SAMUEL P. GIDO
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Professional Experience

1999-Present
Associate Professor of Polymer Science and Engineering – University of Massachusetts, Amherst, MA

2006-2014
Associate Director for Facilities, Materials Research Science and Engineering Center (MRSEC) on Polymers at the University of Massachusetts Amherst.

2006-2014
Vice President for Materials Engineering, Asius Technologies LLC, 1257 Whitehall Drive, Longmont CO 80504

2006-2010
Principal Technical Advisor, FujiFilm Hunt Smart Surfaces, LLC. 40 Boroline Rd., Allendale, New Jersey. A division of FujiFilm Corp., Tokyo, Japan.

2000-2006
Vice President, Smart Surfaces, LLC. 600 Snow Goose Ln., Annapolis, Maryland.

2000-2005
Director and Principal Investigator: U.S. Army Research Laboratory-University of Massachusetts Collaborative Polymer Materials Center of Excellence.

1999-2002
Graduate Program Director, Polymer Science and Engineering Department – University of Massachusetts, Amherst, MA

1994-2010
Director of the W. M. Keck Electron Microscopy Laboratory – University of Massachusetts, Amherst, MA

1993-1998
Assistant Professor of Polymer Science and Engineering – University of Massachusetts, Amherst, MA

1989-1992
Graduate Research Assistant, Department of Materials Science and Engineering – Massachusetts Institute of Technology, Cambridge, MA

1987-1988
Research Fellow, Textile Research Institute – Princeton University, 601 Prospect Avenue, Princeton, NJ

1987 Research Intern – Separations & Purifications Research - Dow Chemical, U. S. A., Michigan Division, Midland MI

Education

1993 *Ph. D.* Massachusetts Institute of Technology, Cambridge, MA
Chemical Engineering and Polymer Science and Technology
Thesis Advisor: Professor Edwin L. Thomas – Materials Science & Engineering Department

1988 *B.S.E. – Magna Cum Laude,* Princeton University, Princeton, NJ, Chemical Engineering

Academic Honors

University of Massachusetts

- The Mettler Toledo Thermal Analysis Education Award in Honor of Prof. Edith A. Turi. (Shared with E. B. Coughlin), 2002.
- The OMNOVA Solutions Foundation, OMNOVA Solutions Signature University Award for Research, 2000
- NSF Faculty Early Career Development (CAREER) Award, 1996
- Army Young Investigator Award, 1995.
- W. M. Keck Foundation Award, 1994

Graduate School

- Materials Research Society (MRS) Graduate Student Award Winner, 1991
- Sigma Xi, National Scientific Research Honor Society, 1990
- Austin Endowed Fellowship, sponsored by Dow Chemical, 1988

Undergraduate

- Tau Beta Pi National Engineering Honor Society, Princeton University Chapter, 1986
- Gilbert Solar Scholarship of the American Society for Metals, 1984
- Carl J. Long Science Award & Scholarship of the Pennsylvania Air Force Association, 1984

Peer Reviewed Publications

1. Samuel P. Gido, Douglas E. Hirt, Susan Montgomery, Ludwig Rebenfeld and Robert K. Prud'homme "Foam Bubble-Size Measured Using Image-Analysis Before and After Passage Through a Porous-Medium," *Journal of Dispersion Science and Technology* **1989**, *10 (6)*, 785-793.

2. Samuel P. Gido, Dwight W. Schwark, Edwin L Thomas and Maria Goncalves, "Observation of a Non-Constant Mean Curvature Interface In ABC Triblock Copolymers," *Macromolecules* **1993**, *26*, 2636-2640.

3. Samuel P. Gido, Janelle Gunther, Edwin L. Thomas and David Hoffman, "Lamellar Diblock Copolymer Grain Boundary Morphology: I. Twist Boundary Characterization," *Macromolecules* **1993**, *26*, 4506-4520.

4. Samuel P. Gido and Edwin L. Thomas, "Lamellar Diblock Copolymer Grain Boundary Morphology: II. Scherk Twist Boundary Energy Calculations," *Macromolecules* **1994**, *27*, 849-861.

5. Samuel P. Gido and Edwin L. Thomas "Lamellar Diblock Copolymer Grain Boundary Morphology: IV. Tilt Boundaries," *Macromolecules* **1994**, *27*, 6137-6144

6. Darrin J. Pochan, Samuel P. Gido, Stergios Pispas, Jimmy W. Mays, Anthony J. Ryan, J. Patrick Fairclough, Ian W. Hamley and Nicholas Terrill, "Morphologies of Microphase Separated A_2B Simple Graft Copolymers," *Macromolecules* **1996**, *29*, 5091-5098.

7. Darrin J. Pochan, Samuel P. Gido, Stergios Pispas and Jimmy W. Mays, "Morphological Transitions in an I_2S Simple Graft Block Copolymer: From Folded Sheets to Folded Lace to Randomly Oriented Worms at Equilibrium," *Macromolecules* **1996,** *29*, 5099-5105.

8. P. Jeanene Willcox, Samuel P. Gido, Wayne S. Muller and David L. Kaplan, "Evidence of a Cholesteric Liquid Crystalline Phase in Natural Silk Spinning Processes," *Macromolecules* **1996**, *29*, 5106-5110.

9. Samuel P. Gido, Chin Lee, Darrin J. Pochan, Stergios Pispas, Jimmy W. Mays and Nikos Hadjichristidis, "Synthesis, Characterization, and Morphology of Model Graft Copolymers with Trifunctional Branch Points," *Macromolecules* **1996**, *29*, 7022-7028.

10. Regina Valluzzi, Samuel P. Gido, Weiping Zhang, Wayne S. Muller and David L. Kaplan, "A Trigonal Crystal Structure of *Bombyx mori* Silk Incorporating a Threefold Helical Chain Conformation Found at the Air-Water Interface," *Macromolecules* **1996**, *29*, 8606-8614.

11. F. Beyer, S. P. Gido, Y. Poulos, A. Avgeropoulos and N. Hadjichristidis, "Morphology of Vergina Star 16-Arm Block Copolymers and Scaling Behavior of Interfacial Area with Graft Point Functionality," *Macromolecules* **1997**, *30*, 2373-2376.

12. D. J. Pochan, S. P. Gido, J. Zhou, J. W. Mays, M. Whitmore and A. J. Ryan, "Morphologies of Microphase Separated, Conformationally Asymmetric Diblock Copolymers," *Journal of Polymer Science, Polymer Physics* **1997**, *35*, 2629-2643.

13. R. Valluzzi and S. P. Gido, "Crystal Structure of *Bombyx mori* Silk Fibroin at the Air-Water Interface," *Biopolymers* **1997**, *42*, 705-717.

14. C. Lee, S. P. Gido, M. Pitsikalis, J. W. Mays, N. Beck-Tan, S. Trevino and N. Hadjichristidis, "Asymmetric Single Graft Block Copolymers: Effect of Molecular Architecture on Morphology," *Macromolecules* **1997**, *30*, 3732-3738.

15. Samuel P. Gido and Edwin L. Thomas, "Lamellar Diblock Copolymer Grain Boundary Morphology: III. Helicoid Section Twist Boundary Energy," *Macromolecules* **1997**, *30*, 3739-3746.

16. I. S. Polios, M. Soliman, C. Lee, S. P. Gido, K. Schmidt-Rohr and H. H. Winter, "Late Stages of Phase Separation in a Binary Polymer Blend Studied by Rheology, Optical and Electron Microscopy and Solid State NMR," *Macromolecules* **1997**, *30*, 4470-4480.

17. S. K. Siddiquee, P. J. Wilcox, J. W. van Egmond and S.P. Gido, "Optical Rheometry of Silk in Aqueous LiBr Solution," *Macromolecules* **1997**, *30*, 5372-5375.

18. C. Lee, S. P. Gido, Y. Poulos, N. Hadjichristidis, N. Beck Tan, S. F. Trevino and J. W. Mays, "H--Shaped Double Graft Copolymers: Effect of Molecular Architecture on Morphology," *The Journal of Chemical Physics* **1997**, *107*, 6460-6469.

19. S. P. Gido and Z.-G. Wang, "Interfacial Curvature in Graft and Diblock Copolymers and Implications for Long Range Order in Cylindrical Morphologies," *Macromolecules* **1997**, *30*, 6771-6782.

20. C. Lee, S. P. Gido, Y. Poulos, N. Hadjichristidis, N. Beck Tan, S. F. Trevino and J. W. Mays, "π Shaped Double Graft Copolymers: Effect of Molecular Architecture on Morphology," *Polymer* **1998**, *39*, 4631-4638.

21. M. Xenidou, F. L. Beyer, N. Hadjichristidis, S. P. Gido and N. Beck Tan, "Morphology of Model Graft Copolymers with Randomly Placed Trifunctional and Tetrafunctional Branch Points," *Macromolecules* **1998**, *31*, 7659-7667.

