

KAREN I. WINEY

HAROLD PENDER PROFESSOR OF ENGINEERING AND APPLIED SCIENCE

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EDUCATION

B.S.	Materials Science and Engineering, Cornell University, Ithaca, NY	1985
M.S.	Polymer Science and Engineering, University of Massachusetts, Amherst, MA	1989
Ph.D.	Polymer Science and Engineering, University of Massachusetts, Amherst, MA	1991

WORK EXPERIENCE

University of Pennsylvania, Philadelphia, PA

Harold Pender Professor Engineering and Applied Science	7/21 –
Professor, Chemical & Biomolecular Engineering and Materials Sci. & Engineering (50:50)	1/23 –

Professor, Materials Science and Engineering	7/05 – 12/22
Secondary appointment in Chemical and Biomolecular Engineering	1992 – 2022
Department Chair, Materials Science and Engineering	7/16 – 6/21
TowerBrook Foundation Faculty Fellow	10/13 – 6/21
Penn Director, Nanotechnology Institute and Energy Commercialization Institute	12/11 – 6/14
Associate Professor, Materials Science and Engineering	7/00 – 6/05
Assistant Professor, Materials Science and Engineering	7/92 – 6/00

Member: Vagelos Institute for Energy Science and Technology (VIEST)	2017 –
Member: Laboratory for Research on the Structure of Matter (LRSM) (NSF MRSEC)	1992 –

Visiting Researcher

National Renewable Energy Laboratory	9/23 – 11/23, 4/24-6/24
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Visiting Scholar

Materials Research Laboratory, University of California, Santa Barbara	1/15 – 5/15
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Visiting Miller Research Professor

Miller Institute, University of California, Berkeley	9/14 – 12/14
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Macromolecules

Associate Editor	7/10 – 6/14
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E. I. du Pont de Nemours and Company, Experimental Station, Wilmington, DE

Visiting Scientist	9/05 – 12/05
Visiting Scientist	9/04 – 12/04

AT&T Bell Laboratories, Murray Hill, NJ

Postdoctoral Member of Technical Staff with Dr. R. G. Larson	2/91 – 6/92
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University of Massachusetts, Amherst, MA

Research Assistant, NSF Graduate Student Fellow	9/86 – 1/91
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“Morphologies and Morphological Transitions in Binary Blends of Diblock Copolymer and Homopolymer” with Prof. E. L. Thomas, Polymer Science and Engineering

Eastman Kodak Research Laboratories, Rochester, NY

Research Scientist	8/85 – 8/86
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Cornell University, Ithaca, NY

Undergraduate Research Assistant, various laboratories	
Profs. Richard Dick, Steven Sass, David Kohlstedt, Ed Kramer	10/81 – 5/85

AT&T Bell Laboratories, Murray Hill, NJ

Undergraduate Research Experience	Summer 2014
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MEMBERSHIPS

Advancement Association for the Advancement of Science
 American Chemical Society: Division of Polymer Chemistry and Division of Polymeric Materials
 Science and Engineering
 American Institute of Chemical Engineers
 American Physical Society: Division of Polymer Physics, Division of Soft Matter
 Materials Research Society

HONORS AND AWARDS

Turner J. Alfrey Visiting Professor , Michigan State University	2025
ACS Polymer Chemistry Award , American Chemical Society	2023
“For outstanding contributions to the understanding and advancement of polymer nanocomposites and ion-containing polymers, particularly structural control and transport dynamics.”	
Fellow , American Association for the Advancement of Science	2022
“For distinguished contributions to the field of polymer science, particularly in the understanding of and manipulation of unique polymer nanocomposites and ion-containing polymers.”	
Plenary Speaker, POLY/PMSE Division, American Chemical Society	2022
Fellow , Division of Polymer Chemistry, American Chemical Society	2021
Covestro Distinguished Lecturer, University of Southern Mississippi	2021

Braskem Award, Materials Engr. and Sci. Division, Am. Inst. of Chemical Engineering	2020
“For outstanding contributions to the understanding and advancement of polymer nanocomposites and ion-containing polymers”	
Herman F. Mark Senior Scholar Award , POLY Division, American Chemical Society	2020
Distinguished Speaker, Dept of Chemical & Materials Eng., New Jersey Institute of Tech.	2018
Keynote Speaker, PMSE Symposium, American Chemical Society	2018
Plenary Session, American Institute of Chemical Engineers	2017
DB Robinson Distinguished Lecture, University of Alberta	2017
Trustees Council of PennWomen Award for Undergraduate Advising	2017
Plenary Speaker, 2017 Joint CNMS-SNS User Meeting	2017
Plenary Lecture, 5th International Symposium Frontiers in Polymer Science	2017
IUPAC Lecture, Chemistry Department, University of Montreal	2017
Plenary Speaker, Macromolecular Innovation Institute Conference	2016
Plenary Speaker, ECNP International Conf. on Nanostructured Polymers & Nanocomposites	2016
Fellow , Polymeric Material Science and Engineering, American Chemical Society	2016
“For outstanding contributions to the understanding of polymer nanocomposites and ion-containing polymers through quantitative scattering and microscopy studies.”	
Visiting Miller Research Professor , University of California, Berkeley	9 – 12/2014
Dow Lecture, Northwestern University	2013
Fellow , Materials Research Society	2013
“For outstanding contributions to the understanding of polymer nanocomposites and ion-containing polymers through rigorous and insightful experiments; distinguished leadership in the materials community.”	
George H. Heilmeier Faculty Award for Excellence in Research , Penn Engineering	2012
"For innovative methods in the fabrication & processing of polymer-based nanotube composites"	
Chair, Polymer Physics, Gordon Research Conference	2010
Special Creativity Award, National Science Foundation	2009-2011
Fellow , American Physical Society	2003
“For exquisite application of electron microscopy and X-ray scattering to the determination of the microstructure of polymers and to elucidating the roles of microdomains geometry on polymer properties.”	
Cosslett Award, Best Invited Paper, Microscopy and Microanalysis Meeting	2000
National Science Foundation Young Investigator Award (forerunner to NSF CAREER)	1994-1999
Materials Research Society Graduate Student Award	1989
National Science Foundation Graduate Student Fellowship	1987-1990
Lockheed Fellowship, University of Massachusetts Fellowship	1987
Tau Beta Pi	1984
Alpha Sigma Mu (honor society for materials science and engineering)	1984
McMullen Scholar, Cornell University (merit)	1981-1985

SELECTED INVITED RESEARCH LECTURES

Total number of invited lectures: 298 (7 more scheduled)

George H. Heilmeier Faculty Award for Excellence in Research (March 2012) Philadelphia, PA
 “Electrical Properties in Polymer Nanocomposites”

Dow Lecture, Materials Science and Eng., Northwestern University (February 2013) Evanston, IL
 “Electrical Properties in Polymer Nanocomposites”

Plenary Speaker, Macromolecular Innovation Institute Conference (Oct. 2017) Blacksburg, VA
 “Precise Polyethylenes that Control Nanoscale Morphologies & Properties”

IUPAC Lecture in Chemistry, Universite de Montreal (May 2017) Montreal, Canada
 “Precise Associating Polyethylenes that Control Nanoscale Morphologies & Properties”

Plenary Lecture (May 2017) Seville, Spain
 5th International Symposium Frontiers in Polymer Science
 “Precise Associating Polymers: New Insights and Strategies for Designing Advanced Materials”

Plenary Speaker, 2017 Joint CNMS-SNS User Meeting (Aug. 2017) Oak Ridge, TN
 “Neutron Scattering in Polymer Nanocomposites”

DB Robinson Distinguished Lecture Series, University of Alberta (Oct. 2017) Alberta, Canada
 “Precise Polyethylenes that Control Nanoscale Morphologies & Properties”

Plenary Session, American Institute of Chemical Engineers (Nov. 2017) Minneapolis, MN
 “Layered Morphologies in Precise Acid-Containing Polyethylenes: Hierarchical Structures and the Implications on Properties”

Keynote Speaker, PMSE Symposium, American Chemical Society (Mar. 2018) New Orleans, LA
 “Proton Transport through Lamellar Water Channels in Chain-Folded Precisely Sulfonated Polyethylene”

MSE Distinguished Seminar, Univ. of Central Florida (Oct 2019) Orland, FL
 “Self-Assembly of Periodic Polyethylene Sulfonated: Layered, Bicontinuous Gyroid and Hexagonal Nanoscale Morphologies for Transport”

Award Lecture, Braskem Award for Excellence in Materials Engineering and Science
 AIChE Annual Meeting (Nov. 2020) remote
 “Nanoparticle, Segmental & Chain Dynamics in Polymer Nanocomposites”

Covestro Distinguished Lectureship, Southern Mississippi University (Jan. 2021) remote
 “Precise Polymer Microstructures Produce Nanoscale Morphologies for Improved Transport Properties”

Award Lecture, Herman J. Mark Senior Scholar Award (Aug. 2021) remote
 Division of Polymer Chemistry, American Chemical Society (postponed)
 “Precise Microstructures in Ionomers: New Morphologies for Improved Properties”

Plenary Lecture, PMSE/POLY Division, American Chemical Society (Mar. 2022) San Diego, CA
 “Polymer Chemistries for Double Gyroid Morphologies – Past, Present, and Future”

Award Lecture, ACS Polymer Chemistry Award Symposium (Aug. 2023) San Francisco, CA
 “Advanced characterization methods, precise polymers and simulations combine to advance the understanding of ion conductivity in ionomers”

Turner J. Alfrey Visiting Professorship Lectures (June 2025) Midland, MI
 Set of four lectures about nanocomposite, ionomers and fluorine-free proton conducting polymers

SCIENTIFIC PUBLICATIONS

PUBLICATIONS IN REFEREED JOURNALS

BOOK CHAPTERS AND OTHER PUBLICATIONS

REFEREED CONFERENCE PROCEEDINGS (Total 40, omitted from this listing)

PATENTS

LICENSING AGREEMENTS

PUBLICATIONS IN REFEREED JOURNALS (* corresponding author)

Google Scholar on May 1, 2025

Total citations: 35,040 (9,558 since 2020)

h-index: 90 (45 since 2020)

1. D. J. Kinning*, K. I. Winey, E. L. Thomas, *Macromolecules* **21**, 3502-3506, 1988.
“Structural transitions from spherical to nonspherical micelles in blends of poly(styrene-butadiene) diblock copolymer and polystyrene homopolymers.”
<https://doi.org/10.1021/ma00190a027>
2. K. I. Winey*, E. L. Thomas, L. J. Fetters, *J. Chem. Physics* **95**, 9367-9375, 1991.
“Ordered morphologies in binary blends of diblock copolymer and homopolymer and characterization of their intermaterial dividing surfaces.”
<https://doi.org/10.1063/1.461164>
3. K. I. Winey*, E. L. Thomas, L. J. Fetters, *Macromolecules* **24**, 6182-6188, 1991.
“The swelling of lamellar diblock copolymer by homopolymer: The influences of homopolymer concentration and molecular weight.”
<https://doi.org/10.1021/ma00023a020>
4. K. R. Shull*, K. I. Winey, E. L. Thomas, E. J. Kramer, *Macromolecules* **24**, 2748-2751, 1991.
“Segregation of block copolymer micelles to surfaces and interfaces.”
<https://doi.org/10.1021/ma00010a017>
5. K. I. Winey*, E. L. Thomas, L. J. Fetters, *Macromolecules* **25**, 422-428, 1992.
“The ordered bicontinuous double diamond morphology in diblock copolymer/ homopolymer blends.”
<https://doi.org/10.1021/ma00027a065>
6. K. R. Shull*, K. I. Winey, *Macromolecules* **25**, 2637-2644, 1992.
“Homopolymer distributions in lamellar copolymer/homopolymer blends.”
<https://doi.org/10.1021/ma00036a013>
7. K. I. Winey*, E. L. Thomas, L. J. Fetters, *Macromolecules* **25**, 2645-2650, 1992.
“Isothermal morphology diagrams for binary blends of diblock copolymer and homopolymer.”
<https://doi.org/10.1021/ma00036a014>
8. K. I. Winey*, S. S. Patel, R. G. Larson, H. Watanabe, *Macromolecules* **26**, 2542-2549, 1993.
“Interdependence of shear deformation and block copolymer morphology.”
<https://doi.org/10.1021/ma00062a024>

