold Nanoparticles Via Combining "Solid-State Grafting-to" and "Grafting-from" Methods. *J. Am. Chem. Soc.* **2008**, 130, 11594-11595.
52. Wang, D. H.; Mirau, P.; Li, B.; Li, C. Y.; Baek, J. B.; Tan, L. S.* Solubilization of Carbon Nanofibers with a Covalently Attached Hyperbranched Poly(Ether Ketone). *Chem. Mater.* **2008**, 20, 1502-1515.
53. Zhao, B.*; Jiang, X. M.; Li, D. J.; Jiang, X. G.; O'Lenick, T. G.; Li, B.; Li, C. Y. Hairy Particle-Supported 4-N,N-Dialkylaminopyridine: An Efficient and Recyclable Nucleophilic Organocatalyst. *Journal of Polymer Science Part a-Polym. Chem.* **2008**, 46, 3438-3446.
54. Jiang, X. M.; Wang, B. B.; Li, C. Y.; Zhao, B.* Thermosensitive Polymer Brush-Supported 4-N,N-Dialkylaminopyridine on Silica Particles as Catalyst for Hydrolysis of an Activated Ester in Aqueous Buffers: Comparison of Activity with Linear Polymer-Supported Version and Effect of Lcst Transition. *J. Polym. Sci. Part a-Polym. Chem.* **2009**, 47, 2853-2870.

55. Li, B.; Li, L. Y.; Wang, B. B.; Li, C. Y.* Alternating Patterns on Single-Walled Carbon Nanotubes. *Nature Nanotechnol.* **2009**, 4, 358-362.
56. Li, B.; Wang, B. B.; Ferrier, R. C. M.; Li, C. Y.* Programmable Nanoparticle Assembly Via Polymer Single Crystals. *Macromolecules* **2009**, 42, 9394-9399.
57. Li, C. Y. Polymer Single Crystal Meets Nanoparticles. *J. Polym. Sci. Pt. B-Polym. Phys.* **2009**, 47, 2436-2440. (Invited Review, Cover)
58. Li, C. Y. Anisotropy Unnecessary. *Nature Mater.* **2009**, 8, 249-250.
59. Li, L. Y.; Li, B.; Hood, M. A.; Li, C. Y.* Carbon Nanotube Induced Polymer Crystallization: The Formation of Nanohybrid Shish-Kebabs. *Polymer* **2009**, 50, 953-965. (Invited Feature Article)
60. Tenneti, K. K.; Chen, X. F.; Li, C. Y.; Shen, Z. H.; Wan, X. H.; Fan, X. H.; Zhou, Q. F.*; Rong, L. X.; Hsiao, B. S. Influence of Lc Content on the Phase Structures of Side-Chain Liquid Crystalline Block Copolymers with Bent-Core Mesogens. *Macromolecules* **2009**, 42, 3510-3517.
61. Chen, X.; Dong, B.; Wang, B. B.; Shah, R.; Li, C. Y.* Crystalline Block Copolymer Decorated, Hierarchically Ordered Polymer Nanofibers. *Macromolecules* **2010**, 43, 9918-9927.
62. Hood, M. A.; Wang, B. B.; Sands, J. M.; La Scala, J. J.; Beyer, F. L.; Li, C. Y.* Morphology Control of Segmented Polyurethanes by Crystallization of Hard and Soft Segments. *Polymer* **2010**, 51, 2191-2198.
63. Liang, X. C.; Chen, X. F.; Li, C. Y.*; Shen, Z. H.; Fan, X. H.; Zhou, Q. F.* Mesogen-Jacketed Liquid Crystalline Polymers Substituted with Oligo(Oxyethylene) as Peripheral Chain. *Polymer* **2010**, 51, 3693-3705.
64. Wang, B. B.; Dong, B.; Li, B.; Zhao, B.; Li, C. Y.* Janus Gold Nanoparticle with Bicompartiment Polymer Brushes Templated by Polymer Single Crystals. *Polymer* **2010**, 51, 4814-4822.
65. Wang, B. B.; Li, B.; Dong, B.; Zhao, B.; Li, C. Y.* Homo- and Hetero-Particle Clusters Formed by Janus Nanoparticles with Bicompartiment Polymer Brushes. *Macromolecules* **2010**, 43, 9234-9238.
66. Wang, B. B.; Li, B.; Ferrier, R. C. M.; Li, C. Y.* Polymer Single Crystal Templated Janus Nanoparticles. *Macromol. Rapid Commun.* **2010**, 31, 169-175.
67. Wang, J.; Li, C. Y.; Jin, S.; Weng, X.; Van Horn, R. M.; Graham, M. J.; Zhang, W. B.; Jeong, K. U.; Harris, F. W.; Lotz, B.; Cheng, S. Z. D.* Helical Crystal Assemblies in Nonracemic Chiral Liquid Crystalline Polymers: Where Chemistry and Physics Meet. *Industrial & Engineering Chemistry Research* **2010**, 49, 11936-11947.
68. Birnkrant, M. J.; Li, C. Y.*; Natarajan, L. V.; Tondiglia, V. P.; Sutherland, R. L.; Bunning, T. J.* Permeable Nanoconfinement of Hierarchical Block Copolymer Volume Gratings. *Soft Matter* **2011**, 7, 4729-4734.
69. Dong, B.; Li, B.; Li, C. Y.* Janus Nanoparticle Dimers and Chains Via Polymer Single Crystals. *J. Mater. Chem.* **2011**, 21, 13155-13158.
70. Li, L. Y.; Wang, W. D.; Laird, E. D.; Li, C. Y.*; Defaux, M.; Ivanov, D. A. Polyethylene/Carbon Nanotube Nano Hybrid Shish-Kebab Obtained by Solvent Evaporation and Thin-Film Crystallization. *Polymer* **2011**, 52, 3633-3638.
71. Liang, X.; Chen, X.; Li, C. Y.*; Shen, Z.; Fan, X.; Zhou, Q. F. Synthesis and Characterization of a New Series of Mesogen-Jacketed Liquid Crystalline Polymers with Long Mesogenic Side Chains. *Acta Polymerica Sinica* **2011**, 11, 1311-1319.