22. S.-J. He, C. Lee, S. P. Gido, S. M. Yu and D. A. Tirrell, "A Twist Grain Boundary-like Twisted Smectic Phase in Monodisperse Poly(γ-benzyl α, L-glutamate) Produced by Recombinant DNA Techniques," *Macromolecules* **1998**, *31*, 9387-9389.

23. P. J. Willcox, D. W. Howie, Jr., K. Schmidt-Rohr, D. A. Hoagland, S. P. Gido, S. Pudjijanto, S. Vankatraman and L. Kleiner, "Microstructure of Poly(vinyl alcohol) Hydrogels Produced by Freeze/Thaw Cycling," *Journal of Polymer Science: Part B, Polymer Physics* **1999**, *37*, 3438-3454.

24. F. L. Beyer, S. P. Gido, D. Uhrig, J. W. Mays, N. Beck Tan and S. F. Trevino, "Morphological Behavior of A_2B_2 Star Block Copolymers," *Journal of Polymer Science: Part B, Polymer Physics* **1999**, *37*, 3392-3400.

25. L. Balogh, R. Valluzzi, K. S. Laverdure, S. P. Gido, G. L. Hagnauer and D. A. Tomalia, "Formation of Silver and Gold Dendrimer Nanocomposites," *J. of Nanoparticle Research* **1999**, *3*, 1-16.

26. S. P. Gido, "Asymmetry the Easy Way," *Nature* **1999**, *398*, 107-108.

27. S. J. He, R. Valluzzi and S. P. Gido, "Silk I Structure in *Bombyx mori* Silk Foams" *International Journal of Biological Macromolecules* **1999**, *24*, 187-195.

28. R. Valluzzi, S. J. He, S. P. Gido and D. L. Kaplan, "*Bombyx mori* Silk Fibroin Liquid Crystallinity and Crystallization at Aqueous Fibroin-Organic Solvent Interfaces" *International Journal of Biological Macromolecules* **1999**, *24*, 227-236.

29. R. Valluzzi, S. P. Gido, W. Muller and D. L. Kaplan, "Orientation of Silk III at the Air-Water Interface," *International Journal of Biological Macromolecules* **1999**, *24*, 237-242.

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31. F. L. Beyer, S. P. Gido, G. Velis, N. Hadjichristidis and N. Beck Tan, "Morphological Behavior of A_5B Miktoarm Star Block Copolymers," *Macromolecules* **1999**, *32*, 6604-6607.

32. E. Burgaz and S. P. Gido, "T-Junction Grain Boundaries in Block Copolymer-Homopolymer Blends," *Macromolecules* **2000**, *33*, 8739-8745.

33. F. L. Beyer, S. P. Gido, C. Bueschl, H. Iatrou, D. Uhrig, J. W. Mays, M. Y. Chang, B. Garetz, N. P. Balsara, N. Beck Tan, and Nikos Hadjichristidis, "Graft Copolymers with Regularly Spaces Tetrafunctional Branch Points: Morphology and Grain Structure" *Macromolecules* **2000**, *33*, 2039-2048.

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43. A. M. Heintz, R. L. McKiernan, S. P. Gido, J. Penelle, S. L. Hsu, S. Sasaki, A. Takahara and T. Kajiyama, "The Crystallization Behavior of Strongly Interacting Chains," *Macromolecules* **2002**, *35*, 3117-3125.

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Derived from Long-Chain, Heteroatom-Containing α,ω-Diols," *Macromolecular Chemistry and Physics,* **2003**, *204(7)*, 961-969.

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48. Yuqing Zhu, Roland Weidisch, Samuel P. Gido, Gabriel Velis and Nikos Hadjichristidis, "Morphologies and Mechanical Properties of a Series of Block-Double-Graft Copolymers and Terpolymers," *Macromolecules* **2002**, *35*, 5903-5909.

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51. M.E.Mackay, Y. Hong, M. Jeong, B.M.Tande, N.J. Wagner, S. Hong, S.P. Gido, R. Vestberg, C.J. Hawker, "Microphase separation of hybrid dendron-linear diblock copolymers into ordered structures," *Macromolecules* **2002**, *35*, 8391-8399.

52. Y. Zhu, S. P. Gido, M. Moshakou, J. Iatrou, N. Hadjichristidis, "Effect of Junction Point Functionality on the Lamellar Spacing of Symmetric Miktoarm Star Block Copolymers $(PS)_n(PI)_n$," *Macromolecules* **2003**, *36*, 5719-5724.

53. Y. Zhu, S. P. Gido, H. Iatrou, N. Hadjichristidis, and J. Mays, "Microphase-Separation of Cyclic Block Copolymers of Styrene and Butadiene and of Their Corresponding Linear Triblock Copolymers," *Macromolecules* **2003**, *36*, 148-152.

54. J.W. Mays, S.P. Gido, "Graft copolymers", McGraw-Hill Yearbook of Science and Technology, **2003**, 163-166.

55. J.H. Lee, M.L. Ruegg, N.P. Balsara, Y. Zhu, S.P. Gido, R. Krishnamoorti, M. Kim, "Phase Behavior of Highly Immiscible Polymer Blends Stabilized by Balanced Surfactants," *Macromolecules* **2003**, *36*, 6537-6548.

56. Ting Xu, Yuqing Zhu, Samuel P. Gido, Thomas P. Russell. "Electric Field Alignment of Symmetric Diblock Copolymer Thin Films" *Macromolecules* **2004,** *37*, 2625 -2629.

57. Sungkyun Sohn, Helmut H. Strey, and Samuel P. Gido. "The Phase Behavior and Hydration of Silk Fibroin," *Biomacromolecules* **2004**, *5*, 751-757.

58. Ting Xu, A.V. Zvelindovsky, G. J. A. Sevink, O. Gang, B. Ocko, Y. Zhu, S. P. Gido, and T. P. Russell "Electric field induced sphere to cylinder transition in diblock copolymer thin films" *Macromolecules* **2004**, *37*, 6980-6984.

59. LeiZheng, Sheng Hong, Gregoire Cardoen, Engin Burgaz, Samuel P. Gido, and E. Bryan Coughlin. "Polymer Nanocomposites through Controlled Self-Assembly of Cubic Silsesquioxane Scaffolds" *Macromolecules* **2004**, *37*, 8606-8611.

60. J. W. Mays, D. Uhrig, S. P. Gido, Y. Q. Zhu, R. Weidisch, H. Iatrou, N. Hadjichristidis, K. Hong, F. L. Beyer, R. Lach, M. Buschnakowski. "Synthesis and structure - Property relationships for regular multigraft copolymers" *Macromolecular Symposia* **2004**, *215*, 111-126.

61. Y. H. Zhou, R. Faust, S. J. Chen, S. P. Gido. "Synthesis, characterization, and morphology of poly(tert-butyl vinyl ether-b-isobutylene-b-tert-butyl vinyl ether) triblock copolymers" *Macromolecules* **2004**, *37*, 6716-6725.

62. Xiaochuan Hu, Yuqing Zhu, Samuel P. Gido*, Thomas P. Russell, Hermis Iatrou, and Nikos Hadjichristidis. "The Effect of Molecular Architecture on the Grain Growth Kinetics of AnBn Star Block Copolymers", *Faraday Discussions, Volume 128: Self Organizing Polymers,* **2005**, pp. 103-112.

63. Xiaochuan Hu, Samuel P. Gido and Thomas P. Russell, Hermis Iatrou, Nikos Hadjichristidis, Ferass M. Abuzaina and Bruce A. Garetz. "Grain Growth Kinetics of AnBn Star Block Copolymers in Supercritical Carbon Dioxide" *Macromolecules* **2005**, *38*, 4719-4728.

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Tsoukatos, Thodoris; Hadjichristidis, Nikos; Beyer, Frederick L. "Morphologies of poly(cyclohexadiene) diblock copolymers: Effect of conformational asymmetry" *Polymer* **53**, 5155-5162, 2012

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22. "Characterization of novel high temperature thermoplastic elastomers polybenzofulvene-block-polyisoprene-block-polybenzofulvene" Mays, J; Wang, WY; White, T; Kang, NG; Hong, KL; Schlegel, R; Beiner, M; Williams, K; Gido, S. *Abstracts of Papers of the American Chemical Society*. Volume: 249 Meeting Abstract: 37. Published: MAR 22 2015

Invited Lectures

1. Samuel P. Gido "Control of Morphology and Properties Through Control of Molecular Architecture in Block and Graft Copolymers" Department of Chemistry, University of Massachusetts Lowell. October 1, 2020.

2. "Control of Block Copolymer Morphology and Properties Through Molecular Architecture Variation", Samuel P. Gido and Jimmy Mays, Fraunhofer-Institut für Werkstoffmechanik, Halle, Germany, August 7, 2014.