9. R. G. Larson*, K. I. Winey, S. S. Patel, H. Watanabe, R. Bruinsma, *Rheologica Acta* **32**, 245-253, 1993.
 “The rheology of layered liquids: lamellar block copolymers and smectic liquid layers.”
<https://doi.org/10.1007/BF00434188>
10. K. I. Winey*, S. S. Patel, R. G. Larson, H. Watanabe, *Macromolecules* **26**, 4373-4375, 1993.
 “Morphology of a lamellae diblock copolymer aligned perpendicular to the sample plane: Transmission electron microscopy and small angle X-ray scattering.”
<https://doi.org/10.1021/ma00068a047>
11. K. I. Winey*, D. A. Gobran, Z. Xu, L. J. Fetters, E. L. Thomas, *Macromolecules* **27**, 2392-2397, 1994.
 “Compositional dependence of the Order-Disorder Transition in Diblock Copolymers.”
<https://doi.org/10.1021/ma00087a005>
12. M. E. Galvin*, S. Heffner, K. I. Winey* *Macromolecules* **27**, 3520-3524, 1994.
 “Deuterium effects on blend miscibility of an alternating copolymer and a homopolymer.”
<https://doi.org/10.1021/ma00091a012>
13. S. S. Patel*, R. G. Larson, K. I. Winey, H. Watanabe, *Macromolecules* **28**, 4313-4318, 1995.
 “Shear orientation and rheology of a lamellar polystyrene-polyisoprene block copolymer.”
<https://doi.org/10.1021/ma00116a038>
14. A. Faldi, R. J. Composto*, K. I. Winey*, *Langmuir* **11**, 4855-4861, 1995.
 “Unstable polymer bilayers. 1. Morphology of dewetting.”
<https://doi.org/10.1021/la00012a044>
15. B. S. Pinheiro, D. A. Hajduk, S. M. Gruner, K. I. Winey*, *Macromolecules* **29**, 1482-1489, 1996.
 “Shear stabilized bi-axial texture and lamellar contraction in both diblock copolymer and diblock copolymer / homopolymer blends.”
<https://doi.org/10.1021/ma951284o>
16. K. I. Winey*, M. L. Berba M. E. Galvin, *Macromolecules* **29**, 2868-2877, 1996.
 “Ternary phase diagrams of poly(styrene-co-methyl methacrylate), poly(methyl methacrylate), and polystyrene: Monomer sequence distribution effect and encapsulation.”
<https://doi.org/10.1021/ma951434v>
17. M. Sikka, L. F. Cerini, S. S. Ghosh, K. I. Winey*, *J. Poly. Sci.: Part B: Polym. Phys.* **34**, 1443-1449, 1996.
 “Melt intercalation of polystyrene in layered silicates.”
[https://doi.org/10.1002/\(SICI\)1099-0488\(199606\)34:8<1443::AID-POLB7>3.0.CO;2-T](https://doi.org/10.1002/(SICI)1099-0488(199606)34:8<1443::AID-POLB7>3.0.CO;2-T)
18. D. L. Polis, K. I. Winey*, *Macromolecules* **29**, 8180-8187, 1996.
 “Kink bands in a lamellar diblock copolymer induced by large amplitude oscillatory shear.”
<https://doi.org/10.1021/ma960831i>
19. M. Sikka, N. N. Pellegrini, E. A. Schmidt, K. I. Winey*, *Macromolecules* **30**, 445-455, 1997.
 “Modifying a polystyrene / poly(methyl methacrylate) interface with poly(styrene-co-methyl methacrylate) random copolymers.”
<https://doi.org/10.1021/ma961302h>

20. Q. Pan, K. I. Winey, H. H. Hu, R. J. Composto*, *Langmuir* **13**, 1758-1766, 1997.
“Unstable polymer bilayers. 2. The effect of film thickness.”
<https://doi.org/10.1021/la960757x>
21. K. B. Arbogast, K. L. Thibault, B. S. Pinheiro, K. I. Winey, S. S. Margulies*, *J. Biomechanics* **30**, 757-759, 1997.
“A high-frequency shear device for testing soft biological tissues.”
[https://doi.org/10.1016/S0021-9290\(97\)00023-7](https://doi.org/10.1016/S0021-9290(97)00023-7)
22. N. N. Pellegrini, M. Sikka, S. K. Satija, K. I. Winey*, *Macromolecules* **30**, 6640-6644, 1997.
“Segregation of a random copolymer from miscible blends.”
<https://doi.org/10.1021/ma970586i>
23. D. L. Polis, K. I. Winey*, *Macromolecules*, **31**, 3617-3625, 1998.
“Controlling kink band morphology in block copolymers: Threshold criteria and stability.”
<https://doi.org/10.1021/ma971839a>
24. B. S. Pinheiro, K. I. Winey*, *Macromolecules*, **31**, 4447-4456, 1998.
“Mixed parallel-perpendicular morphologies in diblock copolymer systems correlated to the linear viscoelastic properties of the parallel and perpendicular morphologies.”
<https://doi.org/10.1021/ma980186a>
25. J. H. Laurer, K. I. Winey*, *Macromolecules*, **31**, 9106-9108, 1998.
“Direct imaging of ionic aggregates in Zn-neutralized poly(ethylene-co-methacrylic acid) copolymers.”
<https://doi.org/10.1021/ma981503g>
26. D. Kuhlmann-Wilsdorf*, K. I. Winey, *Journal of Applied Physics*, **85**, 6392-6399, 1999.
“Does plastic deformation proceed near thermodynamic equilibrium? The case of shear induced kink bands in lamellar diblock copolymers.”
<https://doi.org/10.1021/ma960831i>
27. D. L. Polis, S. D. Smith, N. J. Terrill, A. J. Ryan, D. C. Morse, K. I. Winey*, *Macromolecules*, **32**, 4668-4676, 1999.
“Shear-induced lamellar rotation observed in a diblock copolymer by in situ small angle X-ray scattering.”
<https://doi.org/10.1021/ma981796d>
28. J. H. Laurer, B. S. Pinheiro, D. L. Polis, K. I. Winey*, *Macromolecules*, **32**, 4999-5003, 1999.
“Persistence of surface-induced alignment in block copolymers upon large amplitude oscillatory shear processing.”
<https://doi.org/10.1021/ma982019g>
29. D. L. Polis, A. J. Ryan, S. D. Smith, K. I. Winey*, *Physical Review Letters*, **83**, 2861-2864, 1999.
“Nature of viscoelasticity in lamellar diblock copolymers: Contraction correlated to strain localization.”
<https://doi.org/10.1103/PhysRevLett.83.2861>
30. N. N. Pellegrini, M. Sikka, S. K. Satija, K. I. Winey*, *Polymer*, **41**, 2701-2704, 2000.
“Random copolymer / homopolymer interfacial widths as a function of copolymer composition.”
[https://doi.org/10.1016/S0032-3861\(99\)00607-2](https://doi.org/10.1016/S0032-3861(99)00607-2)

31. N. N. Pellegrini, K. I. Winey*, *Macromolecules*, **33**, 73-79, 2000.
 “Asymmetric miscibility in random copolymer / homopolymer blends: Monomeric size and polarity.”
<https://doi.org/10.1021/ma991151t>
32. K. I. Winey*, J. H. Laurer, B. P. Kirkmeyer, *Macromolecules*, **33**, 507-513, 2000.
 “Ionic aggregates in partially Zn-neutralized poly(ethylene-co-methacrylic acid) ionomers: Shape, size, and size dispersity.”
<https://doi.org/10.1021/ma991374j>
33. L. Qiao, K. I. Winey*, *Macromolecules*, **33**, 851-856, 2000.
 “Evolution of kink bands and tilt boundaries in block copolymers at large shear strains.”
<https://doi.org/10.1021/ma991303k>
34. N. N. Pellegrini, R. J. Composto*, K. I. Winey*, *Journal of Polymer Science: Polymer Physics Edition*, **38**, 1547-1552, 2000.
 “Investigating polymer blend miscibility with forward recoil spectrometry.”
[https://doi.org/10.1002/\(SICI\)1099-0488\(20000601\)38:11<1547::AID-POLB150>3.0.CO;2-L](https://doi.org/10.1002/(SICI)1099-0488(20000601)38:11<1547::AID-POLB150>3.0.CO;2-L)
35. R. Hagenmueller, H. H. Gommans, A. G. Rinzler, J. E. Fischer, K. I. Winey*, *Chemical Physics Letters*, **330**, 219-225, 2000.
 “Aligned single-wall carbon nanotubes in composites by melt processing methods.”
[https://doi.org/10.1016/S0009-2614\(00\)01013-7](https://doi.org/10.1016/S0009-2614(00)01013-7)
36. J. Hwang, H. H. Gommans, A. Ugawa, H. Tashiro, R. Hagenmueller, K. I. Winey, J. E. Fischer, D. B. Tanner, A. G. Rinzler*, *Physical Review B: Rapid Communications*, **62**, R13 310-313, 2000.
 “Polarized spectroscopy of aligned single-wall carbon nanotubes.”
<https://doi.org/10.1103/PhysRevB.62.R13310>
37. B. P. Kirkmeyer, R. A. Weiss, K. I. Winey*, *J. Polym. Sci.: Polym. Phys.*, **39**, 477-483, 2001.
 “Spherical and vesicular ionic aggregates in Zn-neutralized sulfonated polystyrene ionomers.”
[https://doi.org/10.1002/1099-0488\(20010301\)39:5<477::AID-POLB1021>3.0.CO;2-M](https://doi.org/10.1002/1099-0488(20010301)39:5<477::AID-POLB1021>3.0.CO;2-M)
38. L. Qiao, K. I. Winey*, D. C. Morse*, *Macromolecules*, **34**, 7858-7867, 2001.
 “Dynamics of kink bands in layered liquids: Theory and *in situ* SAXS experiments on a block copolymer melt.”
<https://doi.org/10.1021/ma010611r>
39. B. P. Kirkmeyer, A. Taubert, J.-S. Kim, K. I. Winey*, *Macromolecules*, **35**, 2648-2653, 2002.
 “Vesicular ionic aggregates in poly(styrene-co-methacrylic acid) ionomers neutralized with Cs.”
[https://doi.org/10.1002/1099-0488\(20010301\)39:5<477::AID-POLB1021>3.0.CO;2-M](https://doi.org/10.1002/1099-0488(20010301)39:5<477::AID-POLB1021>3.0.CO;2-M)
40. L. Qiao, A. J. Ryan, K. I. Winey*, *Macromolecules*, **35**, 3596-3600, 2002.
 “A correlation between lamellar contraction and applied shear stress in diblock copolymer.”
<https://doi.org/10.1021/ma011109+>
41. S. J. Siegel*, K. I. Winey, R. E. Gur, R. H. Lennox, D. Ikeda, N. Gandhi, W.-X. Zhang, *Neuropsychopharmacology*, **26**, 817-823, 2002.
 “Surgically implantable long-term antipsychotic delivery systems for the treatment of schizophrenia.”

- [https://doi.org/10.1016/S0893-133X\(01\)00426-2](https://doi.org/10.1016/S0893-133X(01)00426-2)
42. A. Taubert, K. I. Winey*, *Macromolecules*, **35**, 7419-7426, 2002.
 “Imaging and X-ray microanalysis of poly(ethylene-*ran*-methacrylic acid) ionomer melt neutralized with sodium.”
<https://doi.org/10.1021/ma0203952>
 43. R. M. Walters, K. E. Sohn, K. I. Winey*, R. J. Composto*, *Journal of Polymer Science: Part B: Polymer Physics Edition*, **40**, 2833-2841, 2002.
 “Local acid environments in poly(ethylene-*ran*-methacrylic acid) ionomers.”
<https://doi.org/10.1002/polb.10333>
 44. B. P. Kirkmeyer, R. Puetter, A. Yahil, K. I. Winey*, *J. Polym. Sci.: Polym. Phys.*, **41**, 319-326, 2003.
 “Deconvolution of scanning transmission electron microscopy images of ionomers.”
<https://doi.org/10.1002/polb.10383>
 45. A. Taubert, J. D. Wind, D. R. Paul, W. J. Koros*, K. I. Winey, *Polymer*, **44**, 1881-1892, 2003.
 “Novel polyimide ionomers: CO₂ plasticization, morphology, and ion distribution.”
[https://doi.org/10.1016/S0032-3861\(03\)00052-1](https://doi.org/10.1016/S0032-3861(03)00052-1)
 46. R. Haggemueller, W. Zhou, J. E. Fischer, K. I. Winey*, *J. Nanoscience and Nanotechnology*, **3**, 105-110, 2003.
 “Production and characterization of polymer nanocomposites with highly aligned single-walled carbon nanotubes.”
<https://doi.org/10.1166/jnn.2003.173>
 47. A. Taubert, J. H. Ferris, K. I. Winey*, *Microscopy Today*, **11**, 36-38, 2003.
 “Rapid preparation of a polymer fiber and a free-standing polymer film for cross-sectional microtomy.”
<https://doi.org/10.1017/S1551929500053062>
 48. F. Du, J. E. Fischer, K. I. Winey*, *J. Polym. Sci.: Polym. Phys.*, **41**, 3333-3338, 2003.
 “Coagulation method for preparing single-walled carbon nanotube / poly(methyl methacrylate) composites and their modulus, electrical conductivity, and thermal stability.”
<https://doi.org/10.1002/polb.10701>
 49. W. Zhou, J. Vavro, C. Guthy, K. I. Winey, J. E. Fischer, L. M. Ericson, S. Ramesh, R. Saini, V. A. Davis, C. Kittrel, M. Pasquali, R. H. Hauge, R. E. Smalley, *J. Appl. Physics*, **95**, 649-655, 2004.
 “Single wall carbon nanotube fibers extruded from super-acid suspensions: Preferred orientation, electrical and thermal transport.”
<https://doi.org/10.1063/1.1627457>
 50. W. Zhou, M. F. Islam, H. Wang, D. L. Ho, A. G. Yodh, K. I. Winey, J. E. Fischer*, *Chem. Phys. Lett.*, **384**, 185-189, 2004.
 “Small angle neutron scattering from single-wall carbon nanotube suspensions: Evidence for isolated rigid rods and rod networks.”
<https://doi.org/10.1016/j.cplett.2003.11.106>