72. Wang, D.; Yordanov, S.; Paroor, H. M.; Mukhopadhyay, A.; Li, C. Y.; Butt, H.-J.; Koynov, K.* Probing Diffusion of Single Nanoparticles at Water-Oil Interfaces. *Small* **2011**, *7*, 3502-3507.
73. Wong, W.-K.; Cheng, S.; Li, C. Y.; Ahmad, I.; Cairncross, R.; Hsuan, Y. G.* Depletion Mechanism of Antioxidants in Mdpe-Clay Nanocomposites under Thermal Aging. *Polym. Degrad. Stab.* **2012**, *97*, 192-199.
74. Wang, W.; Laird, E. D.; Gogotsi, Y.; Li, C. Y.* Bending Single-Walled Carbon Nanotubes into Nanorings Using a Pickering Emulsion-Based Process. *Carbon* **2012**, *50*, 1769-1775.
75. Cheng, S.; Chen, X.; Hsuan, Y. G.; Li, C. Y.* Reduced Graphene Oxide-Induced Polyethylene Crystallization in Solution and Nanocomposites. *Macromolecules* **2012**, *45*, 993-1000.
76. Smith, D. M.; Dong, B.; Marron, R. W.; Birnkrant, M. J.; Elabd, Y. A.; Natarajan, L. V.; Tondiglia, V. P.; Bunning, T. J.; Li, C. Y.* Tuning Ion Conducting Pathways Using Holographic Polymerization. *Nano Lett.* **2012**, *12*, 310-314.
77. Wang, W.; Laird, E. D.; Li, B.; Li, L.; Li, C. Y.* Tuning Periodicity of Polymer-Decorated Carbon Nanotubes. *Science China-Chemistry* **2012**, *55*, 802-807.
78. Laird, E. D.; Wang, W.; Cheng, S.; Li, B.; Presser, V.; Dyatkin, B.; Gogotsi, Y.; Li, C. Y.* Polymer Single Crystal-Decorated Superhydrophobic Buckypaper with Controlled Wetting and Conductivity. *Acs Nano* **2012**, *6*, 1204-1213.
79. Dong, B.; Miller, D. L.; Li, C. Y.* Polymer Single Crystal as Magnetically Recoverable Support for Nanocatalysts. *Journal of Physical Chemistry Letters* **2012**, *3*, 1346-1350.
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85. Li, C. Y.; Bunning, T. J. Holographically Patterned Soft Matter: Light Directed Mesoscale Phase Separation *Curr. Opin. Chem. Engin.* **2013**, *2*, 63-67.
86. Laird, E. D.; Li, C. Y.* Structure and Morphology Control in Crystalline-Polymer/Carbon-Nanotube Composites. *Macromolecules* **2013**, *46*, 2877-2891. (Invited Perspective)
87. Dong, B.; Zhou, T.; Zhang, H.; Li, C. Y.* Directed Self-Assembly of Nanoparticles for Nanomotors. *ACS Nano* **2013**, *7*, 5192-5198.
88. Cheng, S.; Cairncross, R. A.; Hsuan, Y. G.; Li, C. Y.* Clay Orientation Effect on the Thermal Stability of Polyethylene-Nanoclay Nanocomposites. *Polymer* **2013**, *54*, 5016-5023.
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91. Laird, E. D.; Bose, R. K.; Qi, H.; Lau, K. K. S.; Li, C. Y.* Electric Field-Induced, Reversible Lotus-to-Rose Transition in Nanohybrid Shish Kebab Paper with Hierarchical Roughness. *ACS Applied Materials & Interfaces* **2013**, 5, 12089-12098.
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99. Qi, H.; Wang, W.; Li, C. Y.* Janus Polymer Single Crystal Via Evaporative Crystallization. *ACS Macro. Lett.* **2014**, 3, 675-678.
100. Smith, D. M.; Cheng, S.; Wang, W. D.; Bunning, T. J.; Li, C. Y.* Polymer Electrolyte Membranes with Exceptional Conductivity Anisotropy Via Holographic Polymerization. *J. Pow. Sour.* **2014**, 271, 597-603.
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102. Li, C. Y.; Zhu, L.; Zhao, B. Hairy Particles: Theory, Synthesis, Behavior, and Applications *J. Polym. Sci. B.* **2014**, 52, 1581-1582.
103. Zhou, T.; Dong, B.; Qi, H.; Mei, S.; Li, C. Y.* Janus Hybrid Hairy Nanoparticle, *J. Polym. Sci. B.* Invited Review, **2014**, 52, 1620-1640.
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107. Zhang, H.; Liu, M.; Zhou, T.; Dong, B.;* Li, C. Y. Stepwise assembly of cross-linked free-standing nanoparticle sheet with controllable shape, *Nanoscale*, **2015**, *7*, 11033-11039.
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111. Pan, Q. W.; Smith, D. M.; Qi, H.; Wang, S. J.; Li, C. Y.* Hybrid Electrolytes with Controlled Network Structures for Lithium Metal Batteries. **2015**, *27*, 5995–6001.
112. Chen, S.; Chen, D.X.; Lu, M.; Zhang, X. Y.; Yang, X. M.; Li, X. H.; Tu, Y. F.;* Li, C. Y. High Refractive Index Fullerene Polyesters: Effect from Pendent Fullerenes and Polymer Backbone, *Macromolecules*, **2015**, *48*, 8480–8488.
113. Wang, W.; Qi, H.; Zhou, T.; Mei, S. Han, L.; Higuchi, T.; Jinnai, H.; Li, C.Y.* Crystalsome: Highly Robust Nanocapsules via Directed Polymer Crystallization at Curved Liquid/Liquid Interface, *Nature Commun.* **2016**, *7*, 10599. (Highlighted by NSF, NSF Science 360, Phys.org. etc.)
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115. Qi, H.; Zhou, T.; Mei, S.; Chen, X.; Li, C. Y.* Responsive Shape Change of Sub-5nm Thin, Janus Polymer Nanoplates. *ACS Macro Lett.* **2016**, *5*, 651-655.
116. Liu, M.; Sun, Y. Y.; Wang, T. P.; Ye, Z. R.; Zhang, H.; Dong, B.;* Li, C. Y.* A Biodegradable, All Polymer Micromotor for Gas Sensing Applications, *J. Mater. Chem. C.* **2016**, *4*, 5945-5952.
117. Li, Z. Y.; Zhou, Y.; Qi, H.; Pan, Q. W.; Shi, N. N.; Lu, M.; Stein, A.; Li, C. Y.; Ramanathan, S.;* Yu, N. F.* Correlated Perovskites as a New Platform for Super Broadband Tunable Photonics. *Adv. Mater.* **2016**, *28*, 9117-9125. (Highlighted by Columbia, Drexel, Nanotechnology News, EurekAlert AAAS etc.)
118. Nykaza, J. R.; Savage, A. M.; Pan, Q. W.; Wang, S. J.; Beyer, F. L.; Tang, M. H.; Li, C. Y.; Elabd, Y. A. * Polymerized Ionic Liquid Diblock Copolymer as Solid-State Electrolyte and Separator in Lithium-Ion Battery, *Polymer*, **2016**, *101*, 311-318.
119. Gao L. F.; Chen, D. X.; Li, X. H.; Yang, X. M.; Tu, Y. F.;* Zhu, X. L.; Li, C. Y. Quantitative Synthesis of Cyclic Polystyrenes and Their Property Difference to Linear Precursors, **2016**, *101*, 379-387.
120. Huang, Z. Y.; Wang, S. J.; Sankalp, K.; Pan, Q. W., Barsoum, M. W.; Li, C.Y.* Structure and Crystallization Behavior of Poly(ethylene oxide)/Ti₃C₂T_x MXene Nanocomposites, *Polymer*, **2016**, *102*, 119-126.
121. Henn, D. M.; Fu, W. X.; Mei, S.; Li, C. Y.; Zhao, B.* Temperature-Induced Shape Changing of Thermosensitive Binary Heterografted Linear Molecular Brushes between Extended Wormlike and Stable Globular Conformations, *Macromolecules*, **2017**, *50*, 1645-1656.
122. Chen, X.; Gleeson, S. E.; Yu, T.; Khan, N.; Yucha, R. W.; Marcolongo, M.;* Li, C. Y.* Hierarchically ordered polymer nanofiber shish kebabs as a bone scaffold material, *J. Bio. Med. Res. A.*, **2017**, *In Press*.

Invited Book Edit/Chapters

1. Li, C. Y.; Wang B.; Cheng, S. Z. D.* X-Ray Scattering in Analysis of Polymers, *Encyclopedia of Analytical Chemistry: Instrumentation and Applications*, R. A. Meyers Ed., John Wiley & Sons, **2000**, 8105-8124.
2. Cheng, S. Z. D.*; Li, F.; Li, C. Y.; McKnight, K. W.; Yoon, Y.; Harris, F. W. Fibers from Liquid Crystalline Polymers, In *Structure and Properties of Polymer Fibers*, D. R. Salem and M. V. Sussman Eds., Hanser, **2000**, Chapter 7, 247-295.
3. Li, C. Y.; Cheng, S. Z. D.* Polymer Single Crystals: Formation and Structure, In *The Encyclopedia of Materials: Science and Technology*, K. H. J. Buschow et al. Ed., Pergamon: , **2001**, 7487-7491.
4. Li, C. Y.; Cheng, S. Z. D.* Semicrystalline Polymers, In *The Encyclopedia of Polymer Science and Technology* John Wiley & Sons, **2002**.
5. Li, C. Y.; Jin, S.; Weng, X.; Zhang, D.; Bai, F.; Zhang, J. J.; Harris, F. W.; Chien, L.; Lotz, B.; Cheng, S. Z. D.* Polymer Helical Self-assembly: from Asymmetric Chemistry to Asymmetric Physics, In *Contemporary Topics in Advanced Polymer Science and Technology*, Peking University Press: Beijing, **2004**, 12-26.
6. Li, C. Y.* Recent Advances in Thermal Analysis of Thermotropic Main-Chain Liquid Crystalline Polymers, In *Handbook of Thermal Analysis and Calorimetry*, Elsevier Science, Chapter 7, **2003**, 245-272.
7. Li, L.; Li, B.; Li, C. Y.* Carbon Nanotube Induced Polyolefin Crystallization, In *Polyolefin Composites*, Wiley and Sons, **2008**, Chapter 18, 523-551. (**Book Cover**).
8. Laird, E. D. and Li, C. Y.* Cooperative Interaction, Crystallization, and Properties of Polymer–Carbon Nanotube Nanocomposites, In *Carbon Nanomaterials*, 2nd ed. Gogotsi, Y. and Pessor, V. Ed. CRC Press, **2013**, pp135-186.
9. Laird, E. D.; Dong, B.; Wang, W. D.; Zhou, T.; Cheng, S.; Li C. Y.* Polymer single crystals in nanoparticle-containing hybrid systems, In *Polymers and Polymeric Composites: A Reference Series*, Palsule, S. Ed. Springer, **2014**, pp 1-21.
10. Journal Edit: Zhao, B.; Zhu, L.; Li, C. Y. *J. Polym. Sci., Polym. Phys.* on Hairy Nanoparticles, **2014**.
11. Laird, E. D. and Li, C. Y.* Cooperative Interaction, Crystallization, and Properties of Polymer–Carbon Nanotube Nanocomposites, In *Nanomaterials Handbook*, 2nd ed. CRC Press, **2016**. In Press.
12. Qi, H.; Mei, S.; Zhou, T.; Dong, B.* and Li C. Y.* Polymer Single Crystal as Nanoscale Materials, ACS Book on “Nanotechnology: Delivering on the Promise”, **2016**, Inpress.
13. Tenneti, K.; Chen, X. F.; Pan, Q. W.; Li, C. Y. Structure and Assembly of Liquid Crystalline Block Copolymers, in *Encyclopedia of Polymer and Composites*, Springer, **2016**. In preparation.
14. Zhu, L. and Li, C. Y. Ed. *Encyclopedia of Polymers and Composites on “Liquid Crystalline Polymers”*, Springer, **2016**. Submitted.