3. "Effect of Macromolecular Architecture on Morphology and Mechanical Properties of Block Copolymers", J. W. Mays, S. Gido, and R. Weidisch, invited presentation at Goodyear Tire & Rubber Company, May 30, 2014, Akron, OH.

4. "Effect of Macromolecular Architecture on Morphology and Mechanical Properties of Block Copolymers", J. W. Mays, S. Gido, and R. Weidisch, invited presentation at Kraton Polymers, June 3, 2014, Houston, TX.

5. "Optimization of Macromolecular Architecture in Styrene/Diene Block Copolymer Thermoplastic Elastomers", J. W. Mays and Samuel P. Gido, Case Western Reserve University, March 8, 2013.

6. “Optimization of Macromolecular Architecture in Styrene/Diene Block Copolyme Thermoplastic Elastomers”, Samuel P. Gido and Jimmy Mays, Fraunhofer-Institut für Werkstoffmechanik, Halle, Germany, July 11, 2013.

7. “Optimization of Macromolecular Architecture in Styrene/Diene Block Copolymer Thermoplastic Elastomers”, J. W. Mays, S. Gido, R. Weidisch. DYNACOP Final Conference on Dynamics of Architecturally Complex Polymers: Current and Future Trends, Leeds, England, December 12-14, 2012.

8. Samuel P. Gido “Characterization of Bicontinuous Morphologies in Silicone Hydrogel Contact Lenses” CooperVision Inc., Pleasanton, California. March 23, 2012

9. Samuel P. Gido. “Grain structure development and influence on block copolymer transport and mechanical properties” ACS Polymer Award: Symposium in Honor of Edwin L. Thomas. 243rd ACS National Meeting, San Diego, California. PMSE: Division of Polymeric Materials Science and Engineering, Sunday, March 25, 2012

10. Samuel P. Gido “Control of block copolymer morphology and properties through molecular architecture variation.” American Chemical Society, National Meeting, Denver Colorado, August 31, 2011. POLY: Division of Polymer Chemistry. Mark Senior Scholar Award: Symposium in Honor of Jimmy Mays.

11. Ying Lin, Vikram K. Daga, Eric A. Anderson, Samuel P. Gido, James J. Watkins “High volume production of well-ordered hybrid materials for device applications” American Chemical Society, National Meeting, Denver Colorado, August 28, 2011. PMSE: Division of Polymeric Materials: Science and Engineering

12. Gido, Samuel P.; Schulein, Robert, B.; Ambrose, Stephen D. “Sound Reproduction within a Closed Ear Canal: Acoustical and Physiological Effects” *Audio Engineering Society 130th Convention, 2011 May 13–16, London, UK*

13. Ambrose, Stephen D.; Schulein, Robert, B.; Gido, Samuel P. “Diaphonic Pump: A Sound Actuated Alternating to Static Pressure Converter” *Audio Engineering Society 130th Convention, 2011 May 13–16, London, UK*.

14. “Defects, Grain Growth, and Long Range Order in Block Copolymer Nanostructures” Massachusetts Institute of Technology, Program in Polymer Science & Technology Seminar. March 10, 2010. Samuel P. Gido

15. "Morphology of Silicone Hydrogels Materials" Samuel P. Gido. March 26, 2009. CIBA Vision R&D, Duluth, Georgia

16. "Next Generation Foul Release Materials" Samuel P. Gido. October 10, 2008. FUJIFILM, Tokyo, Japan

17. “Branched Block Copolymers: Morphology, Mechanical Properties and Applications” Symposium in honor of Prof. T. Kajiyama, University of Massachusetts. April 2007. Samuel P. Gido

18. “Phase Behavior of Multicomponent Polymer Systems for Nanostructured Applications” National Starch, Bridgewater, NJ August 2, 2007, Samuel P. Gido.

19. American Physical Society National Meeting, Denver, Colorado, March 2007: Session L24: John H. Dillon Award Symposium in Honor of Darrin Pochan, 2:30 PM–5:30 PM, Tuesday, March 6, 2007, Colorado Convention Center – 201, Sponsoring Unit: DPOLY Abstract: L24.00002 : "Morphological Characterization of Silicone Hydrogels"

20. "Advanced Silicone Foul Release Coatings" International Workboat Show. New Orleans, LA November 30, 2006. Samuel P. Gido

21. International Symposium on Polymer Analysis and Characterization (ISPAC), Oak Ridge, Tennessee, on June 12-14, 2006 *Characterization of Bicontinuous Morphologies in Silicone Hydrogels*.

22. Center for Nanophase Materials Science (CNMS), Oak Ridge National Laboratory, Annual User Meeting, June 15, 2006. *Star and Graft Copolymers of Precisely Controlled Molecular Architecture, Morphology, and Properties.*

23. S. P. Gido and S. Chen, J. Mays, N. Hadjichristidis. Pacifichem 2005 Honolulu, Hawaii, Symposium 157 "Precise Characterization of Complex Polymers and Their Hierarchical Structures" December 15 - 20, 2005. *Influence of block copolymer molecular architecture and processing conditions on development of long range order during self-assembly of nanostructures.*

24. "Superelastic Properties of Multigraft Copolymers", R. Weidisch, U. Staudinger, S. P. Gido, D. Uhrig, J. Mays, and N. Hadjichristidis, presented at the International Chemical Congress of Pacific Basin Societies, "Pacifichem 2005", Honolulu, HI, December 15 - 20, 2005.

25. "Bulk and Solution Properties of Polymers Based on 1,3-Cyclohexadiene", J. W. Mays, K. Hong, G. Wignall, Y. Melnichenko, A. Yun, P. F. Britt, J. M. Simonson, T. Huang, M. Pyda, B. Farmer, S. Gido, X. Wu, K. Terao, and Y. Nakamura, presented at the International Chemical Congress of Pacific Basin Societies, "Pacifichem 2005", Honolulu, HI, December 15 - 20, 2005.

26. "Synthesis, Morphology, and Properties of Novel Branched Block Copolymers", J. W. Mays, S. Gido, and R. Weidisch, invited presentation at CIQA National Research Center, Saltillo, Mexico, April 4, 2006.

27. "Effect of Copolymer Architecture on the Morphology and Properties of Styrene/Isoprene Block Copolymers", J. W. Mays, S. Gido, and R. Weidisch, invited presentation at the American Chemical Society Rubber Division Thermoplastic Elastomers Conference, Akron, Ohio, May 11-12, 2006.

28. "Effect of Macromolecular Architecture and Chain Stiffness on Self-Assembly and Properties of Block Copolymers", J. W. Mays, D. Uhrig, K. Hong, S. Gido, and R. Weidisch, invited presentation at the Department of Chemical Engineering, University of South Florida, September 16, 2005.

29. Tripathy Memorial Symposium, University of Massachusetts Lowell, Dec. 2, 2005. *Noncentrosymmetric Block Copolymer Nanostructures.*

30. University of Tennessee at Knoxville, Chemistry Dept. Oct. 14, 2005. *Grain structure, defects and long range order in block copolymer nanostructures.*

31. Oak Ridge National Laboratory, Oakridge, TN, Oct. 13, 2005. *Grain structure, defects and long range order in block copolymer nanostructures.*

32. American Chemical Society, Symposium on Defects in Polymer Nanostructures, Washington DC, August 29, 2005. *Defects in noncentrosymmetric lamellar block copolymer blends.*

33. U. S. Army Research Laboratory, Aberdeen, MD. June 6, 2005. *Polymer Materials Center of Excellence, Research Highlights.*

34. University of Massachusetts Lowell. March 31, 2005. *Defects, Grain Growth, and Long Range Order in Block Copolymer Nanostructures.*

35. University of Massachusetts Dartmouth. March 10, 2005. *Influence of Block Copolymer Molecular Architecture and Annealing Conditions on Development of Long Range Order During Self-Assembly*.

36. Faraday Discussion 128. Self-Organizing Polymers. University of Leeds, UK. July 19-21, 2004. *The Effect of Molecular Architecture on the Grain Growth Kinetics of AnBn Star Block Copolymers.*

37. 12th Annual National Textile Center (NTC) Forum. "Four Points of Light Lecture" Hilton Head, SC. February 14, 2004. *Phase Behavior and Enhanced Spinnablity of Silk Under Osmotic Stress.*

38. Institut für Polymerforschung Dresden, Germany. September 12, 2003. *Effect of Controlled Molecular Architecture on Block and Graft Copolymer Morphology and Properties*

39. Elastomers Gordon Research Conference, June 29-July 4, 2003. Colby Sawyer College, New London, New Hampshire. Invited Speaker: *Multigraft Copolymers of Well Defined Molecular Architecture as Novel Thermoplastic Elastomers.*

40. Third International Symposium on Silk. June 16-19, 2003. Montreal, Canada. *Silk Under Osmotic Stress.*

41. University of Massachusetts Amherst, Polymer Science & Engineering Dept. Weekly Seminar. April 18, 2003. *Defect Structures in Block Copolymers and Blends*.