51. W. Zhou, K. I. Winey, J. E. Fischer*, Sreekumar TV, Kumar S, Kataura H, *Appl. Phys. Lett.*, **84**, 2172-2174, 2004.
 “Out-of-plane mosaic of single-wall carbon nanotube films.”
<https://doi.org/10.1063/1.1689405>
52. H. Wang*, W. Zhou, D. L. Ho, K. I. Winey, J. E. Fischer, C. J. Glinka, E. K. Hobbie, *Nano Letters*, **4**, 1789-1793, 2004.
 “Dispersing single-wall carbon nanotubes with surfactants: A small angle neutron scattering study.”
<https://doi.org/10.1021/nl048969z>
53. F. Du, R. C. Scogna, W. Zhou, S. Brand, J. E. Fischer, K. I. Winey*, *Macromolecules*, **37**, 9048-9055, 2004.
 “Nanotube networks in polymer nanocomposites: Rheology and electrical conductivity.”
<https://doi.org/10.1021/ma049164g>
54. T. Kashiwagi*, F. Du, K. I. Winey, K. M. Groth, J. R. Shields, S. P. Bellayer, H. Kim, J. F. Douglas, *Polymer*, **46**, 471-481, 2005.
 “Flammability properties of polymer nanocomposites with single-walled carbon nanotubes: Effects of nanotube dispersion and concentration.”
<https://doi.org/10.1016/j.polymer.2004.10.087>
55. N. M. Benetatos, B. W. Smith, P. A. Heiney, K. I. Winey*, *Macromolecules*, **38**, 9251-9257, 2005.
 “Toward reconciling STEM and SAXS data from ionomers by investigating gold nanoparticles.”
<https://doi.org/10.1021/ma051419i>
56. F. Du, J. E. Fischer, K. I. Winey*, *Rapid Communication in Physical Review B*, **72**, 121404(R)-4, 2005.
 “Effect of nanotube alignment on percolation conductivity in carbon nanotube / polymer composites.”
<https://doi.org/10.1103/PhysRevB.72.121404>
57. N. M. Benetatos, K. I. Winey*, *J. Polym. Sci: Part B: Polym. Phys.*, **43**, 3549-3554, 2005.
 “Ionic aggregate in Zn- and Na-neutralized poly(ethylene-*ran*-methacrylic acid) blown films.”
<https://doi.org/10.1002/polb.20623>
58. T. Kashiwagi*, F. Du, J. F. Douglas*, K. I. Winey, R. H. Harris, Jr., J. R. Shields, *Nature Materials*, **4**, 928-933, 2005.
 “Nanoparticle networks reduce flammability of polymer nanocomposites.”
<https://doi.org/10.1038/nmat1502>
59. A. Budhian, S. J. Siegel*, K. I. Winey*, *Journal of Microencapsulation*, **22**, 773-785, 2005.
 “Production of haloperidol loaded PLGA nanoparticles for extended controlled drug release of haloperidol.”
<https://doi.org/10.1080/02652040500273753>
60. Y. A. Elabd*, E. Napadensky, C. W. Walker, K. I. Winey*, *Macromolecules*, **39**, 399-407, 2006.
 “Transport properties of sulfonated poly(styrene-isobutylene-styrene) triblock copolymers at high ion-exchange capacities.”
<https://doi.org/10.1021/ma051958n>

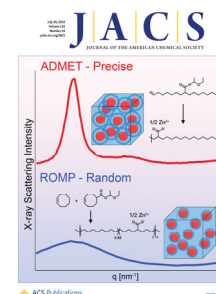
61. M. Moniruzzaman, F. Du, N. Romero, M. Hsu, R. Haggemueller, K. I. Winey*, *Polymer*, **47**, 293-298, 2006.
 "Increased flexural modulus and strength in SWNT / epoxy composites by a new fabrication method."
<https://doi.org/10.1016/j.polymer.2005.11.011>
62. A. Batra, C. Cohen*, H. Kim, K. I. Winey, N. Ando, S. M. Gruner, *Macromolecules*, **39**, 1630-1638, 2006.
 "Counterion effect on the rheology and morphology of tailored polydimethylsiloxane ionomers."
<https://doi.org/10.1021/ma052275a%>
63. C. Xu, X. Fu, M. Fryd, S. Xu, B. B. Wayland, K. I. Winey, R. J. Composto*, *Nano Letters*, **6**, 282-287, 2006.
 "Reversible stimuli-responsive nanostructures assembled from amphiphilic block copolymers."
<https://doi.org/10.1021/nl052332d>
64. N. C. Zhou, C. Xu, W. R. Burghardt, R. J. Composto, K. I. Winey*, *Macromolecules*, **39**, 2373-2379, 2006.
 "Phase behavior of polystyrene and poly(styrene-*ran*-styrene sulfonate) blends."
<https://doi.org/10.1021/ma052348q>
65. R. Haggemueller, F. Du, J. E. Fischer, K. I. Winey*, *Polymer*, **47**, 2381-2388, 2006.
 "Interfacial *in situ* polymerization of single-walled carbon nanotube / nylon 6,6 nanocomposites."
<https://doi.org/10.1016/j.polymer.2006.01.087>
66. R. Haggemueller, J. E. Fischer, K. I. Winey*, *Macromolecules*, **39**, 2964-2971, 2006.
 "Single wall carbon nanotubes / polyethylene nanocomposites: Nucleating and templating polyethylene crystallites."
<https://doi.org/10.1021/ma0527698>
67. F. Du, C. Guthy, T. Kashiwagi, J. E. Fischer, K. I. Winey*, *J. Polymer Science: Part B Polymer Physics*, *J. Polym. Sci.: Part B: Polym. Phys.*, **44**, 1513-1519, 2006.
 "An infiltration method for preparing single wall carbon nanotubes / epoxy composites with improved thermal conductivity."
<https://doi.org/10.1002/polb.20801>
68. L. Qiao, C. Leibig, S. F. Hahn, K. I. Winey*, *Industrial and Engineering Chemistry*, **45**, 5598-5602, 2006.
 "Isolating the effects of morphology and chain architecture on the mechanical properties of triblock copolymers."
<https://doi.org/10.1021/ie0511940>
69. N. M. Benetatos, P. A. Heiney, K. I. Winey*, *Macromolecules*, **39**, 5174-5176, 2006.
 "Reconciling STEM and X-ray scattering data from a poly(styrene-*ran*-methacrylic acid) ionomer: Ionic aggregate size."
<https://doi.org/10.1021/ma0608976>
70. M. Moniruzzaman, K. I. Winey*, *Macromolecules*, **39**, 5194-5205, 2006.
 "Polymer nanocomposites containing carbon nanotubes."
Designated a Hot Paper by Thomson ISI®'s Essential Science Indicators, 2007, 2008.
Noted as a Most Accessed Paper by *Macromolecules* in 2008.

- <https://doi.org/10.1021/ma060733p>
71. C. Xu, B. B. Wayland, M. Fryd, K. I. Winey, R. J. Composto*, *Macromolecules*, **39**, 6063-6070, 2006.
 "pH-responsive nanostructures assembled from amphiphilic block copolymers."
<https://doi.org/10.1021/ma060881f>
 72. S. J. Siegel, J. B. Kahn, K. Metzger, K. I. Winey, K. Werner, N. Dan*, *European Journal of Pharmaceutics and Biopharmaceutics*, **64**, 287-293, 2006.
 "Effect of drug type on the degradation rate of PLGA matrices."
<https://doi.org/10.1016/j.ejpb.2006.06.009>
 73. K. L. Metzger, J. M. Shoemaker, J. B. Kahn, C.R. Maxwell, Y. Liang, J. Tokarczyk, S. J. Kanes, M. Hans, A. M. Lowman, N. Dan, K. I. Winey, N. R. Swerdlow, S. J. Siegel*, *Psychopharmacology*, **190**, 201-211, 2007.
 "Pharmacokinetic and behavioral characterization of a long-term antipsychotic delivery system in rodents and rabbits."
<https://doi.org/10.1007/s00213-006-0616-8>
 74. N. M. Benetatos, C. D. Chan, K. I. Winey*, *Macromolecules*, **40**, 1081-1088, 2007.
 "Quantitative morphology study of Cu-neutralized poly(styrene-*ran*-methacrylic acid) ionomers: STEM imaging, X-ray scattering, and real space structural modeling."
<https://doi.org/10.1021/ma0621371>
 75. R. Haggemueller, C. Guthy, J. R. Lukes, J. E. Fischer, K. I. Winey*, *Macromolecules*, **40**, 2417-2421, 2007.
 "Single wall carbon nanotubes / polyethylene nanocomposites: Thermal and Electrical Conductivity."
<https://doi.org/10.1021/ma0615046>
 76. K. I. Winey, R. A. Vaia, *MRS Bulletin*, **32**, 314-322, 2007.
 "Polymer Nanocomposites."
<https://doi.org/10.1557/mrs2007.229>
 77. K. I. Winey, T. Kashiwagi, M. Mu, *MRS Bulletin*, **32**, 348-353, 2007.
 "Improving electrical conductivity and thermal properties of polymers by the addition of carbon nanotubes as fillers."
<https://doi.org/10.1557/mrs2007.234>
 78. R. H. French*, K. I. Winey, Min K. Yang, Weiming Qiu, *Australian Journal of Chemistry*, **60**, 251-263, 2007.
 "Optical properties and van der Waals-London dispersion interactions of polystyrene determined by vacuum ultraviolet spectroscopy and spectroscopic ellipsometry."
<https://doi.org/10.1071/CH06222>
 79. A. Budhian, S. J. Siegel, K. I. Winey*, *International Journal of Pharmaceutics*, **336**, 367-375, 2007.
 "Haloperidol-loaded PLGA nanoparticles: Systematic study of particle size and drug content."
<https://doi.org/10.1016/j.ijpharm.2006.11.061>

80. N. M. Benetatos, K. I. Winey*, *Macromolecules*, **40**, 3223-3228, 2007.
 “Nanoscale morphology of poly(styrene-*ran*-methacrylic acid ionomers: The role of preparation methods and thermal treatment.”
<https://doi.org/10.1021/ma062270t>
81. M. Moniruzzaman, J. Chattopadhyay, W. E. Billups, K. I. Winey*, *Nano Letters*, **7**, 1178-1185, 2007.
 “Tuning the mechanical properties of SWNT/nylon 6,10 composites with flexible spacers at the interface.”
<https://doi.org/10.1021/nl062868e>
82. T. Kashiwagi*, J. Fagan, J. F. Douglas, K. Yamamoto, A. N. Heckert, S. D. Leigh, J. Obrzut, F. Du, S. Lin-Gibson, M. Mu, K. I. Winey, R. Haggemueller, *Polymer*, **48**, 4855-4866, 2007.
 “Relationship between dispersion metric and properties of PMMA/SWNT nanocomposites.”
<https://doi.org/10.1016/j.polymer.2007.06.015>
83. C. Guthy, F. Du, S. Brand, K. I. Winey, J. E. Fischer*, *Journal of Heat Transfer*, **129**, 1096-1099, 2007.
 “Thermal conductivity of single-walled carbon nanotube/PMMA nanocomposites.”
<https://doi.org/10.1115/1.2737484>
84. N. C. Zhou, W. R. Burghardt, K. I. Winey*, *Macromolecules*, **40**, 6401-6405, 2007.
 “Blend miscibility of sulfonated polystyrene ionomers with polystyrene: Effect of counterion valency and neutralization level.”
<https://doi.org/10.1021/ma070878b>
85. T. W. Baughman, C. D. Chan, K. I. Winey*, K. B. Wagener*, *Macromolecules*, **40**, 6564-6571, 2007.
 “Synthesis and morphology of well-defined poly(ethylene-*co*-acrylic acid) copolymers.”
<https://doi.org/10.1021/ma070841r>
86. M. Mu, K. I. Winey*, *J. Phys. Chem. C*, **111**, 17923-17927, 2007.
 “Improved Load Transfer in Nanotube / Polymer Composites with Increased Polymer Molecular Weight.”
<https://doi.org/10.1021/jp0715530>
87. A. Budhian, S. J. Siegel, K. I. Winey*, *International Journal of Pharmaceutics*, **346**, 151-159, 2008.
 “Controlling the *in vitro* release profiles for a system of haloperidol-loaded PLGA nanoparticles.”
<https://doi.org/10.1016/j.ijpharm.2007.06.011>
88. C. Rabin, Y. Liang, R.S. Ehrlichman, A. Budhian, K. L. Metzger, C. Majewski-Teidiken, K.I. Winey, S.J. Siegel*, *Schizophrenia Research*, **98**, 66-78, 2008.
 “In vitro and in vivo demonstration of risperidone implants in mice.”
<https://doi.org/10.1016/j.schres.2007.08.003>
89. M. Mu, A. M. Walker, J. M. Torkelson, K. I. Winey*, *Polymer*, **49**, 1332-1337, 2008.
 “Cellular structures of carbon nanotubes in a polymer matrix improve properties relative to composites with dispersed nanotubes.”
<https://doi.org/10.1016/j.polymer.2008.01.036>

90. S. R. Williams, E. M. Borgerding, J. M. Layman, W.Q. Wang, K. I. Winey, T. E. Long*, *Macromolecules*, **41**, 5216-5222, 2008.
“Synthesis and characterization of well-defined 12,12-ammonium ionenes: Evaluating mechanical properties as a function of molecular weight.”
<https://doi.org/10.1021/ma8006152>
91. N. C. Zhou, C. D. Chan, K. I. Winey*, *Macromolecules*, **41**, 6134-6140, 2008.
“Reconciling STEM and X-ray scattering data to determine the nanoscale ionic aggregate morphology in sulfonated polystyrene ionomers.”
<https://doi.org/10.1021/ma800805m>
92. T. Kashiwagi*, M. Mu, K. I. Winey, B. Cipriano, S. Raghaven, S. Pack, M. Rafailovich, Y. Yang, E. Gulke, J. Shields, R. Harris, J. Douglas, *Polymer*, **49**, 4358-4368, 2008.
“Relation between the viscoelastic and flammability properties of polymer nanocomposites.”
<https://doi.org/10.1016/j.polymer.2008.07.054>
93. S. R. Williams, W.Q. Wang, K. I. Winey, T. E. Long*, *Macromolecules*, **41**, 9072-9079, 2008.
“Synthesis and morphology of segmented poly(tetramethylene oxide)-based polyurethanes containing phosphonium salts.”
<https://doi.org/10.1021/ma801942f>
94. R. M. Walters, A. Taubert, J.-S. Kim, K. I. Winey*, R. J. Composto*, *Macromolecules*, **41**, 9299-9305, 2008.
“Surface segregation of counterions in ionomer films.”
<https://doi.org/10.1021/ma801756g>
95. M. Moniruzzaman, A. Sahin, K. I. Winey*, *Carbon*, **47**, 645-650, 2009.
“Improved mechanical strength and electrical conductivity of organogels containing carbon nanotubes.”
<https://doi.org/10.1016/j.carbon.2008.10.046>
96. S. I. White, B. A. DiDonna, M. Mu, T. C. Lubensky, K. I. Winey*, *Physical Review B*, **79**, 024301, 2009.
“Simulations and electrical conductivity of percolated networks of finite rods with various degrees of axial alignment.”
<https://doi.org/10.1103/PhysRevB.79.024301>
97. W.Q. Wang, T.-T. Chan, A. J. Perkowski, S. Schlick, K. I. Winey*, *Polymer*, **50**, 1281-1287, 2009.
“Local structure and composition of the ionic aggregates in Cu(II)-neutralized poly(styrene-co-methacrylic acid) ionomers depend on acid content and neutralization level.”
<https://doi.org/10.1016/j.polymer.2009.01.007>
98. H. Chen, J.-H. Choi, D. Salas-de la Cruz, K. I. Winey, Y. A. Elabd*, *Macromolecules*, **42**, 4809-4816, 2009.
“Polymerized ionic liquids: The effect of random copolymer composition on ion conduction.”
<https://doi.org/10.1021/ma900713e>
99. M. Mu, S. Osswald, Y. Gogotsi, K. I. Winey*, *Nanotechnology*, **20**, 335703, 2009.
“An *in situ* Raman spectroscopy study of stress transfer between carbon nanotubes and polymer.”
<https://doi.org/10.1088/0957-4484/20/33/335703>