INVITED LECTURES

- 1 "Double-Twist in Helical Polymer Soft Crystals", International Symposium on Polymer Physics, PP'2000 HuangShan, Sept. 13-17, **2000**, HuangShan, China.
- 2 "Polymer Helical Self-Assembly: From Asymmetric Chemistry to Asymmetric Physics," Invited Lecture at Fudan University, Sept. 27, **2000**, Shanghai, China.
- 3 "Polymer Helical Self-Assembly: From Asymmetric Chemistry to Asymmetric Physics," Invited Lecture at Shanghai Jiaotong University, Sept. 28, **2000**, Shanghai, China.
- 4 "Polymer Helical Self-Assembly" Europolymer Congress of the European Polymer Federation, Jul. 15-20, **2001**, Eindhoven, The Netherlands.
- 5 "Advanced Polymer Materials: Polymer/Clay Nanocomposites" SPI annual meeting, Philadelphia, PA, Sept. 29-30, **2003**.
- 6 "Hierarchical assembly of a series of rod-coil block copolymers: Supramolecular LC phase in nanoenvironment" Emerging Information Technology Conference, Princeton, NJ, Oct. 31, 2003.
- 7 "From Polymer Chiral Crystallization to Super-molecular Assembly" 3M, Minneapolis, MN, Nov. 10, **2003**.
- 8 "Polymer Nanostructures Created by Microphase Separation and Crystallization" Air Force Research Laboratory, WPAFB, OH, Feb. 24, **2004**.
- 9 "Sub-micron Scroll/tube from Nylon 66 single crystals" 3rd East Asian Polymer Physics Meeting, Chengdu, China, Jun. 6, **2004**.
- 10 "Polymer Rod-coil Self assembly" 6th International Symposium of Polymer Physics, Dali, China, Jun. 2, **2004**.
- 11 "Combining Thermal and Structural Analyses in the Study of a Series of Main Chain Chiral Liquid Crystalline Polymers" Award Lecture, in the 13th International Confederation of Thermal analysis and calorimetry congress, Chia Laguna, Sardinia, Sept. 12 - 19, **2004**.
- 12 "Hierarchical Assembly of a Series of Rod-coil Block Copolymers" 4th Emerging Information Technology Conference, Princeton University, Oct. 28, **2004**.
- 13 "From Hierarchical Assembly of Rod-coil Block Copolymers to Carbon Nanotube Hybrids" University of Connecticut, Institute of Materials Science, Dec. 1st, **2004**.
- 14 "Nano Hybrid Shish-kebab: a Novel Way to Functionalize Carbon Nanotubes", International Polymer Physics/Morphology Symposium, University of Illinois, Champaign-Urbana, April 8-9, **2005**.
- 15 "Polymer Crystallization-Driven, Periodical Patterning on Carbon Nanotubes", The University of Tennessee, Knoxville, TN, Aug. 8th, **2005**.
- 16 "Polymer Crystallization-Driven, Periodical Patterning on Carbon Nanotubes", The University of Akron, Sept. 13th, **2005**.
- 17 "Polymer Crystallization-Driven, Periodical Patterning on Carbon Nanotubes", The University of Dayton, Sept. 16th, **2005**.
- 18 "Polymer Crystallization-Driven, Periodical Patterning on Carbon Nanotubes", The City University of New York, Staten Island, NY, Oct. 20th, **2005**.

- 19 "Holographically Patterned, Thermally Switchable Bragg reflectors", "Polymer Materials for Microelectronics and Photonics" the Pacific Polymer Federation IX Meeting, Maui, Hawaii, December 11-14, **2005**.
- 20 "Soft Materials, a Fascinating Field of Research", Drexel University, February 7th, **2006**.
- 21 "Polymer Crystallization-Driven, Periodical Patterning on Carbon Nanotubes", The University of Rochester, Rochester, NY, April 8th, **2006**.
- 22 "Polymer Crystallization-Driven, Periodical Patterning on Carbon Nanotubes", The University of Pennsylvania, Philadelphia, PA, April 13th, **2006**.
- 23 "Periodically Patterning Polymer on Carbon Nanotubes" International symposium on polymer physics", Suzhou, China, June 1-5, **2006**.
- 24 "Polymer Crystallization-Driven Carbon Nanotube Functionalization", China-France Bilateral Workshop on Polymer Crystallization, Nanjing, China, June 6-9, **2006**.
- 25 "Polymer Crystallization-driven Carbon Nanotube Functionalization", Peking University, Beijing, China, June 12, **2006**.
- 26 "Polymer Crystallization-driven Carbon Nanotube Functionalization", Stony Brook University, Aug. 17, **2006**.
- 27 "Polymer Crystallization-driven Carbon Nanotube Functionalization", Wright Patterson Air Force Base, Oct. 18, **2006**.
- 28 "Polymer/Carbon Nanotube Hybrid Materials", Thermal Analysis Forum of Delaware Valley Joint Workshop with ASTM E-37, Drexel University, March 20, **2007**.
- 29 "Polymer Crystallization and Nanotechnology" University of Akron, July 3rd, **2007**.
- 30 "On the Shish kebab Structure of Carbon Nanotube Induced Polymer Crystallization" ACS National Meeting, Aug. 20, **2007**, Boston.
- 31 "Synthesis of Asymmetrically Functionalized Nanoparticles via Polymer Single Crystals" ACS National Meeting, Aug. 21st, **2007**, Boston.
- 32 "On the Shish Kebab Structure of Carbon Nanotube Induced Polymer Crystallization" Symposium in honor of Dr. Suat Goh, Sept. 28th, **2007**, Akron, OH.
- 33 "On the Interface of Polymer Crystallization and Low Dimensional Solids" 2007 Polymer Symposium in China, Chengdu, China, Oct. 9-13, **2007**.
- 34 "Crystalline Hybrid Materials for Nanotechnology" 9th International Symposium on Polymers for Advanced Technologies, Shanghai, China, Oct. 22-26, **2007**.
- 35 "Polymer Single Crystal and Ordered Hybrid Materials", Colloquium, Department of Materials Science and Engineering, UIUC. Nov. 5th, **2007**.
- 36 "Control Polymer Nanomaterials Interface", ACS Series, 2008 Nanotechnology in Coatings Conference: "Emerging Application", Orlando, FL, March 26-28, **2008**,
- 37 "On the Interface of Ordered Hybrid Materials" Department of Mechanical Engineering, Binghamton University, April 4th **2008**.
- 38 "Competition Between Liquid Crystalline and Block Copolymer Self assembly in Liquid Crystalline Block Copolymers" International conference on polymer physics, Xiamen, China, Jun 9th. **2008**.