42. Seoul National University, Seoul, Korea. The 4th Symposium on Hyperstructured Organic Materials. Oct. 23, 2002. *Effect of Controlled Molecular Architecture on Block and Graft Copolymer Morphology and Properties.*

43. Symposium on "Polymer Interfaces and Thin Films" Materials Research Society National Meeting, November 26, 2001. Boston, Massachusetts, invited speaker, *Crystallographic Registry in Coil-Crystalline Block Copolymer Thin Films*.

44. IUPAC International Symposium on Ionic Polymerization, October 22-26, 2001. Crete, Greece, *Effect of controlled molecular architecture on block copolymer morphology.*

45. Polymers East Gordon Research Conference, July 8-14, 2001. Colby Sawyer College, New London, New Hampshire, invited speaker, *Crystallographic Registry in Coil-Crystalline Block Copolymers*.

46. Martin-Luther Universitat Halle Wittenberg, Institut fur Werkstoffwissenschaft, June 26, 2001. Halle, Germany, *Effect of molecular architecture on transport and mechanical properties of model graft copolymers.*

47. Polytechnic University, Department of Chemical Engineering, November 10, 1999. Brooklyn, New York, *Defect Structures and Long Range Order in Block and Graft Copolymer Morphology.*

48. Massachusetts Institute of Technology Program in Polymer Science and Technology, weekly seminar, March 10, 1999. Cambridge, Massachusetts, *Controlling Morphology and Long Range Order with Graft Copolymer Molecular Architecture.*

49. West Coast Polymer Gordon Research Conference, January 14, 1999. Ventura, California, *Controlling Morphology and Long Range Order with Graft Copolymer Molecular Architecture.*

50. University of Massachusetts Lowell, Department of Chemistry, November 5, 1998. Lowell, Massachusetts, *Effect of Block and Graft Copolymer Molecular Architecture on Morphology.*

51. University of Alabama at Birmingham, Chemistry Department, May 10, 1998. Birmingham, Alabama, *Controlling Morphology and Long Range Order with Graft Copolymer Molecular Architecture.*

52. Kyoto University, September 11, 1998. Kyoto, Japan, *Effect of Block and Graft Copolymer Molecular Architecture on Morphology.*

53. Kyoto Institute of Technology, September 10, 1998. Kyoto, Japan, *Interfacial Control of Silk Protein Chain conformation and Orientation.*

54. Tokyo Institute of Technology, September 9, 1998. Tokyo, Japan, *Effect of Block and Graft Copolymer Molecular Architecture on Morphology.*

55. Tokyo University of Agriculture and Technology, September 7, 1998. Tokyo, Japan, *Electron Microscopy and the Silk I Structure.*

56. International Symposium on Silk and NMR, Tokyo University of Agriculture and Technology, August 29, 1998. Tokyo, Japan, *The Structure of Bombyx mori Silk Foams.*

57. Second International Silk Symposium, University of Virginia, June 15, 1998. Virginia, *Orientation of Silk III at the Air-Water Interface.*

58. American Physical Society National Meeting, March 19, 1998. Los Angeles, California, *Interfacial Control of Protein Chain Conformation and Orientation.*

59. Asilomar Conference on Polymers, February 24, 1998. Pacific Grove, California, *Hollow Cylinder Morphology in Blends of poly(styrene-b-cyclohexadiene) Diblock Copolymers and Homopolymer.*

60. Fourth Greek Symposium for Polymers, November 22, 1997. Petras, Greece, *Architectural Control of Graft Copolymer Morphology and Long Range Order.*

61. University of Athens, November 19, 1997. Athens, Greece, *Morphological Studies of Polymers Using Electron Microscopy and Scattering Techniques.*

62. Max Planck Institut fur Polymerforschung, November 18, 1997. Mainz, Germany, *Architectural Control of Interfacial Curvature, Morphology, and Long Range Order in Graft Copolymers.*

63. Fourth International Symposium on Polymers for Advanced Technologies, September 1, 1997. Leipzig, Germany, *Architectural Control of Graft Copolymer Morphology and Long Range Order.*

64. Alza Corporation, July 18, 1997. Palo Alto, California, *Influence of Interfaces on the Crystalline Structure of Silk Protein.*

65. Bayer Corporation, March 5, 1997. Indian Orchard, Massachusetts, *Architectural Control of Graft Copolymer Morphology and Long Range Order.*

66. Asilomar Conference on Polymers, February 8, 1997. Pacific Grove, California, *Architectural Control of Graft Copolymer Morphology and Long Range Order.*

67. University of Wisconsin, Materials Science Program, November 14, 1996. Madison, Wisconsin, *Effect of Molecular Architecture on Morphology and Interfacial Curvature in Microphase Separated Polymer Materials.*

68. NIST, November 12, 1996. *Effect of Molecular Architecture on Morphology and Interfacial Curvature in Microphase Separated Polymer Materials.*

69. Army Research Laboratory, August 20, 1996. Wilmington, Delaware, *Synthesis, Morphology and Properties of Model Graft and Flexible Semi-Rigid Block Copolymers.*

70. American Chemical Society Meeting, Division of Polymer Chemistry "Materials Chirality" Symposium, August 25-30, 1996. Orlando, Florida, *Cholesteric Liquid Crystalline Intermediate in Natural Silk Spinning Processes Resulting from the Chirality of Protein Secondary Structure.*

71. University of Connecticut Weekly Polymer Science Seminar, February 23, 1996. Storrs, Connecticut, *Research on Block Copolymer Morphology and Natural Silk Spinning Processes.*

72. Hoechst-Celanese, March 12, 1995. Summit, New Jersey, *Research on Block Copolymer Morphology and Natural Silk Spinning Processes.*

73. United States Military Academy at West Point, Department of Chemistry, October 18, 1995. *Block and Graft Copolymer Morphologies and Interfacial Curvature Properties.*

74. Academia Sinica, Institute of Chemistry, August 24, 1995. Guangzhou, Peoples Republic of China, *Block and Graft Copolymer Morphologies and Interfacial Curvature Properties.*

75. The International Microsymposium on Polymer Physics, August 25-28, 1995. Xi'an, Peoples Republic of China, *Block and Graft Copolymer Morphologies and Interfacial Curvature Properties.*

76. Materials Research Society (MRS) Fall 1995 National Meeting, Symposium Q: Characterization and Properties of Defects in Polymeric Materials, November 28, 1994. Boston, Massachusetts, *Lamellar Diblock Copolymer Grain Boundary Morphology.*

77. University of Massachusetts Amherst, Department of Physics Condensed Matter Seminar, October 6, 1994. Amherst, Massachusetts, *Self-Assembling Grain Boundary Structures in Block Copolymer Mesophases.*

78. Seventeenth Asilomar Conference on Polymers, February 8, 1994. Pacific Grove, California, *Nano-Scale Structures of Self Ordering Polymers.*

79. University of Alabama at Birmingham, Department of Chemistry, November 18, 1993. Birmingham, Alabama, *Morphologies Produced by Aqueous Processing of Biopolymers.*

80. University of Southern Mississippi, Department of Polymer Science and Engineering, November 17, 1993. *Morphologies Produced by Aqueous Processing of Biopolymers.*

81. U. S. Army Watertown Arsenal, December 15, 1992. Modeling of Transport Behavior in Microphase Separated Block Copolymer Materials.