100. M. Mu, N. Clarke, R. J. Composto, K. I. Winey*, *Macromolecules*, **42**, 7091-7097, 2009.
“Polymer diffusion exhibits a minimum with increasing single-walled carbon nanotube concentration.”
<https://doi.org/10.1021/ma901122s>
101. M. Mu, R. J. Composto, N. Clarke, K. I. Winey*, *Macromolecules*, **42**, 8365-8369, 2009.
“Minimum in diffusion coefficient with increasing MWCNT concentration requires tracer molecules to be larger than nanotubes.”
<https://doi.org/10.1021/ma9014033>
102. R. H. Brown, A. J. Duncan, J.-H. Choi, J. K. Park, T. Wu, D. J. Leo, K. I. Winey, R. B. Moore, T. E. Long*, *Macromolecules*, **43**, 790-796, 2010.
“Effect of ionic liquid on mechanical properties and morphology of zwitterionic copolymer membranes.”
<https://doi.org/10.1021/ma902028u>
103. S. Das, J. D. Goff, S. Williams, D. Salas-de la Cruz, J. S. Riffle, T. E. Long, K. I. Winey, G. L. Wilkes*, *Journal of Macromolecular Science, Part A: Pure and Applied Chemistry*, **47**, 215-224, 2010.
“Synthesis and characterization of novel segmented polyionenes based on polydimethylsiloxane soft segments.”
<https://doi.org/10.1080/10601320903526881>
104. M. B. Jakubinek, M. A. White*, M. Mu, K. I. Winey, *Applied Physics Letters*, **96**, 083105, 2010.
“Temperature dependence of thermal conductivity enhancement in single-walled carbon nanotube/polymer composites.”
<https://doi.org/10.1063/1.3323095>
105. S. R. Williams, D. Salas-de la Cruz, K. I. Winey, T. E. Long*, *Polymer*, **51**, 1252-1257, 2010.
“Ionene segmented block copolymers containing imidazolium cations: Structure-property relationships as a function of hard segment content.”
<https://doi.org/10.1016/j.polymer.2009.06.051>
106. C.-K. Wang, W.-Y. Wang, R. F. Meyer, Y. Liang, K. I. Winey, S. J. Siegel*, *Journal of Biomedical Materials Research: Part B - Applied Biomaterials*, **93B**, 562-572, 2010.
“A rapid method for creating drug implants: Translating laboratory based methods into a scalable manufacturing process.”
<https://doi.org/10.1002/jbm.b.31617>
107. W.Q. Wang, W. Liu, G. J. Tudryn, R. H. Colby, K. I. Winey*, *Macromolecules*, **43**, 4223-4229, 2010.
“Multi-length scale morphology of poly(ethylene oxide)-based sulfonate ionomers with alkali cations at room temperature.”
<https://doi.org/10.1021/ma100379j>
108. M. E. Seitz, C. D. Chan, K. L. Oppen, T. W. Baughman, K. B. Wagener, K. I. Winey*, *Journal of the American Chemical Society*, **132**, 8165-8174, 2010.
“Nanoscale morphology in precisely-sequenced poly(ethylene-co-acrylic acid) zinc ionomers.” <https://doi.org/10.1021/ja101991d>



109. S. I. White, R. M. Mutiso, P. M. Vora, D. Jahnke, S. Hsu, J. M. Kikkawa, Ju Li, John E. Fischer, K. I. Winey*, *Advanced Functional Materials*, **20**, 2709-2716, 2010.
“Electrical percolation behavior in silver nanowire-polystyrene composites: Simulation and experiment.”
<https://doi.org/10.1002/adfm.201000451>
110. B. Dong, G. Liang, D. Salas de la Cruz, K. I. Winey, Y. A. Elabd*, *Nano Letters*, **10**, 3785-3790, 2010.
“Super proton conductive high purity Nafion nanofibers.”
<https://doi.org/10.1021/nl102581w>
111. L. Gwee, J.-H. Choi, K. I. Winey*, Y. Elabd*, *Polymer*, **51**, 5516-5524, 2010.
“Block copolymer / ionic liquid films: The effect of ionic liquid composition on morphology and ion conduction.”
<https://doi.org/10.1016/j.polymer.2010.09.026>
112. J.-H. Choi, A. Kota, K. I. Winey*, *Industrial and Engineering Chemistry*, **49**, 12093-12097, 2010.
“Micellar morphology in sulfonated pentablock copolymer solutions.”
<https://doi.org/10.1021/ie1002476>
113. S. I. White, P. M. Vora, J. M. Kikkawa, J. E. Fischer, K. I. Winey*, *Journal of Physical Chemistry B*, **114**, 22106-22112, 2010.
“Temperature-dependent resistive switching in bulk silver nanowire-polystyrene composites.”
<https://doi.org/10.1021/jp108191q>
114. A. M. Castagna, W.Q. Wang, K. I. Winey*, J. Runt*, *Macromolecules*, **43**, 10498-10504, 2010.
“Influence of the degree of sulfonation on the structure and dynamics of sulfonated polystyrene copolymers.”
<https://doi.org/10.1021/ma102206f>
115. S. I. White, P. M. Vora, J. M. Kikkawa, K. I. Winey*, *Advanced Functional Materials*, **21**, 233-240, 2011.
“Resistive switching in bulk silver nanowire-polymer composites.”
<https://doi.org/10.1002/adfm.201001383>
116. M. Mu, M. E. Seitz, N. Clarke, R. J. Composto, K. I. Winey*, *Macromolecules*, **44**, 191-193, 2011.
“Polymer tracer diffusion exhibits a minimum in nanocomposites containing spherical nanoparticles.”
<https://doi.org/10.1021/ma1019818>
117. M. Lee, U Hyeok Choi, D. Salas de la Cruz, K. I. Winey, R. H. Colby, H. W. Gibson*, *Advanced Functional Materials*, **21**, 708-717, 2011.
“Imidazolium polyesters: Structure-property relationships in thermal behavior, ionic conductivity, and morphology.”
<https://doi.org/10.1002/adfm.201001878>
118. M. D. Green, M. H. Allen Jr., J. M. Dennis, D. Salas de la Cruz, R. Gao, K. I. Winey, T. E. Long*, *European Polymer Journal*, **47**, 486-496, 2011.

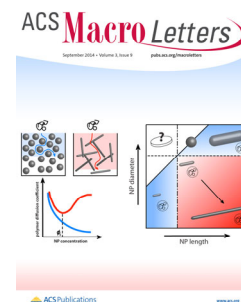
- “Tailoring macromolecular architecture with imidazole functionality: A perspective for controlled polymerization processes.”
<https://doi.org/10.1016/j.eurpolymj.2010.09.035>
119. A. M. Castagna, W.Q. Wang, K. I. Winey*, J. Runt*, *Macromolecules*, **44**, 2791-2798, 2011.
 “Structure and dynamics of zinc-neutralized sulfonated polystyrene ionomers.”
<https://doi.org/10.1021/ma2001614>
 120. S. Gam, J. S. Meth, S. G. Zane, C. Chi, B. A. Wood, M. E. Seitz, K. I. Winey, N. Clarke, R. J. Composto*, *Macromolecules*, **44**, 3494-3501, 2011.
 “Macromolecular diffusion in a crowded polymer nanocomposite.”
<https://doi.org/10.1021/ma102463q>
 121. A. M. Castagna, W.Q. Wang, K. I. Winey*, J. Runt*, *Macromolecules*, **44**, 5420-5426, 2011.
 “Influence of cation type on structure and dynamics in sulfonated polystyrene ionomers.”
<https://doi.org/10.1021/ma2009657>
 122. W. Q. Wang, G. J. Tudryn, R. H. Colby, K. I. Winey*, *Journal of the American Chemical Society*, **133**, 10826-10831, 2011.
 “Thermally driven ionic aggregation in poly(ethylene oxide)-based sulfonate ionomers.”
<https://doi.org/10.1021/ja201405v>
 123. E. M. Davis, N. M. Benetatos*, W. F. Regnault, K. I. Winey, Y. A. Elabd*, *Polymer*, **52**, 5378-5386, 2011.
 “The influence of thermal history on structure and water transport in parylene coatings.”
<https://doi.org/10.1016/j.polymer.2011.08.010>
 124. C. D. Chan, M. E. Seitz, K. I. Winey*, *Microscopy and Microanalysis*, **17**, 872-878, 2011.
 “Disordered spheres with extensive overlap in projection: Image simulation and analysis.”
<https://doi.org/10.1017/S1431927611012190>
 125. A. Karatrantos, R. J. Composto, K. I. Winey, N. Clarke*, *Macromolecules*, **44**, 9830-9838, 2011.
 “Structure and conformations of polymer / SWCNT nanocomposites.”
<https://doi.org/10.1021/ma201359s>
 126. M. D. Green, D. Salas-de la Cruz, Y. Ye, J. M. Layman, Y. Elabd, K. I. Winey, T. E. Long*, *Macromolecular Chemistry and Physics*, **212**, 2522-2528, 2011.
 “Alkyl-substituted n-vinylimidazolium polymerized ionic liquids: Thermal properties and ionic conductivities.”
<https://doi.org/10.1002/macp.201100389>
 127. C. F. Buitrago, K. L. Opper, K. B. Wagener, K. I. Winey*, *ACS Macro Letters*, **1**, 71-74, 2012.
 “A precise acid copolymer exhibits a face-centered cubic structure.”
<https://doi.org/10.1021/mz2000237>
 128. L. M. Hall*, M. E. Seitz, K. I. Winey, K. L. Opper, K. B. Wagener, M. J. Stevens, A. L. Frischknecht*, *Journal of the American Chemical Society*, **134**, 574-587, 2012.
 “Ionic aggregate structure in ionomer melts: Effect of molecular architecture on aggregates and the ionomer peak.”
<https://doi.org/10.1021/ja209142b>

129. D. Salas de la Cruz, M. D.Green., Y. Ye, Y. A. Elabd, T. E. Long, and K. I. Winey*, *J. Polym. Sci. B Polym. Phys.*, **50**, 338-346, 2012.
“Correlating backbone-to-backbone distance to ionic conductivity in amorphous polymerized ionic liquids.”
<https://doi.org/10.1002/polb.23019>
130. B. S. Aitken, C. F. Buitrago, J. D. Heffley, M. Lee, H. W. Gibson, K. I. Winey, and K. B. Wagener*, *Macromolecules* **45**, 681-687, 2012.
“Precision ionomers: Synthesis and thermal/mechanical characterization.”
<https://doi.org/10.1021/ma202304s>
131. J.-H. Choi, C. L. Willis, K. I. Winey*, *Journal of Membrane Science*, **394-395**, 169-174, 2012.
“Structure-property relationship in sulfonated pentablock copolymers.”
<https://doi.org/10.1016/j.memsci.2011.12.036>
132. M. Tamami, D. Salas-de la Cruz, K. I. Winey, T. E. Long*, *Macromolecular Chemistry and Physics*, **213**, 965-972, 2012.
“Structure-Property Relationships of Water-Soluble Ammonium Ionene Copolymers.”
<https://doi.org/10.1002/macp.201200047>
133. G. J. Tudryn, M. V. O'Reilly, S. Dou, D. R. King, K. I. Winey, J. Runt, R. H. Colby*, *Macromolecules*, **45**, 3962 - 3973, 2012.
“Molecular mobility and action conduction in polyether-ester-sulfonate copolymer ionomers.”
<https://doi.org/10.1021/ma202273j>
134. U. H. Choi, M. Lee, S. Wang, W. Liu, K. I. Winey, H. W. Gibson, R. H. Colby*, *Macromolecules*, **45**, 3974 - 3985, 2012.
“Ionic conduction and dielectric response of poly(imidazolium acrylate) ionomers.”
<https://doi.org/10.1021/ma202784e>
135. D. Salas-de la Cruz, J. G. Denis, M. D. Griffith, D. R. King, P. A. Heiney, K. I. Winey*, *Review of Scientific Instruments*, **83**, 025112, 2012.
“Environmental chamber for *in situ* dynamic control of temperature and relative humidity during X-ray scattering.”
<https://doi.org/10.1063/1.3685753>
136. S. Gam, J. S. Meth, K. I. Winey, N. Clarke, R. J. Composto*, *Soft Matter*, **8**, 2512 - 2520, 2012.
“Polymer diffusion in a polymer nanocomposite: Effect of nanoparticle size and polydispersity.”
<https://doi.org/10.1039/C2SM25269D>
137. K. Sinha, W. Wang, K. I. Winey, J. K. Maranas* *Macromolecules*, **45**, 4354 - 4362, 2012.
“Dynamic patterning in PEO based single ion conductors for Li ion batteries.”
<https://doi.org/10.1021/ma300051y>
138. M. D. Green, J.-H. Choi, K. I. Winey, T. E. Long*, *Macromolecules*, **45**, 4749 - 4757, 2012.
“Synthesis of imidazolim-containing ABA triblock copolymers: Role of charge placement, charge density and ionic liquid incorporation.”
<https://doi.org/10.1021/ma300185b>