- 39 "Ordered Soft Matter" Symposium on Stephen Cheng's 60th birthday, Beijing, China, June 13th, **2008**.
- 40 "Polymers and Nanoparticles" Headwaters, NJ. July 25, **2008**.
- 41 "On the Interface of Ordered Hybrid Materials" 2nd International Symposium on Polymer Electron Microscopy, Oct 9th **2008**.
- 42 "Carbon Nanotube Induced Polymer Crystallization" Sichuan University, Chengdu, China, Oct. 12th, **2008**.
- 43 "On the Interface of Ordered Hybrid Materials" Nano Seminar/Polymer program seminar, University of Massachusetts, Lowell, Nov. 6th, **2008**.
- 44 "Polymer Single Crystal Meets Nanoparticle" Symposium celebrating Prof. Darrel Reneker's 80th birthday. The University of Akron, March 14th, **2009**.
- 45 "Polymer Single Crystal Meets Nanoparticle" American Physical Society National Meeting, Pittsburg, PA, March 18th, **2009**.
- 46 "Carbon Nanotube Induced Polymer Crystallization: Nanohybrid Shish Kebabs and Beyond" American Chemical Society National Meeting, Salt Lake City, March 22nd, **2009**.
- 47 "Polymer Single Crystal Meets Nanoparticle" 2009 international discussion meeting on polymer crystallization, Shanghai, China, August 12-15, **2009**.
- 48 "Polymer Single Crystal Meets Nanoparticle" 2009 Polymer National Meeting, Tianjin, China, August 18-21, **2009**.
- 49 "Polymer Single Crystal Meets Nanoparticle" National Tsinghua University, Taiwan, August 25, **2009**.
- 50 "Polymer Single Crystal Meets Nanoparticle" Polymer Science Lecture Series, Changchun Institute of Applied Chemistry, Changchun, China, September 1, **2009**.
- 51 "Polymer Single Crystal Meets Nanoparticle" Peking University, Beijing, China, September 4, **2009**.
- 52 "Polymer Single Crystal Meets Nanoparticle" Max-Planck Institute for Polymer Research, Mainz, Germany, February 17, **2010**.
- 53 "Polymer Single Crystal Meets Nanoparticle" American Chemical Society National Meeting, symposium in honor of Dr. Andy Lovinger, 2010 ACS Applied Polymer Science awardee, San Francisco, March 23rd, **2010**.
- 54 "Polymer Single Crystal as Nanoscale Materials" Tsinghua University, Beijing, China, June, **2010**.
- 55 "Permeable Nanoconfined Crystalline Block Copolymers Induce Abnormal Thermal Switching in Responsive Hierarchical Volume Grating" International conference on polymer physics, Jinan, China, Jun 9th, **2010**.
- 56 "Permeable Nanoconfined Crystalline Block Copolymers Induce Abnormal Thermal Switching in Responsive Hierarchical Volume Grating" International conference on polymer physics, Changchun, China, June, **2010**.
- 57 "Polymer Single Crystal as Nanoscale Materials" Jilin University, Changchun, China, June, **2010**.
- 58 "Polymer Single Crystal as Nanoscale Materials" Institut Charles Sadron, CNRS, Strasburg, France, July, **2010**.

- 59 "Polymer Single Crystal as Nanoscale Materials" "80th birthday symposium for Dr. Freddy Khoury, Akron, OH, Sept. 25, **2010**.
- 60 "Polymer single crystal as nanoscale materials" international symposium on molecular nanotechnology, Nara, Japan, December 1st, **2010**.
- 61 "Crystallization in Polymer Nanocomposites" UTC power, Hartford, CT, April 8th, **2011**.
- 62 "Polymer Single Crystal and Nanoparticles" Nanjing University, July, **2011**.
- 63 "Polymer Single Crystal and Nanoparticles" Kavli Institute for Theoretical Physics "Growth of Hierarchical Functional Materials in Complex Fluids", Beijing, China, August, **2011**.
- 64 "Polymer Single Crystal and Nanoparticles" 6th Sino-US Chemical Engineering, Beijing, China, November 6-10, **2011**.
- 65 "Polymer Single Crystal and Nanoparticles" International Symposium on Thermo analysis, San Carlos, Brazil, Nov. 20-22, **2011**.
- 66 "Ordered Hybrid Materials via Directed Assembly" Drexel University, Department of Chemistry, March 15th. **2012**.
- 67 "Functional, Hierarchical Structures from Holographic Patterning" ACS national meeting, San Diego, CA, March 25th, **2012**.
- 68 "Polymer Crystallization-driven, Hierarchically Ordered Hybrid Materials" MRS Spring meeting, San Francisco, April 11th, **2012**.
- 69 "Ordered Structure at Interface" International Symposium on Polymer Physics, Chengdu, China, June 7th, **2012**.
- 70 "Engineering Polymer Single Crystals" International Workshop on Frontier Polymer Physics and Chemistry, SuZhou, China, June 9th, **2012**.
- 71 "Tuning Ion Conductivity through Holographic Polymerization" 44th IUPAC World Polymer Congress: Enabling Technologies of Safe, Sustainable, Healthy World, Blacksburg in June 24 - 29, **2012**.
- 72 "Hybrid Structure for Energy Applications" Oak Ridge National Laboratory, Aug.3rd, **2012**.
- 73 "Polyurethane Nanocomposites", North American Thermal Analysis Society, Aug. 14th, **2012**.
- 74 "Tuning Ion Conducting Pathways Using Holographic Polymerization" University of Akron, Alumni Award Symposium honoring Prof. Rong-Ming Ho. Oct. 5th, **2012**.
- 75 "Tuning Ion Conducting Pathways Using Holographic Polymerization" Arkema. Nov. 8th. **2012**.
- 76 "Janus and Multicomponent Nanoparticles" Drexel University, College of Medicine. Jan. 16th, **2013**.
- 77 "Janus and Multicomponent Nanoparticles" ACS national meeting, Indianapolis, IN, Sept. 8th, **2013**.
- 78 "Soft materials structure and engineering", SARI, Shanghai, China, Jun. 20, **2013**.
- 79 "Polymer single crystal engineering for functional nanomaterials", Zhejiang University, Hangzhou, China, Jun. 21, **2013**.
- 80 "Crystallization in Curved Space", International discussion meeting on polymer crystallization, Kyoto, Japan, Jun. 30, **2013**.

- 81 "Tuning Ion Conductivity through Holographic Polymerization" NATAS meeting, Bowling Green, KY, August 4 - 8, **2013**.
- 82 "Polymer Single Crystal Templating Method for Janus and Multicomponent Nanoparticle Synthesis" ACS national meeting, Indianapolis, IN. Sept. 9, **2013**.
- 83 "Janus and Multicomponent Nanoparticles" The 13th Pacific Polymer Conference, Kaohsiung, Taiwan, Nov. 17th, **2013**.
- 84 "Control Ion Transport in Solid Polymer Electrolytes" TAFDV Conference, Conshohocken, PA, April 28-30, **2014**.
- 85 "Tuning Ion Conductivity through Holographic Polymerization" ACS national meeting, Dallas, TX, March 16-30, **2014**.
- 86 "Functional Polymer Single Crystals" ACS national meeting, Dallas, TX, March 16-30 **2014**.
- 87 "Functional Polymer Single Crystals" Department of Materials Science and Engineering, Purdue University, April 25, **2014**.
- 88 "Control Ion Transport in Solid Polymer Electrolytes" ANTEC Meeting, Las Vegas, NV, April 28-30, **2014**.
- 89 "Control Ion Transport in Solid Polymer Electrolytes" International Meeting on Polymer Physics, Nanjing, China, June 8-12, **2014**.
- 90 "Control Ion Transport in Solid Polymer Electrolytes" "Celebration of Stephen Z. D. Cheng's Achievements in Polymer Research and Education, Akron, OH, July 30-August 1,, **2014**.
- 91 "Functional Polymer Single Crystals", Wayne State University, Department of Physics. Sept. 11, **2014**.
- 92 "Control Ion Transport in Solid Polymer Electrolytes" NATAS Meeting, Santa Fe, NM, Sept. 15-17, **2014**.
- 93 "Control Ion Transport in Solid Polymer Electrolytes" SARI meeting, Shanghai, China, Nov, **2014**.
- 94 "Control Ion Transport in Solid Polymer Electrolytes" Beijing Institute of Chemical Technology, Nanjing, China, Nov, **2014**.
- 95 "Functional Polymer Single Crystals", Stevens Institute of Technology, Department of Chemical Engineering. Feb. 5, **2015**.
- 96 "Control Ion Transport in Solid Polymer Electrolytes" ACS March Meeting, San Antonio, TX, **2015**.
- 97 "Control Ion Transport in Solid Polymer Electrolytes" Temple University, Department of Mechanical Engineering, April 3, **2015**.
- 98 "Biomimetic mineralization" Thermal Analysis Forum of Delaware Valley, Univ. Penn, Philadelphia, PA, April 16, **2015**.
- 99 "Control Ion Transport in Solid Polymer Electrolytes" Central Michigan University, Department of Chemistry, April 20, **2015**.
- 100 "Control Ion Transport in Solid Polymer Electrolytes" Polymer Advanced Technology conference, Zhejiang University, June 23-28, **2015**.
- 101 "Control Ion Transport in Solid Polymer Electrolytes" Soochow University, College of Materials Chemistry, July 10, **2015**.