Contributed Presentations

1. W. P. Zhang, S. P. Gido, F. Ignatious, S. W. Kantor, and R. W. Lenz. "The Crystal Structure of Poly(tetramethylene terephthaloyl-bis-4-oxybenzoate)." Presented at the American Physical Society Meeting, Pittsburgh, Pennsylvania, March 21, 1994.
2. S. P. Gido, R. Valluzzi, D. J. Pochan, and B. Novak. "Double, Double Helical Morphology Observed in Crystals of a Rod-Coil-Rod Triblock Copolymer" Presented at the American Physical Society Meeting, Pittsburgh, Pennsylvania, March 21, 1994.
3. R. Valluzzi, W. P. Zhang, and S. P. Gido. "A Pseudo-Threefold Helical Structure in Silk Protein" Presented at the American Physical Society Meeting, Pittsburgh, Pennsylvania, March 21, 1994.
4. D. J. Pochan, S. P. Gido, J. Mays. "Microphase Separation Morphologies in Semiflexible/Flexible Diblock Copolymers." Presented at the American Physical Society Meeting, Pittsburgh, Pennsylvania, March 23, 1994.
5. J. Zhou, J. W. Mays, S. P. Gido, and D. Pochan. "Synthesis and Morphological Study of Flexible/Semi-Rigid Diblock Copolymer (Polyisprene-Poly(t-butyl methacrylate))." Presented at the Southeast Regional Meeting of the American Chemical Society, Birmingham, Alabama, October 16-19, 1994.
6. P. J. Willcox, W. P. Zhang, and S. P. Gido. "Morphological Investigation of Liquid Crystalline Phases in Natural Silk Processing." Presented at the American Physical Society National Meeting, San Jose, CA, March 1995.
7. D. Pochan, S. P. Gido and J. W. Mays. "Microphase Separation Morphology of a Semiflexible/Flexible Diblock Copolymer." Presented at the American Physical Society National Meeting, San Jose, CA, March 1995.
8. R. Valluzzi and S. P. Gido. "A New Crystal Structure Found in Ultrathin Films of *B. mori* Silk." Presented at the American Physical Society National Meeting, San Jose, CA, March 1995.
9. D. J. Pochan, S. P. Gido, J. Zhou and J. W. Mays. "Microphase Separated Morphologies in Conformationally Asymmetric Diblock Copolymers." Presented at the Polymers West Gordon Research Conference, Ventura, CA, Jan. 1995
10. S. Pispas, J. W. Mays, D. J. Pochan, and S. P. Gido. "Synthesis and Characterization of Model Graft Copolymers." Presented at the 47th Southeast / 51st Southwest American Chemical Society Joint Regional Meeting, Memphis, TN, November 29-December 1, 1995.
11. J. Zhou, J. W. Mays, D. J. Pochan, and S. P. Gido. "Morphological Study on Flexible/Semi-Rigid Polyisoprene/Poly(t-butyl methacrylate) Diblock Copolymers." Presented at the 47th Southeast / 51st Southwest American Chemical Society Joint Regional Meeting, Memphis, TN, November 29-December 1, 1995.
12. D. J. Pochan, S. P. Gido, S. Pispas, J. W. Mays, A. J. Ryan, J. P. Fairclough, I. W. Hamley, and N. Terrill. "Bulk Morphological Behavior of Simple Graft A_2B Block Copolymers." Presented at the American Physical Society National Meeting, St. Louis, MO, March 19 1996.

13. P. J. Willcox, and S. P. Gido "Observations of Liquid Crystalline and Crystalline Structures in Natural Silk Spinning." Presented at the American Physical Society National Meeting, St. Louis, MO, March 20 1996.

14. C. Lee, D. J. Pochan, S. P. Gido, S. Pispas, and J. W. Mays "Bulk Morphological Behavior of Block Copolymers with Novel Architectures" Presented at the American Physical Society National Meeting, St. Louis, MO, March 21 1996.

15. J. L. David, B. M. Novak, and S. P. Gido "A Comparison of the Bulk Crystal Structure of Racemic and Enantiomerically Pure Polyisocyanide Homopolymers." Presented at the American Physical Society National Meeting, St. Louis, MO, March 21 1996.

16. R. Valluzzi, and S. P. Gido "Silk Protein Crystal Structure at the Air-Water Interface." Presented at the American Physical Society National Meeting, St. Louis, MO, March 21 1996.

17. S. P. Gido, D. J. Pochan, J. W. Mays, and S. Pispas "Morphology of Model Graft Block Copolymers." Materials Research Society (MRS) Spring 1996 National Meeting, Symposium Y: "Structure Controlled Macromolecules of Nanoscopic Dimensions", San Francisco, CA, April 10, 1996.

18. S. P. Gido, N. Hadjichristidis, C. Lee, J. W. Mays, S. Pispas, M. Pitsikalis, and D. Pochan. "Synthesis and Morphology of Model Poly(isoprene-graft-styrenes)." Presented at the 9th International Symposium on Polymer Analysis and Characterization, Oxford, England, July 1-3, 1996

19. Y. Poulos, S. Pispas, N. Hadjichristidis, J. Mays, and S. P. Gido. "Synthesis and Morphology of Model Non-Linear Block Copolymers of H and Pi Shape." Presented at the 6th European Polymer Federation Symposium on Polymeric Materials, Aghia Pelaghia, Crete, Greece, October 7-11, 1996.

20. S. P. Gido, C. Lee, D. J. Pochan, J. W. Mays, and N. Hadjichristidis **"**Architectural Control of Graft Copolymer Morphology." Materials Research Society (MRS) Spring 1997 National Meeting, Symposium W, San Francisco, CA, April 1, 1997.

21. S. P. Gido, D. J. Pochan, J. W. Mays. **"**Effect of Conformational and Architectural Asymmetry on Long Range Order in Microphase Separated Block Copolymers." Materials Research Society (MRS) Spring 1997 National Meeting, Symposium W, San Francisco, CA, April 1, 1997.

22. R. Valluzzi, and S. P. Gido. **"**Fibroin Conformation Selection at the Aqueous-Organic Interface." Presented at the American Physical Society National Meeting, Kansas City, MO, March 17 1997.

23. S. P. Gido, D. J. Pochan, C. Lee, and J. W. Mays. **"**Effect of Architecture and Conformational Asymmetry on Interfacial Curvature and Long Range Order in Microphase Separated Block and Graft Copolymers." Presented at the American Physical Society National Meeting, Kansas City, MO, March 18 1997.

24. S. P. Gido, and Z.-G. Wang **"**Interfacial Curvature and Morphology in Block and Graft Copolymers." Presented at the American Physical Society National Meeting, Kansas City, MO, March 18, 1997.

25. D. J. Pochan, C. Lee, and S. P. Gido. **"**Architecturally and Compositionally Induced Long-Range Order of Microphase Separated Block Copolymer Microstructure." Presented at the American Physical Society National Meeting, Kansas City, MO, March 18, 1997.

26. C. Lee, D. J. Pochan, S. P. Gido, S. Pispas, J. W. Mays, N. Beck-Tan, S. F. Trevino. **"**Morphologies of A_2B Simple Graft Copolymer Blends: Copolymer/Copolymer and Copolymer/Homopolymer Systems to Further Elucidate the Stability of Simple Graft Phase Behavior." Presented at the American Physical Society National Meeting, Kansas City, MO, March 18 1997.

27. F. Beyer, S. P. Gido, A. Avgereopoulos, Y. Poulos, N. Hadjichristidis, and J. Roovers. "Morphological Characterization of Miktoarm Vergina Star Block Copolymers." Presented at the American Physical Society National Meeting, Kansas City, MO, March 18 1997.

28. S.-J. He, R. Valluzzi, and S. P. Gido. "Crystal Structure of Bombyx mori Silk Foams" Presented at the American Physical Society National Meeting, Kansas City, MO, March 19 1997.

29. D. J. Pochan, S. P. Gido, J. Zhou, J. W. Mays, M. D. Whitmore, and A. J. Ryan. "Morphologies of Microphase Separated Conformationally Asymmetric Diblock Copolymers" Presented at the American Physical Society National Meeting, Kansas City, MO, March 19 1997.

30. C. Lee, D. J. Pochan, S. P. Gido, J. W. Mays, Y. Poulos, and N. Hadjichristidis. "Architectural Control of Graft Copolymer Morphology." Presented at the American Physical Society National Meeting, Kansas City, MO, March 19, 1997.

31. S. -J. He, R. Valluzzi, and S. P. Gido "Structure Formation in *Bombyx mori* Silk Foams." Second International Silk Symposium, University of Virgina, June 16, 1998

32. R. Valluzzi, S. Szela, S. -J. He, S. P. Gido, and D. L. Kaplan. "Structure Formation in Fibroin Films at Aqueous Organic Interfaces." Second International Silk Symposium, University of Virgina, June 15, 1998.

33. P. J. Willcox, K. Schmidt-Rohr, D. A. Hoagland, and S. P. Gido "Structural Changes in Poly(vinyl alcohol) Hydrogels with Freeze-Thaw Processing and Time: Electron Microscopy, X-ray Diffraction, and Solid State NMR." Presented at the American Physical Society National Meeting, Los Angeles, CA, March 17 1998.

34. S. J. He, R. Valluzzi, and S. P. Gido. "Structure Formation in Bombyx mori Silk Foams" Presented at the American Physical Society National Meeting, Los Angeles, CA, March 17 1998.

35. F. Beyer, S. P. Gido, M. Xenidou, and N. Hadjichristidis "Morphology of Random Multigraft Block Copolymers." Presented at the American Physical Society National Meeting, Los Angeles, CA, March 18 1998.

36. J. L. David, S. P. Gido, J. Zhou, and J. W. Mays "Filled Cylinder Morphology in Polystyrene-Polycyclohexadiene Diblock Copolymers." Presented at the American Physical Society National Meeting, Los Angeles, CA, March 18 1998.

37. C. Lee, S. J. He, S. P. Gido, S. M. Yu, and D. A. Tirrell "Structural Characterization of Monodisperse Derivatives of Poly(□-benzyl □, L-glutamate) (PBLG)." Presented at the American Physical Society National Meeting, Los Angeles, CA, March 18 1998.