139. M. D. Green, D. Wang, Sean T. Hemp, J.-H. Choi, K. I. Winey, J.R. Hefflin, T. E. Long*, *Polymer*, **53**, 3677 - 3686, 2012.
“Synthesis of imidazolim ABA triblock copolymers for electromechanical transducers.”
<https://doi.org/10.1016/j.polymer.2012.06.023>
140. J. E. Jenkins*, M. E. Seitz, C. F. Buitrago, K. I. Winey, K. L. Oppen, T. W. Baughman, K. B. Wagener and T. M. Alam* *Polymer*, **53**, 3917 - 3927, 2012.
“The impact of zinc neutralization on the structure and dynamics of precise polyethylene acrylic acid ionomers: A solid-state ^{13}C NMR study.”
<https://doi.org/10.1016/j.polymer.2012.06.019>
141. Y. Ye, J.-H. Choi, K. I. Winey*, Y. A. Elabd*, *Macromolecules*, **45**, 7027 - 7035, 2012.
“Polymerized ionic liquid block and random copolymers: Effect of weak microphase separation on ion transport.”
<https://doi.org/10.1021/ma301036b>
142. A. Karatrantos, R. J. Composto, K. I. Winey, M. Kroger, N. Clarke*, *Macromolecules*, **45**, 7274 - 7281, 2012.
“Entanglements and dynamics of polymer melts near a SWCNT.”
<https://doi.org/10.1021/ma3007637>
143. T. M. Alam*, J. E. Jenkins, D. S. Bolinleanu, M. J. Stevens, A. L. Frischknecht, C. F. Buitrago, K. I. Winey, K. L. Oppen, K. B. Wagener, *Materials*, **5**, 1508 - 1527, 2012.
“Heterogeneous coordination environments in lithium-neutralized ionomers identified using ^1H and ^7Li MAS NMR.”
<https://doi.org/10.3390/ma5081508>
144. R. M. Mutiso, M. C. Sherrott, K. I. Winey*, *Physical Review B*, **86**, 214306, 2012.
“Simulations and theory of the effect of filler size dispersity on electrical conductivity in rod networks.”
<https://doi.org/10.1103/PhysRevB.86.214306>
145. J.-H. Choi, C. L. Willis, K. I. Winey*, *Journal of Membrane Science*, **428**, 516-522, 2013.
“Effects of neutralization with Et_3Al on structure and properties in sulfonated styrenic pentablock copolymers.”
<https://doi.org/10.1016/j.memsci.2012.10.051>
146. G. M. Geise, C. L. Willis, C. M. Doherty, A. J. Hill, T. J. Bastow, T. J. Ford, K. I. Winey, B. D. Freeman, D. R. Paul*, *Industrial & Engineering Chemistry Research*, **52**, 1056-1068, 2013.
“Characterization of aluminum-neutralized sulfonated styrenic pentablock copolymer films.”
<https://doi.org/10.1021/ie202546z>
147. A. Karatrantos, R. J. Composto, K. I. Winey, N. Clarke*, *Soft Matter*, **9**, 3877-3884, 2013.
“Topological entanglement length in polymer melts and nanocomposites by a DPD polymer model.”
<https://doi.org/10.1039/C3SM27651A>
148. W.-S. Tung, N. Clarke, R. J. Composto, K. I. Winey*, *Macromolecules*, **46**, 2317-2322, 2013.
“Temperature dependence of polymer diffusion in MWCNT/PS nanocomposites.”
<https://doi.org/10.1021/ma302517x>

149. M. H. Allen, S. Wang, S. T. Hemp, Y. Chen, L. A. Madsen, K. I. Winey, T. E. Long*, *Macromolecules*, **46**, 3037-3045, 2013.
“Hydroxyalkyl-containing imidazolium homopolymers: Correlation of structure with conductivity.”
<https://doi.org/10.1021/ma302537f>
150. J. Choi, M. J. A. Hore, J. S. Meth, N. Clarke, K. I. Winey, R. J. Composto*, *ACS Macro Letters*, **2**, 485-490, 2013.
“Universal scaling of polymer diffusion in nanocomposites.”
<https://doi.org/10.1021/mz400064w>
151. C.-C. Lin, S. Gam, J. S. Meth, N. Clarke, K. I. Winey, R. J. Composto*, *Macromolecules*, **46**, 4502-4509, 2013.
“Do attractive polymer-nanoparticle interactions retard polymer diffusion in nanocomposites?”
<https://doi.org/10.1021/ma4000557>
152. Y. Ye, S. Wang, E. M. Davis, K. I. Winey*, Y. A. Elabd*, *ACS Macro Letters*, **2**, 575-580, 2013.
“High hydroxide conductivity in polymerized ionic liquid block copolymers.”
<https://doi.org/10.1021/mz400210a>
153. J.-H. Choi, Y. Ye, Y. A. Elabd, K. I. Winey*, *Macromolecules*, **46**, 5290-5300, 2013.
“Network Structure and Strong Microphase Separation for High Ion Conductivity in Polymerized Ionic Liquid Block Copolymers.”
<https://doi.org/10.1021/ma400562a>
154. W.-S. Tung, V. Bird, R. J. Composto, N. Clarke, K. I. Winey*, *Macromolecules*, **46**, 5345-5354, 2013.
“Polymer conformations in CNT/PS nanocomposites from small angle neutron scattering.”
<https://doi.org/10.1021/ma400765v>
155. R. M. Mutiso, M. C. Sherrott, A. R. Rathmell, B. J. Wiley, K. I. Winey*, *ACS Nano*, **7**, 7654-7663, 2013.
“Integrating simulations and experiments to predict sheet resistance and optical transmittance in nanowire films for transparent conductors.”
<https://doi.org/10.1021/nn403324t>
156. J. S. Meth*, S. Gam, J. Choi, C.-C. Lin, R. J. Composto, K. I. Winey, *Journal of Physical Chemistry B*, **117**, 15675-15683, 2013.
“Excluded volume model for the reduction of polymer diffusion into nanocomposites.”
<https://doi.org/10.1021/jp406411t>
157. R. M. Mutiso, K. I. Winey*, *Physical Review E*, **88**, 032134 2013.
“Electrical percolation in quasi-two-dimensional metal nanowire networks for transparent conductors.”
<https://doi.org/10.1103/PhysRevE.88.032134>
158. C. F. Buitrago, T. M. Alam, K. L. Oppen, B. S. Aitken, K. B. Wagener, K. I. Winey*, *Macromolecules*, **46**, 8995-9002, 2013.
“Morphological trends in precise acid- and ion-containing polyethylenes at elevated temperature.”
<https://doi.org/10.1021/ma4013175>

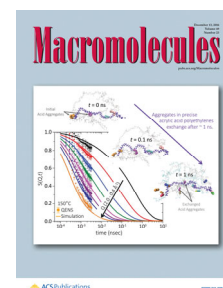
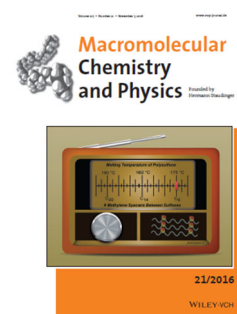
159. C. F. Buitrago, J. E. Jenkins, K. L. Oppen, B. S. Aitken, T. W. Baughman, K. B. Wagener, T. M. Alam, K. I. Winey*, *Macromolecules*, **46**, 9003-9012, 2013.
“Room temperature morphologies of precise acid- and ion-containing polyethylenes.”
<https://doi.org/10.1021/ma4013169>
160. R. M. Mutiso, J. Kikkawa, K. I. Winey*, *Applied Physics Letters*, **103**, 223302, 2013.
“Resistive switching in silver/polystyrene/silver nano-gap devices.”
<https://doi.org/10.1063/1.4831876>
161. U. H. Choi, Y. Ye, D. Salas de la Cruz, W. Liu, K. I. Winey, Y. A. Elabd, J. Runt, R. H. Colby*, *Macromolecules*, **47**, 777-790, 2014.
“Dielectric and viscoelastic responses of imidazolium-based ionomers with different counterions and side chain lengths.”
<https://doi.org/10.1021/ma402263y>
162. J. Choi, M. J. A. Hore, N. Clarke, K. I. Winey, R. J. Composto*, *Macromolecules*, **47**, 2404-2410, 2014.
“Nanoparticle brush architecture controls polymer diffusion in nanocomposites.”
<https://doi.org/10.1021/ma500235v>
163. U.-H. Choi, S. Liang, M. V. O'Reilly, K. I. Winey, J. Runt, R. H. Colby*, *Macromolecules*, **47**, 3145-3153, 2014.
“Influence of solvating plasticizer on ion conduction of polysiloxane single-ion conductors.”
<https://doi.org/10.1021/ma500146v>
164. C. Jangu, J.-H. Wang, Jing-Han, D. Wang, S. Sharick, J. Heflin, K. I. Winey, R. H. Colby, T. Long*, *Macromolecular Chemistry and Physics*, **215**, 1319-1331, 2014.
“Well-Defined imidazolium ABA triblock copolymers as ionic-liquid containing electroactive membranes.”
<https://doi.org/10.1002/macp.201400121>
165. S. Liang, M. V. O'Reilly, U.-H. Choi, H.-S. Shiao, J. Bartels, Q. Chen, J. Runt, K. I. Winey*, R. H. Colby*, *Macromolecules*, **47**, 3145-3153, 2014.
“High ion content siloxane phosphonium ionomers with very low T_g.”
<https://doi.org/10.1021/ma5001546>
166. C.-C. Lin, K. Ohno, N. Clarke, K. I. Winey*, R. J. Composto*, *Macromolecules*, **47**, 5357-5364, 2014.
“Macromolecular diffusion through a polymer matrix with polymer-grafted chained nanoparticles.”
<https://doi.org/10.1021/ma501113c>
167. J. Choi, N. Clarke, K. I. Winey, R. J. Composto*, *ACS Macro Letters*, **3**, 886-891, 2014.
“Fast polymer diffusion through nanocomposites with anisotropic particles.”
<https://doi.org/10.1021/mz500344h>



168. D. M. Sussman†*, W.-S. Tung†, K. I. Winey, K. S. Schweizer, R. A. Riggleman*, *Macromolecules*, **47**, 6462-6472, 2014. (†indicates joint first authorship)
“Entanglement reduction and anisotropic chain and primitive path conformations in polymer liquids under thin film and cylindrical confinement.”
<https://doi.org/10.1021/ma501193f>
169. A. Karatrantos, N. Clarke*, R. J. Composto, K. I. Winey, *Soft Matter*, **11**, 382-388, 2015.
“Polymer conformations in polymer nanocomposites containing spherical nanoparticles.”
<https://doi.org/10.1039/C4SM01980F>
170. R. M. Mutiso, K. I. Winey*, *Progress in Polymer Science*, *invited*, **40**, 63-84, 2015.
“Electrical properties of polymer nanocomposites containing rod-like nanofillers.”
<https://doi.org/10.1016/j.progpolymsci.2014.06.002>
171. M. V. O'Reilly,† H. Masser,† D. R. King, P. C. Painter, R. H. Colby, K. I. Winey*, J. Runt*, *Polymer*, **59**, 133-143, 2015. († indicates joint first authorship)
“Ionic aggregate dissolution and conduction in a plasticized single-ion polymer conductor.”
<https://doi.org/10.1016/j.polymer.2014.12.002>
172. U H. Choi, L. R. Middleton, M. Soccio, C. F. Buitrago, B. S. Aitken, H. Masser, K. B. Wagener, K. I. Winey, J. Runt*, *Macromolecules*, **48**, 410-420, 2015.
“Dynamics of precise ethylene ionomers containing ionic liquid functionality.”
<https://doi.org/10.1021/ma502168e>
173. C. F. Buitrago,† D. S. Bolintineanu,† M. E. Seitz, K. L. Oppen, K. B. Wagener, M. J. Stevens, A. L. Frischknecht*, K. I. Winey*, *Macromolecules*, **48**, 1210-1220, 2015. († indicates joint first authorship)
“Direct comparisons of X-ray scattering and atomistic molecular dynamics simulations for precise acid copolymers and ionomers.”
<https://doi.org/10.1021/ma5022117>
174. M. V. O'Reilly, K. I. Winey*, *RSC Advances*, **5**, 19570-19580, 2015.
“Silica nanoparticles densely grafted with PEO for ionomer plasticization.”
<https://doi.org/10.1039/C4RA15178J>
175. W.-S. Tung, R. J. Composto, R. A. Riggleman*, K. I. Winey*, *Macromolecules*, **48**, 2324-2332, 2015.
“Local polymer dynamics and diffusion in cylindrical nano-confinement.”
<https://doi.org/10.1021/acs.macromol.5b00085>
176. T. W. Gaines, T. Nakano, Y. Chujo, E. B. Trigg, K. I. Winey, K. B. Wagener, *ACS Macro Letters*, **4**, 624-627, 2015.
“Precise sulfite functionalization of polyolefins via ADMET polymerization.”
<https://doi.org/10.1021/acsmacrolett.5b00258>
177. L. R. Middleton, S. Szewczyk, J. Azoulay, D. Murtagh, G. Rojas, K. B. Wagener, J. Cordaro, K. I. Winey*, *Macromolecules*, **48**, 3713-3724, 2015.
“Hierarchical acrylic acid aggregate morphologies produce strain-hardening in precise polyethylene-based copolymers.”
<https://doi.org/10.1021/acs.macromol.5b00797>