- 102 “Biomimetic mineralization” Beijing Institute of Chemical Technology, Beijing, China, July 3, **2015**.
- 103 “Biomimetic Mineralization” North American Thermal Analysis annual meeting, Aug 10-13, Montreal, CA, **2015**.
- 104 “Functional Polymer Single Crystals”, University of Connecticut, Institute of Materials Science, Oct. 2, **2015**.
- 105 “Crystallization at Liquid/Liquid Interface”, PacifiChem, Honolulu, Hawaii, Dec. 15-20, **2015**.
- 106 “Hairy Janus Nanoparticles”, PacifiChem, Honolulu, Hawaii, Dec. 15-20, **2015**.
- 107 “Directed Polymer Assembly via Liquid/Liquid Interface”, ACS meeting, March 13-17, San Diego, CA, **2016**.
- 108 “Ion Transport in Semicrystalline Polymers”, 12th International Symposium on Polymer Physics, Guiyang, China, June 12, **2016**.
- 109 “Designed Polymer Crystallization: Polymersome, Crystalsome, and Precise Polymer Brushes”, Soochow University, Suzhou, China, June 27, **2016**.
- 110 “Ion Transport in Semicrystalline Polymers”, Donghua University, Shanghai, China, July 5, **2016**.
- 111 “Designed Polymer Crystallization”, 2016 Polymer Physics Gordon Research Conference, South Hadley, MA, July 24-29, **2016**.
- 112 “Crystallization of Long Chain Polymers: Structure, Morphology, and Applications”, Association of Crystallization Meeting, October 30-November 1, in Princeton, NJ. Oct. 30-Nov. 2, **2016**.
- 113 “Designed Polymer Crystallization: Polymersome, Crystalsome, and Precise Polymer Brushes”, Syracuse University, Department of Biomedical and Chemical Engineering. Oct. 28, **2016**.
- 114 “Ion Transport in Solid Polymer Electrolytes for Lithium Batteries”, AIChE meeting, Shanghai, San Francisco, CA, Nov. 15, **2016**.

STUDENTS SUPERVISION

Current researchers (including 8 PhD, 4 MS, 1 post-doc, 1 visiting scholar, 1 visiting student, 8 BS)

PhD graduate students: Derrick Smith (16), Hao Qi (16) Gabriel Burks (17), Shan Mei (17), Sarah Gleeson (18), Tony Yu (18), Mark Staub (19), Yongwei Zheng (19, Starting in September, 2016)

Post-doc/ visiting scholar: Dr. Qiwei Pan, Dr. Seyong Kim, Prof. Xiaofang Chen

Visiting PhD student: Weichun Huang, Feng Zhou

MS students (including BS/MS): Ziyin Huang (16), Kevin Bazzel (16), Angelica Connor* (F, minority, 17), Xiting Liu (F, 17)

BS students: Neal Overbeck* (16), Ryan Catania* (16), Alex Tyler (F, 16), Elaine Ruiz* (F, 16), John Watson* (16), Andrew Carver* (16), Matthew Robinson* (16), Raph Samost* (16)

Past graduate students/post-docs

PhD Graduate Students:

- 1) **Tian Zhou** (15, SACO Polymers) “Controlled Synthesis of Polymer Brushes via Polymer Single Crystal”
- 2) **Wenda Wang** (15, Princeton University, Post-doc) “Polymer Crystallization at Curved Liquid/Liquid Interface”
- 3) **Shan Cheng** (14, B&D Diagnostics-Preanalytical Systems) “Ion Transport in Semicrystalline Solid Polymer Electrolytes”
- 4) **Eric Laird** (13, Army Research Lab) “Versatile Membranes Enabled by the Controlled Crystallization of Polymers from Carbon Nanotube Sidewalls”
- 5) **Xi (Rebecca) Chen**, (13, Johnson & Johnson) “Design, Synthesize and Characterize Hierarchically Ordered Nanofibers (NFSKs) for Biomimetic Mineralization”
- 6) **Mathew Hood** (11, Max-Planck Institute for Polymer Research, post-doc), “Correlating the Structure and Properties of Highly Plastic Segmented Polyurethane Nanocomposites Containing Low Silicon Dioxide Filler Weight Fractions”.
- 7) **Bing Li** (10, Honeywell International Inc., currently at Balchem Corp.), “Exploiting Semicrystalline Polymer Single Crystals to Assemble and Functionalize Nanomaterials”.
- 8) **Michael Birnkrant** (09, Wright-Patterson Air Force Base, NRC post-doc fellow, currently at UTC power), “Combining Holographic Patterning and Block Copolymer Self-assembly to Fabricate Hierarchical Volume Gratings”.
- 9) **Kishore Tenneti** (08, UTC power, a fuel cell division of United Technologies Corporation), “Hierarchical Nanostructures Formed by Liquid Crystalline Block Copolymers”
- 10) **Donia S. El-Khamy** (07, General Electric Company), “Alternate Twist Ply Yarn Technology”
- 11) **Lingyu Li** (07, Dow Chemical). “Carbon Nanotube Induced Polymer Crystallization: Structure, Properties and Applications”
- 12) **Lalithkumar Bansal** (05, co-advisor, America Fujikura Ltd), “Development of a Fiber Optic Chemical Sensor for Detection of Toxic Vapors”

MS Students:

- 1) **Brittany Gallagher** (15, Gore), “Nanoparticle-Containing Hybrid Polymer Electrolyte Membranes Using Holographic Polymerization”
- 2) **Lucas Amspacher** (13, DuPont), “Interfacial Engineering for Polymer Nano-Composites with Tailored Properties”.
- 3) **Nasreen Khan** (13, Teracycle), “Hierarchically Ordered Polymer Nanofibers for Biomimetic Applications”.
- 4) **Nathan Wald** (12, Johnson & Johnson), “Poly(Ethylene Oxide)/ Cellulose-Nanocrystal Nanocomposites as Polymer Electrolyte Membranes”.
- 5) **Hang Kuen Lau** (12, Univ. Del, graduate school), “Polycaprolactone Single Crystal with Silica Composite Polyacrylamide Hydrogel Enhance Mechanical Property and Swelling Behavior”.
- 6) **Derrick Smith** (11, Drexel PhD program), “Morphology and Anisotropic Ionic Conductivity Properties of Poly(ethylene oxide)-Lithium Salt Holographic Polymer Dispersed Electrolyte Volume Gratings”.
- 7) **David Miller** (11), “Use of Poly(ϵ -Caprolactone) Single Crystals as a Support for Nanoparticle Catalysts”.
- 8) **Russell Marron** (09, Army), “Multifunctional Photonic Crystals via Interference Lithography”.

- 9) **Carlos Bahamondes** (09, UPenn Graduate school), “Densely-aligned carbon nanotube monolayered films: synthesis, architecture, and applications”.
- 10) **Robert Ferrier** (09, UPenn Graduate school), “Polymer Crystal Templated Janus Magnetic Nanoparticles”.
- 11) **David Steinmetz** (07, Max Planck Institute, co-advisor)
- 12) **Stephen Kodjie** (06, Dow Chemical), “Morphology and structure of semicrystalline polymer/carbon nanotube nanocomposites”.
- 13) **Doug Dillon** (06, Arkema Inc.), “Effect of Organic Modifier and Preparation Method on the Morphology and Crystalline Structure of Poly(vinylidene fluoride)-Montmorillonite Nanocomposites”.