38. P. J. Willcox, S. K. Siddiquee, J. W. Van Egmond, S. P. Gido "Silk Solution Properties and the Natural Silk Spinning Process." Presented at the American Physical Society National Meeting, Los Angeles, CA, March 18 1998.

39. J. L. David, B. M. Novak, and S. P. Gido "Synthesis and Morphological Characterization of Diblocks Formed with Thermally Labile Polycarbodiimides." Presented at the American Physical Society National Meeting, Los Angeles, CA, March 19 1998.

40. K. S. Laverdure, L. Yang, C. Lee, D. J. Pochan, S. P. Gido, S. Pispas, J. W. Mays, and N. Hadjichristidis "Morphological behavior of I_2S Simple Graft Copolymer and Homopolymer Blends." Presented at the American Physical Society National Meeting, Los Angeles, CA, March 19 1998.

41. D. J. Yontz, Shaw L. Hsu, and S. P. Gido. "Interdependence of Morphology and Mechanical Properties of a Crosslinked, Phase Separated System." Presented at the American Physical Society National Meeting, Los Angeles, CA, March 20 1998.

42. F. L. Beyer, S. P. Gido, H. Iatrou, D. Uhrig, J. W. Mays, N. Beck Tan. "Morphology of Regular Multigraft Copolymers with Tetrafunctional Branch Points" American Physical Society National Meeting, March 23, 1999, Atlanta, Georgia.
43. S. J. He, R. Valluzzi, S. P. Gido. "Crystallization and Structure Formation of The Silk I Structure in Natural Silk and Synthetic Polypeptides American Physical Society National Meeting, March 25, 1999, Atlanta, Georgia.
44. S. P. Gido, S. J. He, C. Lee, S. M. Yu, D. A. Tirrell. "A TGB-like Twisted Smectic Phase in Monodisperse Poly(γ-benzyl α, L-glutamate) Produced by Recombinant DNA Techniques" American Physical Society National Meeting, March 26, 1999, Atlanta, Georgia.
45. L. Yang, S. P. Gido, D. Uhrig, S. Pispas, J. W. Mays. "Order-Order Transitions of Miktoarm Star Block Copolymer – Homopolymer Blends" American Physical Society National Meeting, March 20, 2000, Minneapolis, Minnesota.
46. L. Yang, S. P. Gido, S. Pispas, K. Hong, J. W. Mays. "Sporatic Nucleation and Growth in the Microphase Separation Process of an I2S Miktoarm Star Block Copolymer and its Blends with Homopolymer" American Physical Society National Meeting, March 20, 2000, Minneapolis, Minnesota.
47. S. Hong, W. J. MacKnight, T. P. Russell, S. P. Gido. "Morphology of Semicrystalline / Amorphous Diblock Copolymer in Thin Films" American Physical Society National Meeting, March 20, 2000, Minneapolis, Minnesota.
48. L. Yang, S. Hong, S. P. Gido. "Gryroid Single Crystal Diffraction" American Physical Society National Meeting, March 12, 2001, Seattle, Washington
49. S. P. Gido, and E. Burgaz. "T-Junction Grain Boundaries in Block Copolymer-Homopolymer Blends" American Physical Society National Meeting, March 12, 2001, Seattle, Washington

50. S. Chen, S. P. Gido, R. Valluzzi, D. Kaplan. "Crystal Structure of a Model Spider Silk Peptide" American Physical Society National Meeting, March 12, 2001, Seattle, Washington

51. Y. Zhu, S. P. Gido, M. Moshakou, H. Iatrou, N. Hadjichristidis. "Effect of central junction point of AnBn star block copolymers on chain conformation in the strong segregation limit" American Physical Society National Meeting, March 12, 2001, Seattle, Washington

52. S. Hong, W. J. MacKnight T. P. Russell, S. P. Gido. "Crystallization of Multi-layered Crystalline Block Copolymer Thin Films" American Physical Society National Meeting, March 12, 2001, Seattle, Washington

53. S. Hong, L. Yang, W. J. MacKnight, S. P. Gido. "Morphology of Crystalline Block Copolymers" American Physical Society National Meeting, March 12, 2001, Seattle, Washington

54. K. S. Laverdure, S. P. Gido, B. Garetz, N. Balsara. "Mass Transport within Block Copolymers: The Relationship with Morphology and Grain Structure" American Physical Society National Meeting, March 12, 2001, Seattle, Washington

55. A.M. Heintz, R.L. McKiernan, S.P. Gido, J. Penelle, S.L. Hsu. "The Crystallization Behavior of Strongly Interacting Chains",.American Physical Society National Meeting, March 18, 2002, Indianapolis, Indiana

56. E. Burgaz, S.P. Gido. "Cylinder Nucleation at T-Junction Grain Boundaries in Lamellar Block Copolymer/Homopolymer Blends", American Physical Society National Meeting, March 18, 2002, Indianopolis, Indiana

57. Y. Zhu, S.P. Gido. "Morphologies and tensile properties of Block-Double-Graft Copolymers" American Physical Society National Meeting, March 18, 2002, Indianapolis, Indiana

58. T. Xu, Y. Zhu, S. P. Gido, and T. P. Russell. "Interfacial Energy Dependence of Microdomain Orientation in Symmetric Diblock Copolymer Thin Films" Materials Research Society Fall Meeting, December 3, 2002, Boston, Massachusetts

59. E. Burgaz, and S. P. Gido "Nucleation and Growth of Cylindrical Morphology at Tilt Grain Boundaries in Lamellar Block Copolymer / Homopolymer Blends." *Materials Research Society* Fall Meeting, December 3, 2002, Boston, Massachusetts

60. S. P. Gido, and Engin Burgaz. "Wulff Shape of Cylindrical Domains Growing in Lamellar Block Copolymer Homopolymer Blends, and Nucleation of a Second Phase at Grain Boundaries" American Physical Society National Meeting, March 5, 2003, Austin, Texas

61. B. Garetz, M. Newstein, N. Balsara, C. Marques, and S. Gido. "Anisotropy of lamellar block copolymer grains" American Physical Society National Meeting, March 5, 2003, Austin, Texas

62. R. Weidisch, Y. Zhu, E. Burgaz, and S. P. Gido. "Morphologies and tensile property study on multigraft copolymers with tri-, tetra-, and hexafunctional junction points" American Physical Society National Meeting, March 3, 2003, Austin, Texas

63. X. Wu, D. H. Kim, S. Gido, and T. Russell. "Evolution of Morphology in Thin Films of Poly(butadiene-b-ethylene oxide)" American Physical Society National Meeting, March 6, 2003, Austin, Texas

64. Y. Zhu, S. P. Gido, H. Iatrou, and N. Hadjichristidis. "Microphase-Separation of Cyclic Block Copolymers of Styrene and Butadiene and of Their Corresponding Linear Triblock Copolymers" American Physical Society National Meeting, March 3, 2003, Austin, Texas

65. S. Sohn, H. H. Strey, and S. P. Gido "Silk Fibroin under Osmotic Stress" American Physical Society National Meeting, March 4, 2003, Austin, Texas

66. S. Sohn, H. H. Strey, and S. P. Gido "New Routes to Fiber Spinning From Regenerated Silk Fibroin" Third International Symposium on Silk. June 16-19, 2003.

67. Engin Burgaz, Lei Zheng, Gregoire Cardoen, E. Bryan Coughlin, S.P. Gido *"Morphology and Phase Behavior of Polyhedral Oligomeric Silsesquioxane-Polybutadiene Random Copolymer Blends in Bulk and Thin Films"* American Physical Society National Meeting. Montreal, Canada. March 22, 2004.

68. Ashoutosh Panday, Samuel Gido "A Modeling study of azimuthal orientational correlations of anisotropic particles and its application to evolution of order in block copolymers" Physical Society National Meeting. Montreal, Canada. March 24, 2004.

69. Samuel Gido, Engin Burgaz "Comparison of Wulff Shapes of Cylindrical Domains Growing at Homogenous and Heterogenous Nucleation Sites in Lamellar Block Copolymer Homopolymer Blends" American Physical Society National Meeting. Montreal, Canada. March 24, 2004.

70. Roland Weidisch, Ralf Lach, Yuging Zhu, Engin Burgaz, Samuel Gido, David Uhrig, Jimmy Mays, Nikos Hadjichristidis. "Influence of Molecular Architecture on Tensile Properties of Multigraft Copolymers" American Physical Society National Meeting. Montreal, Canada. March 23, 2004.

71. Sungkyun Sohn, Helmut H. Strey, Samuel P. Gido "Silk-I is a Hydrate" American Physical Society National Meeting. Montreal, Canada. March 23, 2004.