178. K. M. Meek,[†] S. Sharick,[†] Y. Ye, K. I. Winey,* Y. A. Elabd*, *Macromolecules*, **48**, 4850-4862, 2015. ([†]indicates joint first authorship)
 “Bromide and hydroxide conductivity-morphology relationships in polymerized ionic liquid block copolymers.”
<https://doi.org/10.1021/acs.macromol.5b00926>
179. V. V. T. Doan-Nguyen, S. Zhang, E. B. Trigg, R. Agarwal, K. I. Winey, C. B. Murray, *ACS Nano*, **9**, 8108-8115, 2015.
 “Synthesis and X-ray characterization of cobalt phosphide nanorods for oxygen reduction reaction.”
<https://doi.org/10.1021/acsnano.5b02191>
180. J. W. Borchert, I. E. Stewart, S. Ye, A. R. Rathmell, B. J. Wiley, K. I. Winey,* *Nanoscale*, **7**, 14496-14504, 2015.
 “Effects of length dispersity and film fabrication on the sheet resistance of copper nanowire transparent conductors.”
<https://doi.org/10.1039/c5nr03671b>
181. W.-S. Tung, R. J. Composto, N. Clarke, K. I. Winey,* *ACS Macro Letters*, **4**, 916-920, 2015.
 “Anisotropic polymer conformations in aligned SWCNT/PS nanocomposites.”
<https://doi.org/10.1021/acsmacrolett.5b00256>
182. J. Choi, M. Cargnello, C. B. Murray, N. Clarke, K. I. Winey, R. J. Composto,* *ACS Macro Letters*, **4**, 952-956, 2015.
 “Fast nanorod diffusion through entangled polymer melts.”
<https://doi.org/10.1021/acsmacrolett.5b00348>
183. J.-H. H. Wang,[†] C. H.-C. Yang,[†] H. Masser, H.-S. Shiau, M. V. O'Reilly, K. I. Winey, J. Runt, P. C. Painter, R. H. Colby,* *Macromolecules*, **48**, 7273-7285, 2015. ([†] indicates joint first authorship)
 “Ion states and transport in styrenesulfonate methacrylic PEO9 random copolymer ionomers.”
<https://doi.org/10.1021/acs.macromol.5b01524>
184. P. J. Griffin, G. B. Salmon, J. Ford, K. I. Winey*, *Journal of Polymer Science, Part B: Polymer Physics*, **54**, 254-262, 2016.
 “Predicting the solution morphology of a sulfonated pentablock copolymer in binary solvent mixtures.”
<https://doi.org/10.1002/polb.23914>
185. J. R. Nykaza, Y. Ye, R. Nelson, A. C. Jackson, F. L. Beyer, E. M. Davis, K. Page, S. Sharick, K. I. Winey, Y. A. Elabd*, *Soft Matter*, **12**, 1133-1144, 2016.
 “Polymerized ionic liquid diblock copolymers: Impact of water / ion clustering on ion conductivity.”
<https://doi.org/10.1039/c5sm02053k>
186. A. Karatrantos*, N. Clarke*, R. J. Composto, K. I. Winey, *Soft Matter*, **12**, 2567-2574, 2016.
 “Entanglements in polymer nanocomposites containing spherical nanoparticles.”
<https://doi.org/10.1039/C5SM02010G>

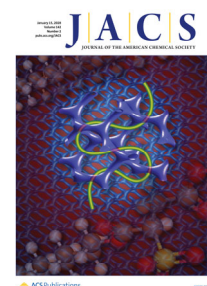
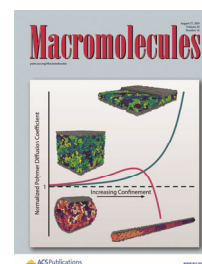
187. S. Sharick, J. Koski, R. A. Riggleman, K. I. Winey,* *Macromolecules*, **49**, 2245-2256, 2016.
“Isolating the effect of molecular weight on ion transport in non-ionic diblock copolymers / ionic liquid mixtures.”
<https://doi.org/10.1021/acs.macromol.5b02445>
188. W.-S. Tung,† P. J. Griffin,† J. S. Meth, N. Clarke, R. J. Composto, K. I. Winey,* *ACS Macro Letters*, **5**, 735-739, 2016. († indicates joint first authorship)
“Temperature-dependent suppression of polymer diffusion in polymer nanocomposites.”
<https://doi.org/10.1021/acsmacrolett.6b00294>
189. P. J. Griffin, V. Bocharova, L. R. Middleton, R. J. Composto, N. Clarke, K. S. Schweizer, K. I. Winey,* *ACS Macro Letters*, **5**, 1141-1145, 2016.
“Influence of the bound polymer layer on nanoparticle diffusion in polymer melts.”
<https://doi.org/10.1021/acsmacrolett.6b00649>
190. T. W. Gaines, E. B. Trigg, K. I. Winey*, K. B. Wagener*, *Macromolecular Chemistry and Physics*, **217**, 2351-2359, 2016..
“High melting precision sulfone polyethylenes synthesized by ADMET chemistry.”
<https://doi.org/10.1002/macp.201600118>
191. L. R. Middleton, E. B. Trigg, E. Schwartz, K. L. Opper, T. W. Baughman, K. B. Wagener, K. I. Winey*, *Macromolecules*, **49**, 8209-8218, 2016.
“Role of periodicity and acid chemistry on the morphological evolution and strength in precise polyethylenes.”
<https://doi.org/10.1021/acs.macromol.6b00937>
192. L. R. Middleton, J. D. Tarver, J. Cordaro, M. Tyagi, C. L. Soles, A. L. Frischknecht, K. I. Winey*, *Macromolecules*, **49**, 9176-9185, 2016.
“Heterogeneous chain dynamics in precise acid-containing polyethylenes: Experiment and simulations.”
<https://doi.org/10.1021/acs.macromol.6b01918>
193. S. K. Kumar*, B. C. Benicewicz, R. A. Vaia, K. I. Winey, *Macromolecules*, **50**, 714-731, 2017.
“50th Anniversary Perspective: Are polymer nanocomposites practical for applications?”
<https://doi.org/10.1021/acs.macromol.6b02330>



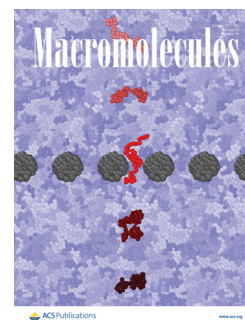
194. E. B. Trigg, M. J. Stevens, K. I. Winey*, *Journal of the American Chemical Society*, **139**, 3747-3755, 2017.
“Chain folding produces a multilayered morphology in a precise polymer: Simulations and experiments.”
<https://doi.org/10.1021/jacs.6b12817>
195. J. Choi, N. Clarke, K. I. Winey, R. J. Composto*, *Macromolecules*, **50**, 3038-3042, 2017.
“Polymer diffusion from attractive and athermal substrates.”
<https://doi.org/10.1021/acs.macromol.7b00086>
196. A. Karatrantos, R. J. Composto, K. I. Winey, N. Clarke*, *Journal of Chemical Physics*, **146**, 203331, 2017.
“Polymer and spherical nanoparticle diffusion in nanocomposites.”
<https://doi.org/10.1063/1.4981258>
197. L. R. Middleton, K. I. Winey*, *Annual Review of Chemical and Biomolecular Engineering*, **8**, 499-523, 2017.
“Nano-scale aggregation in acid- and ion-containing polymers.”
<https://doi.org/10.1146/annurev-chembioeng-060816-101531>
198. C.-C. Lin, P. J. Griffin, H. Chao, M. J. A. Hore, K. Ohno, N. Clarke, R. A. Riggleman, K. I. Winey, R. J. Composto*, *Journal of Chemical Physics*, **146**, 203331, 2017.
“Grafted polymer chains suppress nanoparticle diffusion in a thermal polymer melts.”
<https://doi.org/10.1063/1.4982216>
199. C.-C. Lin, M. Cargnello, C. B. Murray, N. Clarke, K. I. Winey, R. A. Riggleman,* R. J. Composto,* *ACS Macro Letters*, **6**, 869-874, 2017.
“Nanorod mobility influences polymer diffusion in polymer nanocomposites.”
<https://doi.org/10.1021/acsmacrolett.7b00533>
200. E. B. Trigg, B. J. Tiegs, G. W. Coates, K. I. Winey,* *ACS Macro Letters*, **6**, 947-951, 2017.
“High morphological order in a nearly precise acid-containing polymer and ionomer.”
<https://doi.org/10.1021/acsmacrolett.7b00450>
201. K. I. Winey,* *Science*, **358** (6362), 449-450, 2017.
“Perspective: Designing tougher elastomers with ionomers.”
<https://doi.org/10.1126/science.aap8114>
202. E. B. Trigg, L. R. Middleton, D. E. Moed, K. I. Winey*, *Macromolecules*, **50**, 8988-8995, 2017.
“Transverse orientation of acid layers in the crystallites of a precise polymer.”
<https://doi.org/10.1021/acs.macromol.7b02094>
203. L. Yan, K. C. Bustillo, O. Panova, A. M. Minor, K. I. Winey,* *Polymer*, **135**, 111-119, 2018.
“Solution-grown crystals of precise acid- and ion-containing polyethylenes.”
<https://doi.org/10.1016/j.polymer.2017.12.007>
204. P. J. Griffin, J. L. Freyer, N. Han, N. Geller, X. Yin, C. D. Gheewala, T. H. Lambert, L. M. Campos*, K. I. Winey*, *Macromolecules*, **55**, 1681-1687, 2018.
“Ion transport in cycloprepenium-based polymerized ionic liquids.”
<https://doi.org/10.1021/acs.macromol.7b02546>

205. L. R. Middleton, E. B. Trigg, L. Yan, K. I. Winey*, *Polymer*, **144**, 184-191, 2018.
“Deformation-induced morphology evolution of precise polyethylene ionomers.”
<https://doi.org/10.1016/j.polymer.2018.04.049>
206. T. W. Gaines, M. H. Bell, E. B. Trigg, K. I. Winey, K. B. Wagener*, *Macromolecular Chemistry and Physics*, **219**, 1700634, 2018.
“Precision sulfonic acid polyolefins via heterogenous to homogenous deprotection.”
<https://doi.org/10.1002/macp.201700634>
207. E. B. Trigg, T. W. Gaines, M. Maréchal, D. E. Moed, P. Rannou, K. B. Wagener, M. J. Stevens, K. I. Winey*, *Nature Materials*, **17**, 725-731, 2018.
“Self-assembled highly ordered acid layers in precisely sulfonated polyethylene produce efficient proton transport.”
<https://doi.org/10.1038/s41563-018-0097-2>
208. E. B. Trigg, L. R. Middleton, L. Yan, K. I. Winey*, *Macromolecules*, **51**, 7942-7950, 2018.
“Comparing morphological evolution during tensile deformation of two precise polyethylenes via 2D fitting of in situ X-ray scattering.”
<https://doi.org/10.1021/acs.macromol.8b01639>
209. J. F. Pressly, R. A. Riggleman*, K. I. Winey*, *Macromolecules*, **51**, 9789-9797, 2018.
“Polymer diffusion is fastest at intermediate levels of cylindrical confinement.”
<https://doi.org/10.1021/acs.macromol.8b01728>
210. Tianren Zhang, K. I. Winey*, R. A. Riggleman*, *Macromolecules*, **52**, 217-226, 2019.
“Polymer conformations and dynamics under confinement with two length scales.”
<https://doi.org/10.1021/acs.macromol.8b01779>
211. E. J. Bailey, P. J. Griffin, M. Tyagi, K. I. Winey*, *Macromolecules*, **52**, 669-678, 2019.
“Segmental diffusion in attractive polymer nanocomposites: A quasi-elastic neutron scattering study.”
<https://doi.org/10.1021/acs.macromol.8b01716>
212. E. G. Sorte, B. A. Paren, C. G. Rodriguez, C. Fujimoto, C. Poirier, L. J. Abbott, N. A. Lynd, K. I. Winey, A. L. Frischknecht*, T. M. Alam*, *Macromolecules*, **52**, 857-876, 2019.
“Impact of hydration and sulfonation on the morphology and ionic conductivity of sulfonated poly(phenylene) proton exchange membranes.”
<https://doi.org/10.1021/acs.macromol.8b02013>
213. A. L. Frischknecht*, K. I. Winey, *Journal of Chemical Physics*, **150**, 064901, 2019.
“The evolution of acidic and ionic aggregates in ionomers during microsecond simulations.”
<https://doi.org/10.1063/1.5085069>
214. E. J. Bailey, P. J. Griffin, R. J. Composto, K. I. Winey*, *Macromolecules*, **52**, 2182-2188, 2019.
“Multiscale Dynamics of Small, Attractive Nanoparticles and Entangled Polymers in Polymer Nanocomposites.”
<https://doi.org/10.1021/acs.macromol.8b02646>
215. A. Karatrantos, R. J. Composto, K. I. Winey, N. Clarke*, *Macromolecules*, **52**, 2513-2520, 2019.
“Nanorod diffusion in polymer nanocomposites by molecular dynamics simulations.”
<https://doi.org/10.1021/acs.macromol.8b02141>

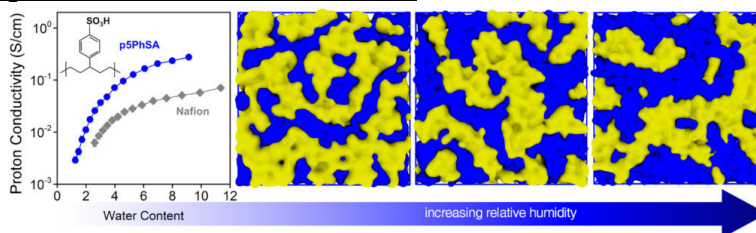
216. E. B. Trigg, K. I. Winey*, *Molecular Systems Design & Engineering*, **4**, 252-262, 2019.
“Nanoscale layers in polymers to promote ion transport.”
<https://doi.org/10.1039/C8ME00086G>
217. B. A. Paren, R. Raghunathan, I. J. Knudson, J. L. Freyer, L. M. Campos*, K. I. Winey, *Polymer Chemistry*, **10**, 2832-2839, 2019.
“Impact of building block structure on ion transport in cyclopropenium-based polymerized ionic liquids.”
<https://doi.org/10.1039/c9py00396g>
218. A. Karatrantos*, R. J. Comspoto, K. I. Winey, M. Kroger*, N. Clarke*, *Polymers*, **11**, 876, 2019.
“Modeling of Entangled Polymer Diffusion in Melts and Nanocomposites: A Review.”
<https://doi.org/10.3390/polym11050876>
219. Lu Yan, M. Haußler, J. Bauer, S. Mecking*, K. I. Winey*, *Macromolecules*, **52**, 4949-4956, 2019.
“Monodisperse and telechelic polyethylenes form extended chain crystals with ionic layers.”
<https://doi.org/10.1021/acs.macromol.9b00962>
220. J. F. Pressly, R. A. Riggleman*, K. I. Winey*, *Macromolecules*, **52**, 6116-6125, 2019.
“Increased polymer diffusivity in Thin-Film Confinement.”
<https://pubs.acs.org/doi/10.1021/acs.macromol.9b01001>
221. A. L. Frischknecht*, B. A. Paren, L. R. Middleton, J. P. Koski, J. D. Tarver, M. Tyagi, C. L. Soles, K. I. Winey*, *Macromolecules*, **52**, 7939-7950, 2019.
“Chain and ion dynamics in precise polyethylene ionomers.”
<https://pubs.acs.org/doi/10.1021/acs.macromol.9b01712>
222. C. Rank†, Lu Yan†, S. Mecking*, K. I. Winey*, *Macromolecules*, **52**, 8466-8475, 2019. († indicates joint first authorship)
“Periodic polyethylene sulfonates from polyesterification: Bulk and nanoparticle morphologies and ionic conductivities.”
<https://doi.org/10.1021/acs.macromol.9b01762>
223. Lu Yan, C. Rank, S. Mecking, K. I. Winey*, *Journal of the American Chemical Society*, **142**, 857-866, 2020.
“Gyroid and other ordered morphologies in single-ion conducting polymers and their impact on ion conductivity.”
<https://pubs.acs.org/doi/full/10.1021/jacs.9b09701>