Post-doc/ visiting scientists:

Dr. Weiwei Li, (14-15, Ningbo University), Prof. Jingrong Wang (14-15, Shanghai Tech University), Dr. Shijun Wang (13-15), Dr. Bin Dong (09-12, Professor, Soochow Univ.), Dr. BingBing Wang (06-09, Purdue Univ.); Dr. Xiaofang Chen (05, Professor, Soochow University), Prof. Jie Xiong (07, Professor, Zhejiang Sci-Tech University), Dr. Jiefeng Gao (12), Prof. Haiqing Liu (13-14, Professor, Fujian Normal University), Prof. Juan Manuel Munoz-Guijosa (13, Madrid Technical University), Prof. Jinghui Yang (13, Southwest Jiaotong University).

Undergraduate Students:

Senior Design: Vincent Ferguson, (S/03), Arvid Gifford (dropped out due to health problem), Kelly VandenBosche (06/05), Benjamin Gillespie (06/06, US Patent Office), Jonathan Hopley (06/06), Cristin Yavorsky (06/07, DuPont), Young Ham (06/07), David Althouse (06/09, Arkema), Molly Stewart (06/09, Teleflex), Garrett Pritchyk (06/11) Daniel Quinn* (14), David Giambri* (14), Yunus Gorur (14) Joel Robbins (14), Janette Danella* (F, 15), Jared Ely* (14), Emma Foley (F, 14) Emily Krantz (F, 15).

Freshmen Design: Miguel Armijos, John Hutchins, Justin Sadler, Jarrod Thomas, Sara Miller, Larry Wilson, Bon Lopez-Jacobs, Martin Stanley, Joseph Grippe, Derick Haas, Darren D'Achille, Brian Bobb and Trevor Alexander, Russell Marron, Chris Dorgan, Patrick Perhosky, Sean Miller and Michael Kane, Maryam Ahmad, Chidiogo Ike-Egbuonu, Sachi Jayasuriya, Chern-Hoi Lim, Allison Lloyd.

REU students: Hilary McWilliams (05), Genai Odhner (07), Rucha Shah (08), Amy Miller (09), Natalie Klotz (11)

RET teacher: Jennifer Clyde (03)

Student Awards:

- Lingyu Li: Award: DuPont Graduate Fellow, 2005-2006; The Lawrence Livermore Travel Award (\$500), NATAS, 2005; Drexel’s research day poster honorable mention, 2004
- Kishore Tenneti: Ludo Frevel Crystallography Scholarship in the area of X-ray crystallography, 2007; George Hill Jr. Fellowship, 2007; Sigma Xi Grants in-Aid of Research, 2006; Graduate Student Research/Service Award, Drexel University, 2006; Drexel TA Excellence Award, 2005; Outstanding Graduate Student Award, Department of Materials Science and Engineering, Drexel University 2005; Best Poster Award, Thermal Analysis Forum of Delaware Valley Annual Meeting, 2005; Best poster award (\$500),

North American Thermal Analysis Society (NATAS), 2004; Drexel's research day poster award, 2004

- Michael J. Birnkrant: Sigma Xi Grants in-Aid of Research, 2005; NSF GK-12 fellow, 2006, 2007; Congressional Visit, 2005; NSF IGERT Fellow, 2004-2006; Drexel's research day poster honorable mention, 2004
- Bing Li: Travel Award (\$500), NATAS, 2006; DuPont Graduate Fellow, 2006-2008; Drexel Travel Subsidy to attend APS meeting, 2008; ACS symposium student award, 2009; Drexel best graduate student study, 2009
- Mathew Hood: Dean's list 2006-2010; Department of Education GAANN Fellowship (2007, 2008, 2009); NATAS travel award 2008; Drexel Travel Subsidy to attend APS meeting, 2008; Sigma Xi Grants in-Aid of Research, 2008; Graduate service award, 2009; Drexel Travel Subsidy to attend APS meeting, 2010
- Xi Chen: Dean's list 2006-2010; Drexel Travel Subsidy to attend APS meeting, 2009 & 2011 First prize of student poster competition in Thermal Analysis Forum of Delaware Valley (TAFDV), University of Pennsylvania, 2012
- Eric Laird: Dean's list 2008-2010; NSF IGERT Fellow 2008-2010; Drexel GSA poster award 2010; Drexel CRF image competition award 2010;
- Wenda Wang: Dean's list 2009-2010; Drexel Travel Subsidy Award to attend APS meeting, 2010
- Shan Cheng: Dean's list 2009-2010; Drexel Travel Subsidy to attend NATAS meeting, 2010; First Place Poster Award, Thermal Analysis Forum of Delaware Valley Annual Meeting, 2011; Harry Brown Fellowship, 2013.
- Tian Zhou: Travel Award to attend APS meeting 2012, 2013, Research Excellence Award, Drexel, Honorable Mention, (2016)
- Hao Qi: Dean's list 2012-2016; Drexel Travel Subsidy Award to attend APS meeting, 2014, 2015, 2016, George Hill Jr. Fellowship, 2015
- Derrick Smith: NSF IGERT Fellowship (2011); NSF GRFP (2013-2016), Leroy Resser Fellowship (2015)
- Gabriel Burks: NSF GK-12 Fellowship (2013-2015), Thermal Analysis Forum of Delaware Valley Annual Meeting, Poster Award, First Place (2016)
- Sarah Gleeson: Provost award (2014-2016), NSF GRFP (2016) NDSEG (2016)
- Brittany Gallagher: Anne Stevens Endowed Scholarship (2012, 2013), ASM International Liberty Bell Chapter Scholarship (2012), Harry F. Ortlip Scholarship, 2013, A. W. Grosvenor Scholarship (2014), Tau Beta Pi Scholar (2014),
- Ziyin Huang: Tau Beta Pi Scholar (2014), Paul Peck Scholar (2012 -), ASM Materials Education Foundation John M. Haniak Scholarship (2014), ASM International Philadelphia Liberty Bell Chapter Scholarship (2013, 2014), COE Outstanding Undergraduate Student (2016).

PROFESSIONAL ACTIVITIES

Memberships in professional associations:

- The American Chemical Society, Divisions of Polymer Chemistry and Polymer Materials Science and Engineering

- The American Physical Society, Division of Polymer Physics
- Materials Research Society
- American Association for the Advancement of Science
- North American Thermal Analysis Society

Journal review:

Over 50 manuscripts per year including Nature; Nature Materials; Nature Nanotechnology; Journal of the American Chemical Society; Angewandte Chemie, Intern. Ed.; Small; Macromolecules =Advanced Materials; Soft Matter; Nano Letter; Applied Physics Letter; Macromolecular Rapid Communication; Macromolecular Chemistry and Physics; Polymer; Crystal Growth and Design; Journal of Physical Chemistry; Journal of Biomedical Materials Research; Journal of Polymer Science, Part B: Polymer Physics; Chemistry of Materials; Journal of Materials Chemistry; Physical Chemistry and Chemistry Physics; Journal of Materials Research; European Polymer Journal; Central European Polymer Chemistry; Polymer International; Nanotechnology; Journal of Engineered Fibers and Fabrics; Optical Communications; Thermochemica Acta

Proposal review:

Over 50 proposals per year for National Science Foundation, MRSEC review committee; National Science Foundation, CMMI (panelist); National Science Foundation, CBET (panelist); National Science Foundation, Nano Interdisciplinary Research Team (NIRT, panelist); National Science Foundation (ad-hoc reviewer for DMR and CHE); Department of Energy; Army Research Office; ACS-PRF (American Chemical Foundation – Petroleum Research Fund); Cooperative research grant; United States Department of Agriculture; National Science Foundation of China; ECHO-project, The Netherlands Organisation for Scientific Research (NOW); California Energy Commission; Research Grants Council of Hong Kong

Conference organizing and session chairing:

- Organizer, Session Chair, ACS San Diego meeting, **2016**.
- International Advisory Committee, 12th International Conference on Polymer Physics, **2016**
- Organizer, Session Chair, PacifiChem Hawaii, **2015**.
- Organizer, Session Chair, Focus Session on “Crystallization and self-assembly in multicomponent systems”, APS March meeting, Denver March, **2014**.
- Session Chair, International discussion meeting on polymer crystallization, Kyoto, Japan, Jun. 30, **2013**.
- Organizer, Session Chair, Focus Session on “Bernhard Wunderlich in Memoriam: Thermodynamics, Liquid Crystal, Crystallization”, 41th NATAS annual conference, Bowling Green, KY., August 4-7, **2013**.
- Organizer, Session Chair, Hairy particles: theory, synthesis and applications, in American Chemical Society Fall meeting, Indianapolis, Sept. 8-12, **2013**.
- Organizer, Session Chair, Focus Session on “Polymer crystallization”, APS March Meeting, Baltimore, MA, March 18-22, **2013**.
- Organizer, Session Chair, Focus Session on “Nanocomposites and Hybrid Materials”, 40th NATAS annual conference, Orlando, FL, August 10-12, **2012**.
- Session Chair, International Workshop on Frontier Polymer Physics and Chemistry, June 9-12, **2012**

- Editor, MRS Spring **2012** Proceeding on “Hierarchically Self-assembled Materials–From Molecule to Nano and Beyond”.
- Organizer, Session Chair, Focus Session on “Polymer crystallization”, APS March Meeting, Boston, MA, February 28 – March 2, **2012**.
- International Advisory Committee Member, Session Chair, 3rd International Symposium on Polymer Morphology and Microscopy, Changchun, China, June 13-16, **2010**.
- Organizer, Session Chair, Focus Session on “Confined polymer crystallization”, APS March Meeting, Portland, OR, March 15-19, **2010**.
- Organizer, Session Chair, Symposium MM: Synthesis of Bio-inspired Hierarchical Soft and Hybrid Materials, MRS meeting, San Francisco, CA, April 13-17, **2009**
- Session Chair, 6th International conference on polymer physics, Xiamen, China, Jun 9th. **2008**
- Organizer, Session Chair, Technical Section I, Nanocomposite Materials, in 7th Emerging Information Technology Conference, Princeton University, **2007**
- Session Chair, Technical Section I, Nanocomposite Materials, in 7th Emerging Information Technology Conference, Princeton University, **2007**
- Organizer, Session Chair, Block copolymers for nanoscale materials, in American Chemical Society Fall meeting, San Francisco, **2006**.
- Session Chair, Block copolymers for nanoscale materials, in American Chemical Society Fall meeting, San Francisco, **2006**.
- Session Chair, 20th ASC symposium, Philadelphia, PA Sept. 7-9, **2005**
- Organizer, Technical Section I, Nanotechnology / MEMS (I), in 4th Emerging Information Technology Conference, Princeton University, **2004**
- Session Chair, Technical Section I, Nanotechnology / MEMS (I), in 4th Emerging Information Technology Conference, Princeton University, **2004**
- Session Chair, the international polymer conference in celebrating 50th year’s anniversary of Peking University’s Polymer Program, **2004**.
- Session Chair, 3rd East Asian Polymer Physics Meeting, Chengdu, China, Jun. 6, **2004**

ACTIVITIES AT DREXEL UNIVERSITY

Course Teaching (S: Spring; W: Winter; F: Fall)

- | | |
|---|---|
| • MATE 580 (S/16, new course) | Advanced Polymer Characterization |
| • MATE 501 (new course, S/02, W/03, W/04, F/04, W/06, W/07, W/08, W/09, W/11, W/12, W/13, F/14, F/15, W/16) | Structure and Properties of Polymers |
| • MATE 270 (1 lecture & lab, W/03, W/04, W/05, W/06) | Advanced Materials Laboratory |
| • TDEC 211, (recitation instructor, S/02) | Materials I |
| • MATE 214/495 (new course, F/02, S/03, F/03, F/04, F/05, F/06, F/07, F/08, F/10, F/11, F/12, F/13, F/14) | Fundamentals of Polymer Science
(Introduction to Polymers) |
| • MEM 380/800 (S/13) | Nanomanufacturing for Energy
Kinetics of Materials |

- Drexel open house (regularly participate)

Graduate Thesis Committee

1. Ashraf Ali, PhD (2002)
“Carbon Nanotube Reinforced Carbon Nano Composite Fibrils by Electro-spinning”
2. Brent C. Smith, MS (2002)
“Development of a Coating Technique for Sapphire Fibers for High Temperature Sensing Applications”
3. Saif El Din Khalil, MS (2003)
“Smart textiles with embedded fiber optic chemical sensors”
4. Anna Markidou, MS (2003)
“Soft-tissue Elastic Moduli Measurement and Profiling Using Piezoelectric Unimorph Cantilevers”
5. Lalitkumar Bansal, PhD, (Co-advisor) (2004)
“Development of a Fiber Optic Chemical Sensor for Detection of Toxic Vapors”
6. Afaf El-Aufy, PhD, (2004)
“Nanofibers and Nanocomposites Poly(3,4-ethylene dioxythiophene)/Poly(styrene sulfonate) by electrospinning”
7. Jason Lyons, PhD, (2004)
“Melt-electrospinning of Thermoplastic Polymers: An Experimental and Theoretical Analysis”
8. Hoa Lam, PhD, (2004)
“Electrospinning of Single Wall Carbon Nanotube Reinforced Aligned Fibrils and Yarns”
9. Jonathan Ayutsede, PhD, (2005)
“Regeneration of Bombyx Mori Silk Nanofibers and Nanocomposite Fibrils by the Electrospinning Process”
10. Stephen Mastro, PhD, (2005)
“Optomechanical Behavior of Embedded Fiber Bragg Grating Strain Sensors”
11. Nick Titchenal, MS (2005)
“Multiwalled Carbon Nanotube Reinforced Carbon nanocomposite Yarns”
12. Yi-Shih Chiu, MS (2005)
“Synthesis and Characterization of Lead Strontium Titanate Thin Films by Sol-Gel Method”
13. Jose Bermudez MS (2005)
“Synthesis and deposition of adsorbents for gas sensing and catalytic applications”
14. Andrew Darling, PhD, (2005)
“Function Design and Fabrication of Heterogeneous Tissue Engineering Scaffolds”
15. Hongyu Luo, PhD, (2005)
“Free-Standing PMN-PT Thick Film with Ultrahigh Piezoelectric Coefficients”
16. Jamie Ostroha PhD, (2006)
“PEG-Based Degradable Networks for Drug Delivery Applications”
17. Varun Gupta MS, (2006)
“Thermally Sprayed Multi-Scale Polymer/Ceramic Coatings”
18. Milan Ivosevic, PhD, (2006)
“Splating of Thermally Sprayed Polymer Particles: Modeling Transport and Impact”
19. Davide Mattia, PhD, (2007)

- “Templated Growth and Characterization of Nanotubes for Nanofluidic Applications”
20. Connie Gomez, Ph. D., (2007)
“A Unit Cell Based Multi-scale Modeling and Design for Tissue Engineered Scaffolds”
 21. Benjamin D. Eirich, MS, (2007)
“Ion-Exchanged Carbon Supported Platinum Catalysts for Fuel Cells”
 22. David Richard Steinmetz, MS, (2007)
“Structure-Property Relationships in Polystyrene-Clay Nanocomposites”
 23. John Lewandowski, MS, (2007)
“Parameter Optimization during Development of a Polymeric Ultrasound Contrast Agent”
 24. Jennifer L. Vondran, MS, (2007)
“Fabrication, Optimization, and Characterization of Carboxymethylated Chitosan Nanofiber Mats for Cartilage Regeneration Applications”
 25. Adarsh Sager, MS, (2007)
 26. Donia Elkhamy, PhD, (2007)
“Processing Mechanics of Alternate Twist Ply (ATP) Yarn Technology”
 27. Wenhai Wang, PhD, (2007)
“Towards an improved understanding of strength and anisotropy of cold compacted powder”
 28. Mathew Cathell, PhD, (2008)
“Structurally colored biopolymer thin films for detection of dissolved metal ions in aqueous solution”
 29. Kishore Tenneti, PhD, (2008)
“Nanoscale hierarchical phase behavior of liquid crystalline block copolymers”
 30. Kristopher Behler, PhD, (2008)
“Chemically modified carbon nanostructures for electrospun thin film polymer-nanocomposites”
 31. Sebastian Osswald, PhD, (2008)
“In situ Raman spectroscopy study of oxidation of nanostructured carbons”
 32. Nicholas DeLuca, PhD, (2008)
“Nafion blend membranes for the direct methanol fuel cell”
 33. Connie Gomez, PhD, (2008)
“A unit cell based multi-scale modeling and design approach for tissue engineered scaffolds”
 34. Kalyani Nair, PhD, (2008)
“Multi-scale computational modeling and characterization of bioprinted tissue scaffolds”
 35. Holly McIlwee, MS, (2008)
“Chitosan Thin Films as Metallon Sensors and Structurally Colored Coatings”
 36. Michael Laudenslager, MS, (2008)
“Chitosan and Carboxymethyl Chitosan as Catalyst Materials”
 37. Vishesh Singh, MS, (2008)
“Synthesis of polylactide with varying molecular weight and aliphatic content: effect on moisture sorption”
 38. Jessica Schiffman, PhD, (2008)
“Determination of the Electrospinning parameters for biopolyelectrolytes and their modifications”
 39. Kashma Rai, PhD, (2008)
“Study of spectral sensing using electro-optic films”