72. Thomas P. Russell, Ting Xu, Yuqing Zhu, Samuel P. Gido, Oleg Gang, Ben Ocko "Electric field induced Sphere to cylinder transition in diblock copolymer thin films" American Physical Society National Meeting. Montreal, Canada. March 23, 2004.

73. Xiaochuan Hu, Samuel Gido, Thomas Russell, Ferass Abuzaina, Bruce Garetz "The Effect of Molecular Architecture on the Coarsening of AnBn Star Block Copolymers" American Physical Society National Meeting. Montreal, Canada. March 25, 2004.

74. Shujun Chen, Samuel P. Gido, Thodoris Tsoukatos, Apostolos Avgeropoulos, Nikos Hadjichristidis, Kunlun Hong, Jimmy W. Mays "Defect Study on Noncentrosymmetric Lamellar Block Copolymer Blends" American Physical Society National Meeting. Montreal, Canada. March 25, 2004.

75. E. Burgaz, L. Zheng, G. Cardoen, E. B. Coughlin, S. P. Gido. "Microphase Segregation in Organic-Inorganic Randomly Grafted Copolymers" American Physical Society National Meeting. Los Angeles, CA. March 22, 2005.

76. Shujun Chen, Samuel P. Gido, Souvik Nandi, H. Henning Winter. "Long-range Periodic Structure in Porous High Density Polyethylene Crystallized from the Gel State." American Physical Society National Meeting. Los Angeles, CA. March 25, 2005.

77. Ashoutosh Panday, Samuel Gido. "Shape Templating Effects Among Growing Anisotropic Particles." American Physical Society National Meeting. Los Angeles, CA. March 24, 2005.

78. Ashoutosh Panday, Samuel Gido, Kunlun Hong, Jimmy Mays. "Stability of Core-Shell-Cylinder Structure of Poly(styrene-b-1,3-cyclohexadiene) Diblock Copolymers." American Physical Society National Meeting. Los Angeles, CA. March 21, 2005.

79. Shujun Chen, Samuel P. Gido. "Morphological Transitions in a Triblock Copolymer and Its Sulfonated Ionomer: Thermal Annealing and Solvent Effects." American Physical Society National Meeting. Los Angeles, CA. March 21, 2005.

80. Akinbode Isaacs-Sodeye, Shujun Chen, Samuel Gido. "Electric Field induced alignment and morphological transitions of triblock copolymers." American Physical Society National Meeting. Los Angeles, CA. March 21, 2005.

81. Sungkyun Sohn, Tamako Hata, Helmut H. Strey, Samuel P. Gido. "Self-Assembly of Natural Silk Fibroin under Osmotic Stress." American Physical Society National Meeting. Los Angeles, CA. March 21, 2005.

82. Xiaochuan Hu, Samuel Gido, Thomas Russell, Hermis Iatrou, Nikos Hadjichristidis, Ferass Abuzaina, Bruce Garetz. "Grain Growth Kinetics of AnBn Star Block Copolymers in Supercritical Carbon Dioxide." American Physical Society National Meeting. Los Angeles, CA. March 23, 2005.

83. Gregoire Cardoen, Jimmy W. Mays, Samuel P. Gido, Thomas P. Russell, Xiaochuan Hu, D. Baskaran, and E. Bryan Coughlin. *POSS containing Multiblock Copolymers as Model of Well-defined Organic-Inorganic Hybrid Materials.* American Chemical Society, General Papers: Polymers in Nanotechnology, Washington DC, August 28, 2005

84. "Synthesis, Morphology, and Tensile Properties of Multigraft Copolymers with Regularly Spaced Tri-, Tetra-, and Hexa-functional Junction Points", D. Uhrig, J. W. Mays, Y. Zhu, E. Burgaz, S. P. Gido, U. Staudinger, and R. Weidisch, poster presentation at the 19th International Symposium on Polymer Analysis and Characterization (ISPAC), Oak Ridge, Tennessee, June 12 - 14, 2006.

85. "Synthesis and Morphology of Fluorinated and Sulfonated Block Copolymers", J. W. Mays, T. Huang, and S. P. Gido, presented at the National Meeting of the American Chemical Society, Atlanta, GA, March 26 - 30, 2006; see also: Polym. Mater. Sci. Eng., 94, 165-166 (2006).

86. American Physical Society National Meeting, Baltimore, Maryland. March 2006: Session K25: Polymer Electrolytes and Conduction, Tuesday, March 14, 2006, "Proton Conducting Membranes from Fluorinated Poly(Isoprene)-{block}-Sulphonated Poly(Styrene): A Structure Vs Property Study" Akinbode Isaacs-Sodeye, Samuel Gido, Tianzi Huang,Jimmy Mays

87. American Physical Society National Meeting, Baltimore, Maryland. March 2006: Session V30: Focus Session: Mechanical Properties: Microscale Deformation and Failure, March 16, 2006 "Tensile Properties and Hysteresis Behavior of Graft Copolymers with Complex Molecular Architecture" R. Weidisch, U. Staudinger, Y. Zhu, S.P. Gido, D. Uhrig, J.W. Mays, N. Hadjichristidis,H. Iatrou

88. American Physical Society National Meeting, Baltimore, Maryland. March 2006: Session C1: Poster Session I, March 13, 2006. "Oriented Lamellar Structure and Pore Formation Mechanism in CSX-Processed Porous High-Density Polyethylene" Shujun Chen, Samuel P. Gido, Souvik Nandi, H. Henning Winter.

89. American Physical Society National Meeting, Baltimore, Maryland. March 2006: Session H24: Polymers at Interfaces, March 14, 2006 "Defects in a Noncentrosymmetric Lamellar Block Copolymer Blends" Shujun Chen, Samuel P. Gido, Thodoris Tsoukatos, Apostolos Avgeropoulos, Nikos Hadjichristidis, Kunlun Hong, Jimmy W. Mays.

90. American Physical Society National Meeting, Baltimore, Maryland. March 2006: Session N30: Block Copolymer Phase Behavior, March 15, 2006, "Azimuthal Orientational Correlations due to Excluded Volume Epitaxy in Growing Anisotropic Grains" Ashoutosh Panday, Samuel Gido.

91. American Physical Society National Meeting, Baltimore, Maryland. March 2006: Session C1: Poster Session I, March 13, 2006 "Morphology of Fluorinated and Sulfonated diblock Copolymers" Tomonori Hosoda, Sam Gido, Tianzi Huang, Jimmy Mays.

92. American Physical Society National Meeting, Baltimore, Maryland. March 2006: Session C1: Poster Session I, March 13, 2006 "Osmotic Pressure induced by Poly(ethylene glycol) at High Salt Concentrations" Sungkyun Sohn, Helmut Strey, Sam Gido.

93. American Physical Society National Meeting, Baltimore, Maryland. March 2006: Session C1: Poster Session I, March 13, 2006 "Scaling of Avrami Kinetics of Growing Anisotropic Grains" Samuel Gido, Ashoutosh Panday.

94. American Physical Society National Meeting, Denver, Colorado March 2007: Session A17: Charged and Ion Containing Polymers, March 5, 2007. "Proton Conducting Membranes from Fluroinated Poly(Isoprene-b-sulfonated polystyrene): Structure and Transport Properties. Akinbode Isaacs-Sodeye, Samuel Gido.

95. American Physical Society National Meeting, Denver, Colorado March 2007: Session W24: Microphysical Properties of Block Copolymer Aggregates, Going Beyond Structure, March 8, 2007. "Superelastric materials based on multigraft copolymers" U. Staudinger, R. Weidisch, Y. Zhu, S. P. Gido, D. Uhrig, J. W. Mays, M. Klueppel, G. Heinrich.

96. Eric Anderson, Vikram Daga, James Watkins, Sam Gido. "Blends of Diblock Copolymers with Attempt to Achieve Triblock Morphologies." American Physical Society National Meeting, Portland, OR. March 15, 2010. Abstract C1.00030.

97. Lin, Ying ; Daga, Vikram K.; Anderson, Eric A. ; Gido, Samuel P.; Watkins, James J. "High volume production of well-ordered hybrid materials for device applications" Division: PMSE: Division of Polymeric Materials: Science and Engineering. Sunday, August 28, 2011. ACS Award for Team Innovation: Symposium in Honor of Patricia Burns.