224. Lu Yan, L. Hoang, K. I. Winey*, *Macromolecules*, **53**, 1777-1784, 2020.
“Ionomers from step-growth polymerization: Highly ordered ionic aggregates and ion conduction.”
<https://doi.org/10.1021/acs.macromol.9b02220>
225. E. J. Bailey, P. J. Griffin, R. J. Composto, K. I. Winey*, *Macromolecules*, **53**, 2711-2753, 2020.
“Characterizing the areal density and desorption kinetics of physically adsorbed polymer in polymer nanocomposite melts.”
<https://doi.org/10.1021/acs.macromol.9b02205>
226. E. J. Bailey*, K. I. Winey*, *Progress in Polymer Science*, **105**, 101242, 2020.
“Dynamics of polymer segments, polymer chains, and nanoparticles in polymer nanocomposite melts: A review.”
<https://www.sciencedirect.com/science/article/pii/S0079670020300356>
227. Jinseok Park, E. J. Bailey, R. J. Composto, K. I. Winey*, *Macromolecules*, **53**, 3933-3939, 2020.
“Single-particle tracking of nonsticky and sticky nanoparticles in polymer melts.”
<https://dx.doi.org/10.1021/acs.macromol.0c00457>
228. K. I. Winey and A. L. Frischknecht, *Macromolecules*, **53**, 6099-6101, 2020.
“A curated experimental compilation analyzed by theory is more than a review.”
<https://doi.org/10.1021/acs.macromol.0c01291>
229. E. J. Bailey, M. Tyagi, K. I. Winey*, *Journal of Polymer Science*, **58**, 2906-2913, 2020.
“Correlation between backbone and pyridine dynamics in poly(2-vinyl pyridine)/silica polymer nanocomposites.”
<https://doi.org/10.1002/pol.20200416>
230. C. F. Buitrago, J. F. Pressly, A. S. Yang, P. A. Gordon, R. A. Riggleman, B. Natarajan*, K. I. Winey*, *Soft Matter*, **16**, 8912-8924, 2020.
“Creep attenuation in glassy polymer nanocomposites with variable polymer–nanoparticle interactions.”
<https://doi.org/10.1039/d0sm01247e>
231. E. J. Bailey, R. A. Riggleman, K. I. Winey*, *Macromolecules*, **53**, 8171-8180, 2020.
“Polymer conformations and diffusion through a monolayer of confining nanoparticles.”
<https://dx.doi.org/10.1021/acs.macromol.0c01524>
232. B. A. Paren, B. A. Thurston, W. J. Neary, A. Kendrick, J. G. Kennemur, M. J. Stevens, A. L. Frischknecht, K. I. Winey*, *Macromolecules*, **53**, 8960-8973, 2020.
“Percolated ionic aggregate morphologies and decoupled ion transport in precise sulfonated polymers synthesized by ring-opening metathesis polymerization.”
<https://dx.doi.org/10.1021/acs.macromol.0c01906>



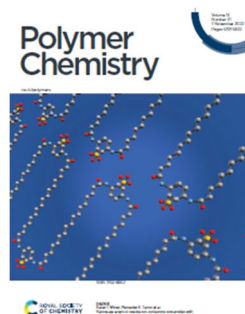
233. Tianren Zhang, K. I. Winey*, R. A. Riggelman*, *Journal of Chemical Physics*, **153**, 184095, 2020.
“Conformation and dynamics of ring polymers under symmetric thin film confinement.”
<https://aip.scitation.org/doi/10.1063/5.0024729>
234. T. Zelovich, K. I. Winey, M. E. Tuckerman*, *Journal of Materials Chemistry A*, **9**, 2448-2458, 2021.
“Hydronium ion diffusion in model proton exchange membranes at low hydration: Insights from ab initio molecular dynamics.”
<https://doi.org/10.1039/D0TA10565A>
235. Jinseok Park, A. Staiger, S. Mecking*, K. I. Winey*, *Macromolecules*, **54**, 4269–4279, 2021.
“Structure-property relationships in single-ion conducting multiblock copolymers: A phase diagram and ionic conductivities.”
<https://doi.org/10.1021/acs.macromol.1c00493>
236. Emily Y. Lin, A. L. Frischknecht*, K. I. Winey, R. A. Riggelman*, *Journal of Chemical Physics*, **155**, 034701, 2021.
“Effect of surface properties and polymer chain length on polymer adsorption in solution.”
<https://doi.org/10.1063/5.0052121>
237. B. A. Paren, B. A. Thurston, A. Kanthawar, W. J. Neary, A. Kendrick, M. Maréchal, J. G. Kennemur, M. J. Stevens,* A. L. Frischknecht,* K. I. Winey*, *Chemistry of Materials*, **33**, 6041-6051, 2021.
“Fluorine-free precise polymer electrolyte for efficient proton transport: Experiments and simulations.”
<https://doi.org/10.1021/acs.chemmater.1c01443>



- + “No Dead Ends: New Material Makes for a Promising Fuel Cell Electrolyte,” Evan Lerner, August 5, 2021. <https://blog.seas.upenn.edu/no-dead-ends-new-material-makes-for-a-promising-fuel-cell-electrolyte/>
- + “Researchers Face Challenges Devising a PFAS-Free Future,” XiaoZhi Lim, *ACS Central Science*, **11**, 371-375, 2025. <https://doi.org/10.1021/acscentsci.5c00389>
- + “What will it take for a PFAS-free future?,” XiaoZhi Lim, *Chemical & Engineering News*, April 30, 2025. https://cen.acs.org/materials/take-PFAS-free-future/103/web/2025/04?sc=230901_cenrssfeed_eng_latestnewsrss_cen
238. A. Staiger, B. A. Paren, R. Zunker, S. Hoang, M. Häußler, K. I. Winey*, Stefan Mecking*, *Journal of the American Chemical Society*, **143**, 16725–16733, 2021.
“Anhydrous proton transport within phosphonic acid layers in monodisperse telechelic polyethylenes.”
<https://pubs.acs.org/doi/10.1021/jacs.1c08031>

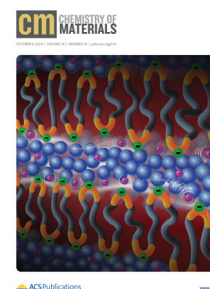
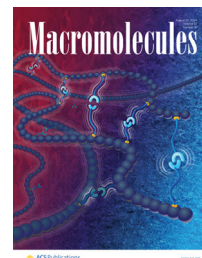
239. Jinseok Park, A. Staiger, S. Mecking, K. I. Winey*, *ACS Nano*, **15**, 16738–16747, 2021.
“Sub-3-nanometer domain spacings of ultrahigh- χ multiblock copolymers with pendant ionic groups.”
<https://doi.org/10.1021/acsnano.1c06734>
240. Jinseok Park, A. Staiger, S. Mecking, K. I. Winey*, *ACS Central Science*, **8**, 388–393, 2022.
“Ordered nanostructures in thin films of precise ion-containing multiblock copolymers.”
<https://doi.org/10.1021/acscentsci.1c01594>

+ “Penn Engineering Opens the Door for a New Class of Polymers That Can Improve Nanopatterning,” Evan Lerner, March 10, 2022. <https://blog.seas.upenn.edu/penn-engineering-opens-the-door-for-a-new-class-of-polymers-that-can-improve-nanopatterning/>
241. B. A. Paren, M. Häußler, P. Rathenow, S. Mecking, K. I. Winey*, *Macromolecules*, **55**, 2813–2820, 2022.
“Decoupled Cation Transport within Layered Assemblies in Sulfonated and Crystalline Telechelic Polyethylenes.”
<https://doi.org/10.1021/acs.macromol.2c00132>
242. A. S. Arrington, J. R. Brown, M. S. Win, K. I. Winey, T. E. Long*, *Polymer Chemistry*, **13**, 3116–3125, 2022.
“Melt Polycondensation of Carboxytelechelic Polyethylene for the Design of Degradable Segmented Copolyester Polyolefins.”
<https://doi.org/10.1039/d2py00394e>
243. B. A. Paren, N. Nguyen, V. Ballance, D. T. Hallinan, J. G. Kennemur, K. I. Winey*, *Macromolecules*, **55**, 4692–4702, 2022.
“Superionic Li-ion transport in a single-ion conducting polymer blend electrolyte.”
<https://doi.org/10.1021/acs.macromol.2c00459>
244. Jinseok Park, A. Staiger, S. Mecking, K. I. Winey*, *ACS Macro Letters*, **11**, 1008–1013, 2022.
“Enhanced Li-ion transport through selectively solvated ionic layers of single-ion conducting multiblock copolymers.”
<https://doi.org/10.1021/acsmacrolett.2c00288>
245. Jinseok Park, K. I. Winey*, *JACS Au*, **2**, 1769–1780, 2022. INVITED
“Double gyroid morphologies in precise ion-containing multiblock copolymers synthesized via step-growth polymerization.”
<https://doi.org/10.1021/jacsau.2c00254>
246. Jinseok Park, C. P. Easterling, C. C. Armstrong, D. L. Huber, J. I. Bowman, B. S. Sumerlin, K. I. Winey*, M. K. Taylor*, *Polymer Chemistry*, **13**, 5811–5819, 2022.
“Nanoscale layers of precise ion-containing polyamides with lithiated phenyl sulfonate in the polymer backbone.”
<https://doi.org/10.1039/d2py00802e>



247. Dae Seok Kim, Young-Joo Lee, Yuchen Wang, Jinseok Park, K. I Winey, Shu Yang*, *ACS Appl. Mater. Interfaces*, **14**, 50171–50179, 2022.
“Self-folding liquid crystal network filaments patterned with vertically aligned mesogens.”
<https://doi.org/10.1021/acsami.2c14947>
248. R. J. Chethalen, E. J. Fastow, E. B. Coughlin*, K. I. Winey*, *ACS Macro Letters*, **12**, 107–112, 2023.
“Thiol–ene click chemistry incorporates hydroxyl functionality on polycyclooctene to tune properties.”
<https://doi.org/10.1021/acsmacrolett.2c00670>
249. Kaitlin Wang, R. J. Composto, K. I. Winey*, *Macromolecules*, **56**, 2277–2285, 2023.
“ToF-SIMS depth profiling to measure nanoparticle and polymer diffusion in polymer melts.”
<https://doi.org/10.1021/acs.macromol.3c00033>
250. Yechan Kim, R. J. Composto*, K. I. Winey*, *ACS Nano*, **17**, 9224–9234, 2023.
“pH-mediated size-selective adsorption of gold nanoparticles on diblock copolymer brushes.”
<https://doi.org/10.1021/acsnano.3c00212>
251. Entao Yang, James F. Pressly, Bharath Natarajan, Robert Colby, K. I. Winey*, Robert A. Riggelman*, *Soft Matter*, **19**, 7580–7590, 2023.
“Understanding creep suppression mechanisms in polymer nanocomposites through machine learning.”
<https://doi.org/10.1039/d3sm00898c>
252. M. Win, K. I. Winey*, A. L. Frischknecht*, *Macromolecules*, **56**, 9905–9913, 2023.
“Morphology–Diffusivity Relationships in Fluorine-Free Random Terpolymers for Proton-Exchange Membranes.”
<https://doi.org/10.1021/acs.macromol.3c01707>
253. Ching-Yu Wang, B. T. Ferko, K. Shen, K. I. Winey, J. M. Vohs*, R. J. Gorte, *Microporous and Mesoporous Materials*, **366**, 112945, 2024.
“Determination of film thicknesses of metal oxides prepared by atomic layer deposition on SBA-15.”
<https://doi.org/10.1016/j.micromeso.2023.112945>
254. E. J. Fastow, R. J. Chethalen, E. B. Coughlin*, K. I. Winey*, *GIANT*, **17**, 100231, 2024.
“Thiol–ene click chemistry incorporates carboxylic acid-terminated alkane pendants on polycyclooctene to tune properties.”
<https://doi.org/10.1016/j.giant.2023.100231>
255. Ikechukwu Martin Ogbu, Eli J. Fastow, Weihao Zhu, Lucille A. Wells, Roshni J. Chethalen, Vivek Nair, Zachary R. Hinton, Alex H. Balzer, Weiguo Hu, E. Bryan Coughlin, Karen I. Winey*, and Marisa C. Kozlowski*, *Macromolecules*, **57**, 5860–5869, 2024.
“Hydrocarboxylation of C=C bonds in polycyclooctene: Progress Toward Valorization of Waste Polyolefins.”
<https://doi.org/10.1021/acs.macromol.4c00771>
256. Kaitlin Wang, Karen I. Winey*, *Macromolecules*, **57**, 6789–6795, 2024.
“Vehicular and core-shell nanoparticle diffusion in attractive entangled polymer melts.”
<https://doi.org/10.1021/acs.macromol.4c00808>