40. Daniel Hallinan Jr., PhD, (2008)
"Transport in Polymer Electrolyte Membranes Using Time-Resolved FTIR-ATR Spectroscopy"
41. Aaron Sakulich, PhD, (2008)
"Characterization of environmentally-friendly alkali activated slag cements and ancient building materials"
42. Michael Birnkrant, PhD, (2008)
"Combining holographic patterning and block copolymer self-assembly to fabricate hierarchical volume gratings"
43. Hanah Szewczyk, MS, (2009)
"Multi-scale computational modeling and characterization of bioprinted tissue scaffolds"
44. Eric Brenner, MS, (2009)
"Investigation into the Electrospinning of Hyaluronic Acid"
45. Sean Miller, MS, (2009)
"Use of diatomaceous earth as a siliceous material in the formation of alkali activated fine-aggregate limestone concrete"
46. Carlos Bahamondes, MS, (2008)
"Densely-aligned carbon nanotube monolayered films: synthesis, architecture, and applications"
47. Robert Ferrier, MS, (2009)
"Polymer Crystal Templated Janus Magnetic Nanoparticles"
48. Barbara Robinson, MS, (2009)
"Effectiveness of exercise and joint-mobilisation on the biomechanical properties of the immobilised rabbit's knee"
49. Bing Li, PhD, (2009)
"Exploiting polymer single crystals to assemble and functionalize nanomaterials"
50. Gwee Liang, PhD, (2010)
"Ion transport in polymer/ionic liquid films"
51. Wai-Kuen Wong, PhD, (2010)
"Oxidation Degradation Mechanisms of Corrugated High Density Polyethylene Pipes"
52. Chris J. Karwacki, PhD, (2010)
"A Rational Design Approach to Nanostructured Catalysts for the Oxidation of Carbon Monoxide"
53. Joshua A. Meisner, MS, (2010)
"Characterization of Water Sorption in Polylactide-Derived Materials"
54. Sameet K. Shriyan, PhD, (2011)
"Tunable electro-optic thin film stack for hyperspectral imaging"
55. Derrick Smith, MS, (2011)
"Morphology and Anisotropic Ionic Conductivity Properties of Poly(ethylene oxide)-Lithium Salt Holographic Polymer Dispersed Electrolyte Volume Gratings"
56. Amy Michelle Peterson, PhD, (2011)
"Development of Remendable Polymer Composites using a Thermoreversible Reaction"
57. Keith James Fahnstock, PhD, (2011)
"Electrospinning and Rheological Characterization of Quaternized Chitosan"
58. Philipp Hunger, PhD, (2010)
"Structure-Property-Processing Correlations in Freeze-Cast Hybrid Scaffolds"

59. David Miller, MS, (2010)
"Use of Poly(ϵ -Caprolactone) Single Crystals as a Support for Nanoparticle Catalysts"
60. Matthew Hood, PhD, (2012)
"Correlating the Structure and Properties of Highly Plastic Segmented Polyurethane Nanocomposites Containing Low Silicon Dioxide Filler Weight Fractions"
61. Holly Salerno, PhD, (2012)
"Anion Exchange Membranes Derived from Nafion Precursor for the Alkaline Fuel Cell"
62. Riju Singhal, PhD, (2013)
"Carbon Nanotube Based Devices for Intracellular Analysis"
63. Eric Davis, PhD, (2013)
"Water Sorption and Diffusion in Glassy Polymers"
64. Wonjin Jo, PhD, (2013)
"Biologically Inspired Flagella-Templated Silica Nanotubes"
65. Valerie Binetti, PhD, (2013)
"Development and Characterization of a Chemically Crosslinked PVA/PEG Hydrogel for Nucleus Pulposus Replacement"
66. Marjorie Austero Kiechel, PhD, (2013)
"Post- Processing of electronspun chitosan fibers"
67. Sarah Lightfoot Vidal, MS, (2013)
"Novel Biomimetic Aggrecan for the Acellular Regeneration of the Intervertebral Disc: Synthesis, Enzymatic Stability and Molecular Engineering"
68. Xi Rebecca Chen, PhD, (2013)
"Design, Synthesize and Characterize Hierarchically Ordered Nanofibers (NFSKs) for Biomimetic Mineralization"
69. Nasreen Khan, MS, (2013)
"Hierarchically Ordered Polymer Nanofibers for Biomimetic Applications"
70. Lucas Amspacher, MS, (2013)
"Interfacial Engineering for Polymer Nano-Composites with Tailored Properties"
71. Eric Laird, PhD, (2013)
"Versatile Membranes Enabled by the Controlled Crystallization of Polymers from Carbon Nanotube Sidewalls"
72. Brandon Johnson, PhD, (2013)
"ZnO Nanoparticle Immunotoxicity"
73. Francis Richey, PhD, (2014)
"Ion Dynamics in Energy Storage Devices Using FTIR-ATR Spectroelectrochemistry"
74. Chau Tran, PhD, (2014)
"Fabrication of Porous Carbon Nanofibers with Adjustable Pore Sizes as Electrodes for Supercapacitors"
75. Arianna Watters, PhD, (2014)
"Synthesis and Characterization of a Well-Dispersed Nanostructured Polymer System"
76. Iftekhar Ahmad, PhD, (2014)
"Mathematical Models to Describe Antioxidant Depletion in Polyethylene-Clay Nanocomposites under Thermal Aging"
77. Ian McAninch, PhD, (2014)
"Molecular Toughening of Epoxy Networks"
78. Mohamed Shamma, PhD, (2014)

“On Buckling, Kink Boundaries and Kinking Nonlinear Elastic Solids”

79. Xin Yang, PhD, (2014)

“Coalescence and Particle Self-assembly of Inkjet-printed Colloidal Drops”

80. James Throckmorton, PhD, (2015)

“Tonic Liquid-Modified Thermosets and Their Nanocomposites: Dispersion, Exfoliation, Degradation, and Cure”

81. Majid Sharifi, PhD, (2015)

“Effect of Network Structure/Topology on Mechanical Properties of Crosslinked Polymers”

COLLABORATORS

Dr. Tim Bunning (Air Force Research Laboratory); Prof. Hans-Jurgen Butt (Max Planck Institute for Polymer Research, Germany); Prof. Bin Dong (Soochow University); Prof. Hao Cheng (Drexel University); Prof. Yossef Elabd (Texas A&M University); Prof. Jamie Hobbs (University of Sheffield, England); Prof. Grace Hsuan (Drexel University); Dr. Dimitri A. Ivanov (Institut de Chimie des Surfaces et Interfaces UPR CNRS France); Prof. Hiroshi Jinnai (Tohoku University); Dr. Freddy Khoury (NIST); Dr. Kaloian Koynov (Max Planck Institute for Polymer Research, Germany); Prof. Bernard Lotz (Institute de Charles Sadron); Prof. Michele Marcolongo (Drexel); Dr. James Sands (ARL); Prof. Yingfeng Tu (Soochow University); Prof. Bin Zhao (University of Tennessee); Prof. Qi-Feng Zhou (Peking University)