98. Qingshou Wei, Ying Lin, Eric R. Anderson, Alejandro L. Briseno, Samuel P. Gido, James J. Watkins. "Additive-driven assembly of block copolymer-nanoparticle hybrid materials for solution processable floating gate memory" Nanofabricated Surfaces: Techniques, Materials and Applications. 243rd ACS National Meeting, San Diego, California. PMSE: Division of Polymeric Materials Science and Engineering. Monday, March 26, 2012

99. Eric Anderson, YuYing Tang, Craig Versek, Mark Tuominen, Samuel Gido, James Watkins. "Incorporation of Functionalized Metal Oxides into Poly(Ethylene Oxide) Based Solid Polymer Electrolytes for Lithium-Ion Batteries", APS March Meeting 2012, Session C1: Poster Session I, Monday, February 27, 2012; Boston, Massachusetts

100. Qingshuo Wei, Ying Lin, Eric Anderson, Alejandro Briseno, Samuel Gido, James Watkins. "Additive-Driven Assembly of Block Copolymer-Nanoparticle Hybrid Materials for Solution Processable Floating Gate Memory" APS March Meeting 2012, Session C1: Poster Session I, Monday, February 27, 2012; Boston, Massachusetts

Research Funding

$100,000 2013-2015 Bill & Melinda Gates Foundation "Ultra-Sensory Condoms Based on New Superelastomer™ Technology" Grand Challenges in Global Health: Development of the Next Generation Condom. Phase I. Co-I's: J. W. Mays (U. Tenn.), S. P. Gido (U. Mass.)

$1,500,000 2012-2015 National Science Foundation ($1,050,000 from NSF, $450,000 Univ. Match) Award Number 1229302 "MRI: Acquisition of a Field Emission Gun Energy Filtered Transmission Electron Microscope" PI: S. P. Gido. Co-I's: A. Ribbe; T. P. Russell; T. Emrick; M. Klingbeil.

$600,000 2012-2015 National Science Foundation "PFI-BIC: Superelastomers: New Thermoplastic Elastomers based on Multigraft Copolymers." PI: J. W. Mays (Univ. of Tennessee). UMass did not participate in this grant. Gido's involvement was through small businesses: BBB Elastomers LLC and Asius Technologies LLC.

$720,000 2009-2012 National Science Foundation (NSF): "MRI: Acquisition of a High Resolution Scanning Electron Microscope" Co-PIs: T. Baskin, S. P. Gido, J. Goldstein, D. "DV" Venkataraman.

$115,000 2012 Saint Gobain Inc. "Exploration of the morphology of C-flex tubing, development of next generation tubing with improved temperature stability, solvent bonding capacity, and clarity." Joint Project with E. B. Coughlin.

$50,000 2007 FUJIFILM Hunt Smart Surfaces, LLC. Unrestricted Support

$5,000 2005 Arkema Inc. Unrestricted Support.

$335,000 2004-2007 U.S. Army Research Office (ARO) W911NF-04-1-0329**.** New Fluorinated and Sulfonated Copolymers: Synthesis, Morphology, and Properties. S. P. Gido is PI. The project involves collaboration with Prof. J. W. Mays of U. Tenn. who receives a subcontract.

$40,000 2004-2006 Kureha Chemical Industry (Japan). Unrestricted Support.

$85,000 2003-2004 Boston Scientific Corp. Unrestricted Support.

$3,750,000 2001-2006 U. S. Army Research Laboratory (ARL) DAAD19-01-2-0002. *University-ARL Collaborative Center for Flexible Protective Materials*. S. P. Gido is PI. The Center involves 9 collaborating faculty at the Univ. of Massachusetts, the Univ. of Tennessee, and Amherst College.

$487,039 2001-2004 U. S. Army Research Office (ARO) DAAD19-01-1-0544 *Morphology and Properties of Model Block and Graft Copolymers.*

$9,000 2001 Metabolix Inc. *Transport Property Measurements on Bacterially Synthesized Polyesters.*

$456,750 2000-2003 U. S. Department of Education, Graduate Assistantships in Areas of National Need (GAANN) *Graduate Fellowships in Polymer/Plastics Engineering.*

$15,000 1999 U. S. Army Research Office (ARO) *Workshop on Flexible Barrier Materials for the Soldier System.*

$331,239 1998-2002 U. S. Army Research Office (ARO) DAAG55-98-1-0116 *Systematic Control of Morphology and Properties Through Graft Copolymer Molecular Architecture.*

$337,240 1998-2002 National Science Foundation (NSF) *Control of Protein Conformation and Mesophases via Interfacial Engineering.* Joint grant with Professor David L. Kaplan of Tufts University.

$506,400 1997-2000 U. S. Army Research Office (ARO) DAAG55-98-1-0005 *Synthesis, Properties and Applications of New Model Block and Graft Copolymers.* Joint grant with Professor Jimmy W. Mays of the University of Alabama at Birmingham.

$325,000 1996-2001 National Science Foundation (NSF), Faculty Early Career Development (CAREER) Program. DMR-9624306 *Morphological Study of Aqueous Processing of Biopolymers.*

$25,000 1997-1998 Loctite Corporation. *Unrestricted Support.*

$100,000 1996-1998 Center for UMass Industry Research on Polymers (CUMIRP) *Cluster M: Fracture Mechanics and Morphology of Semicrystalline Polymers.* (Funded by Exxon and Advanced Elastomer Systems) S. P. Gido and A. J. Lesser, Co-primary investigators.

$150,000 1995-1997 U. S. Army Research Office (ARO) Young Investigator Program. DAAH04-95-1-0305 *Morphology and Surface Structure of Model Conformationally Asymmetric Block Copolymers.*

$130,664 1995-1997 U. S. Army Research Office (ARO) ASSERT DAAH04-95-1-0303 *Research Training in Block Copolymer Morphology and Surface Structure.*

$406,584 1995-1997 U. S. Army Research Office (ARO) DAAH04-95-1-0126 *Structure, Morphology, and Transport Relationships in Segmented Polyurethanes: A Molecular Simulation Approach.*

$268,144 1994-1997 U. S. Army Research Office (ARO) DAAH04-94-G-0245 *Synthesis and Properties of Model Graft and Flexible-Semirigid Block Copolymers.* Joint grant with Professor Jimmy W. Mays of the University of Alabama at Birmingham.

$50,000 1994-1995 Molecular Simulations, Inc. 16 New England Executive Park, Burlington, MA 01803. *Development of Computer Algorithms to Simulate Phase Separation Behavior and Associated Transport Properties of Polymers.*

$550,000 1994-1995 W. M. Keck Foundation. *The W. M. Keck Electron Microscopy Laboratory at the University of Massachusetts – Amherst.*

$245,660 1994-1997 NSF DMR-9413740 *Academic Research Infrastructure for the Acquisition of Scanning Electron Microscope Instrumentation.*

$150,000 1994-1995 U. S. Army Research Office (ARO) Defense University Research Instrumentation Program (DURIP) DAAH04-95-1-0005 *Instrumentation for Spatially Resolved Composition Mapping in the Electron Microscope.*

$35,000 1994-1995 U. S. Army Research Office (ARO) DAAL03-91-C-0034-TCN-94320 Through Battelle Columbus. *Analysis of Biopolymers for Novel Materials Applications.*

$49,263 1993-1994 U. S. Army Research Office (ARO) DAAL03-91-C-0034-TCN-93444 Through Battelle Columbus. *Bioengineered Proteins and Bioceramics.*

Doctoral Students Supervised

Advisor or co-advisor to 21 Ph.D. candidates.

Student	Year Graduated	Dept.	General Area	Co-Advisor	Employment
Darrin J. Pochan	1997	PS&E	Block Copolymers		Prof. U.Del.
Regina Valluzzi	1997	PS&E	Biopolymers, fibers		Res. Prof. Tufts U.
Chin Lee	1997	Chem. E.	Block Copolymers		Dupont
P. Jeanene Willcox	1998	PS&E	Biopolymers, fibers		U. Penn. Staff
Jennifer David	1999	PS&E	Block Copolymers	Novak	GE Plastics
Rich Beyer	1999	PS&E	Block Copolymers		U.S. Army Res. Lab.
Shi-Juang He	1999	Chem. E.	Biopolymers, fibers		Dow Chemical Co.
Ken Laverdure	2001	Chem. E.	Block Copolymers		Dow Chemical Co.
Lizhang Yang	2001	PS&E	Block Copolymers		3M Company

Robin McKeirnan	2002	PS&E	Polyolefins, fibers	Pennelle	Proctor & Gamble
Sheng Hong	2002	PS&E	Polyolefins	MacKnight	Accenture
Yuqing Zhu	2003	PS&E	Block Copolymers		Eastman Chemical
Engin Burgaz	2005	PS&E	Block Copolymes		Prof. Turkey
Xiaochuan Hu	2005	PS&E	Block Copolymers	Russell	Ashland Chemical
Shujun Chen	2006	PS&E	Bio & Block Copolym.		Exponent Consulting
Ashoutosh Panday	2006	PS&E	Block Copolymers		Faculty UPES India
Sungkyun Sohn	2006	Chem.E.	Biopolymers, fibers		Eastman Chemical
Akinbode Isaacs-Sodeye	2007	PS&E	Fuel Cells & Batteries		Intel Corp.
Eric Anderson	2020	PS&E	Batteries	Watkins	Intel Corp.
Katherine Williams		PS&E	Block Copolymers	Coughlin	
Ned Burnett		PS&E	Photovoltaics	Briseno	