257. Chien-Hua Tu, Eli J. Fastow, Roshni John Chethalen, George Papamokos, E. Bryan Coughlin, and Karen I. Winey*, *Macromolecules*, **57**, 8067-8081, 2024. "Coupling and decoupling between stickers and backbones in associating polymers with terminally functionalized side chains."
<https://doi.org/10.1021/acs.macromol.4c00983>
258. Kaitlin Wang, Karen I. Winey*, *ACS Macro Letters*, **13**, 1192-1197, 2024. "Nanoparticle diffusion in crowded polymer nanocomposite melts."
<https://doi.org/10.1021/acsmacrolett.4c00438>
259. Ren H. Bean, Garvit Nayyar, Margaret K. Brown, Jianheng Wen, Yiqun Fu, Karen I. Winey, Christopher B. Williams, and Timothy E. Long*, *Additive Manufacturing*, **92**, 104391, 2024. "Vat photopolymerization 3D printing of ABA poly(styrene-*b*-isoprene-*b*-styrene) triblock copolymers."
<https://doi.org/10.1016/j.addma.2024.104391>
260. Ikechukwu Martin Ogbu, Chien-Hua Tu, Eli J. Fastow, Zachary Hinton, Karen I. Winey*, and Marisa C. Kozlowski*, *Polymer Degradation and Stability*, **229**, 110987, 2024. "N₂O deconstruction of polycyclooctene to generate carbonyl-functionalized macromonomers."
<https://doi.org/10.1016/j.polymdegradstab.2024.110987>
261. Jou-Tsen Ou, Margaret K. Brown, Jason Kaff, Rhys W. Hughes, Dale L. Huber, Brent S. Summerlin, Karen I. Winey, Mercedes K. Taylor*, *ACS Applied Polymer Materials*, **6**, 11420-11426, 2024. "Structural effects on solubility and crystallinity in polyamide ionomers."
<https://doi.org/10.1021/acsapm.4c02012>
262. Daniel L. Vigil, Benjamin T. Ferko, Anne Saumer, Stefan Mecking, Mark J. Stevens*, Karen I. Winey*, Amalie L. Frischknecht*, *Chemistry of Materials*, **36**, 9970-9979, 2024. "Partial solvation of lithium ions enhances conductivity in a nanophase-separated polymer electrolyte."
<https://doi.org/10.1021/acs.chemmater.4c02398>
263. Roshni John Chethalen, Myounguk Kim, Juan Correa Ruiz, Chien-Hua Tu, Jordan Gray, Karen I. Winey, Alan J. Lesser, Alfred J. Crosby, E. Bryan Coughlin*, *Macromolecules*, **57**, 10358-10367, 2024. "Incorporation of thioacetate pendants on a polyalkenamer enables high extensibility."
<https://doi.org/10.1021/acs.macromol.4c02110>
264. Ye Chan Kim, Son Hoang, Karen I. Winey*, Russell J. Composto*, *ACS Applied Materials & Interfaces*, **16**, 61083-61095, 2024. "Size-dependent electrostatic adsorption of polymer-grafted gold nanoparticles on polyelectrolyte brushes."
<https://doi.org/10.1021/acsami.4c14774>



265. Ikechukwu Martin Ogbu, Eli J. Fastow, Karen I. Winey*, and Marisa C. Kozlowski*, *Macromolecules*, **57**, 10767-10777, 2024.
“Hydroesterification of polycyclooctene to access linear ethylene ethyl acrylate copolymers as a step toward polyolefin functionalization.”
<https://doi.org/10.1021/acs.macromol.4c02074>
266. Christopher W. Johnson, Lizhu Zhang, Keira E. Culley, Sol Mi Oh, Douglas L. Gin, Geoffrey M. Geise, Amish J. Patel, Karen I. Winey, Chinedum O. Osuji*, *ACS Nano*, **19**, 2559-2569, 2025.
“The effects of morphology and hydration on anion transport in self-assembled nanoporous membrane.”
<https://doi.org/10.1021/acsnano.4c14234>
267. Eli J. Fastow, Anne N. Radzanowski, E. Bryan Coughlin, Karen I. Winey* *ACS Applied Polymer Materials*, **7**, 1618-1628, 2025.
“Increasing branching and functionalization decreases crystallinity and crystallization rate in linear EVOH.”
<https://doi.org/10.1021/acsapm.4c03361>
268. Zitan Huang, Sol Mi Oh, Karen I. Winey*Michael A. Hickner*, *Macromolecules*, **xx**, xx-xx, 2025.
“Water dynamics of superacid aromatic proton exchange membranes for fuel cell applications.”
<https://doi.org/10.1021/acs.macromol.4c02925>
269. Anne N. Radzanowski, Eli J. Fastow, Chien-Hua Tu, James Votruba-Drzal, Vivek Nair, Karen I. Winey, E. Bryan Coughlin*, *Macromolecules*, **58**, 2675-2682, 2025.
“Impact of hydroxyl functionalization and unsaturation on linear poly(ethylene-co-vinyl alcohol)”
<https://doi.org/10.1021/acs.macromol.4c02575>
270. Katie Sun, Ye Chan Kim, Russell J. Composto,* and Karen I. Winey*, *Macromolecules*, **58**, 2412-2424, 2025.
“Gold nanoparticle adsorption in covalently bonded weak polyelectrolyte brushes.”
<https://doi.org/10.1021/acs.macromol.4c02332>
271. Pedro M. Jimenez Antenucci, Anne N. Radzanowski, Eli J. Fastow, James Votruba-Drzal, Madyson Redder, Karen I. Winey*, E. Bryan Coughlin*, Marisa C. Kozlowski*, *ACS Applied Polymer Materials*, **7**, 7275–7282, 2025.
“Synthesis and blending of two poly(ethylene-co-vinyl alcohol) polymers with mixed 1,2-diol stereochemistry.”
<https://doi.org/10.1021/acsapm.5c00785>
272. Sol Mi Oh, Victoria S. Lee, William F. Drayer, Max S. Win, Lindsay F. Jones, Courtney M. Leo, Justin G. Kennemur, Amalie L. Frischknecht*, Karen I. Winey*, *JACS Au*, **5**, 2641–2653, 2025.
“Effect of sulfonation level on the percolated morphology and proton conductivity of hydrated fluorine-free copolymers: Experiments and simulations”
<https://doi.org/10.1021/jacsau.5c00218>

BOOK CHAPTERS AND OTHER PUBLICATIONS (+ invited publication; * corresponding author)

- 1.+ K. I. Winey, Physics News in 1995, American Institute of Physics, 64-65, 1996.
“Polymer dynamics in thin films.”
- 2.+ K. I. Winey, L. J. Fetters, and E. L. Thomas*, Encyclopedia of Applied Physics, G. L. Trigg, Ed.; VCH Publishers, Inc., New York, **20**, 429-449, 1997.
“Synthesis, characterization and properties of model polymers.”
- 3.+ K. I. Winey, book review of Introduction to Ionomers by A. Eisenberg and J.-S. Kim for *Euromaterials*; Wiley-VCH Publishers, Inc. Weinheim, Germany, **6**, November, 16, 1999.
- 4.+ K. I. Winey, book review of Block Copolymers by F.J. Balta Calleja and Z. Roslaniec, Eds., for the *Journal of the American Chemical Society*; **123** (29), 7198, 2001.
5. M. L. Hans, N. Dan, K. I. Winey, A. M. Lowman, S. J. Siegel*, in Handbook of Biodegradable Polymeric Materials and Their Applications, Volume 2: Applications, S. K. Mallapragada and B. Narasimhan, Eds., American Scientific Publishers, Inc., Stevenson Ranch, CA, 2005.
“Daily to annual drug delivery strategies for psychoactive compounds.”
6. K.I. Winey, M. D. Dadmun, C. Leibig, R. Oliver, Eds; Materials Research Society Symposium Series 856E (electronic only publication), 2005
“Multicomponent polymer systems - Phase behavior, dynamics and applications.”
- 7.+ F. Du and K. I. Winey*, in Nanomaterials Handbook, Y. Gogotsi, Editor, Taylor & Francis Group, CRC Press, Boca Raton, FL, 565-583, 2006.
“Nanotubes in multifunctional polymer nanocomposites.”
- 8.+ A. Kota and K. I. Winey*, in McGraw-Hill Yearbook of Science and Technology 2009, McGraw-Hill Book Co., New York, NY, 297-301, 2009.
“Polymer nanocomposites with carbon nanotubes.”
- 9.+ K. I. Winey, book review of Polymer Microscopy, Third Edition by L.C. Sawyer, D.T. Grubb, and G.F. Meyers for the *Journal of the American Chemical Society*; **131** (9), 3408, 2009.
10. T. M. Alam*, J. E. Jenkins, M. E. Seitz, C. F. Buitrago, K. I. Winey, K. L. Opper, T. W. Baughman, K. B. Wagener, in NMR Spectroscopy of Polymers: Innovative Strategies for Complex Macromolecules, H. Chen *et al.* ACS Symposium Series, American Chemical Society, Washington, DC, **1077**, 115-131, 2011.
“¹H MAS NMR spectroscopy of polyethylene acrylic acid copolymers and ionomers.”
- 11.+ R. M. Mutiso and K. I. Winey*, Polymer Science: A Comprehensive Reference, K. Matyjaszewski and M. Moller (eds); Elsevier Publishers, Amsterdam, **7**, 327-344, 2012.
“Electrical conductivity of polymer nanocomposites.”

PATENTS ISSUED

1. K. I. Winey, R. Haggenmueller, F. Du, U. S. Patent 7,148,269, issued December 12, 2006.
“Interfacial polymer incorporation of nanotubes.”
2. K. I. Winey, F. Du, R. Haggenmueller, T. Kashiwagi, U. S. Patent 7,265,175, issued September 4, 2007.
“Flame retardant nanocomposite.”
3. K. I. Winey, R. Haggenmueller, F. Du, W. Zhou, U. S. Patent 7,285,591, issued October 23, 2007.
“Polymer-nanotube composites, fibers and processes.”
4. S. J. Siegel, K. I. Winey, R. E. Gur, R. H. Lenox, U.S. Patent 7,666,445, issued February 23, 2010.
“Polymer-based surgically implantable haloperidol delivery systems and methods for their production and use.”
5. K. I. Winey, F. Du, R. Haggenmueller, U.S. Patent 7,759,413, issued July 20, 2010.
“Dispersion method.”
6. S. J. Siegel, K. I. Winey, U.S. Patent 8,221,778, issued July 17, 2012.
“Drug-containing implants and methods of use thereof.”
7. S. J. Siegel, K. I. Winey, U.S. Patent 8,329,203 issued December 11, 2012.
“Drug-containing implants and methods of use thereof.”
8. S. J. Siegel, K. I. Winey, U.S. Patent 8,741,327 issued June 3, 2014.
“Method of maintaining therapeutic risperidone levels in a PLA:PLGA implant.”
9. S. J. Siegel, K. I. Winey, R. E. Gur, R. H. Lenox, U.S. Patent 8,758,795 issued June 24, 2014.
“Polymer-based surgically implantable haloperidol delivery systems and methods for their production and use.”
10. S. J. Siegel, K. I. Winey, U.S. Patent 8,802,127 issued August 12, 2014.
“Risperidone-containing PLA:PGA implants and methods of use thereof.”
11. M. Moniruzzaman, K. I. Winey, J. Chattopadhyay, W. E. Billups, U.S. Patent 8,816,042 issued August 26, 2014.
“Polyamide composites having flexible spacers”
12. Y. A. Elabd, K. I. Winey, Y. Ye, J.-H. Choi, T.-S. S. Sharick, U.S. Patent 8,853,286 issued October 7, 2014.
“Polymerized ionic liquid block copolymers as battery membranes”
13. Y. A. Elabd, K. I. Winey, Y. Ye, J.-H. Choi, T.-S. S. Sharick, U.S. Patent 9,365,688 issued June 14, 2016.
“Polymerized ionic liquid block copolymers as battery membranes”

14. S. J. Siegel, K. I. Winey, U.S. Patent 9,439,905 issued September 13, 2016.
“Risperidone-containing PLA:PGA implants and methods of use thereof.”
15. S. J. Siegel, K. I. Winey, U.S. Patent 9,717,799 issued August 1, 2017.
“Drug-containing implants and methods of use thereof.”
16. Y. A. Elabd, K. I. Winey, Y. Ye, J.-H. Choi, T.-S. S. Sharick, U.S. Patent 9,806,314 issued October 31, 2017.
“Polymerized ionic liquid block copolymers as battery membranes.”
17. S. J. Siegel, K. I. Winey, U.S. Patent 9,895,447 issued February 20, 2018.
“Drug-containing implants and methods of use thereof.”
18. S. J. Siegel, K. I. Winey, U.S. Patent 9,925,268 issued March 27, 2018.
“Drug-containing implants and methods of use thereof.”
19. S. J. Siegel, K. I. Winey, U.S. Patent 9,925,268 issued October 30, 2018.
“9-OH-risperidone controlled release composition.”
20. Y. A. Elabd, K. I. Winey, Y. Ye, J.-H. Choi, T.-S. S. Sharick, U.S. Patent 10,122,001 issued November 6, 2018.
“Polymerized ionic liquid block copolymers as battery membranes.”
21. S. J. Siegel, K. I. Winey, U.S. Patent 10,736,965 issued August 11, 2020.
“Risperidone biodegradable implant.”

LICENSING AGREEMENTS

NuPathe: Demonstration of a long-term drug delivery implant in collaboration with Dr. Steve Siegel, formerly of the University of Pennsylvania. Transferred to Teva Pharmaceuticals.

Teva Pharmaceuticals Industries Ltd.: Demonstration of a long-term drug delivery subcutaneous implant comprising a physical mixture of drug and biodegradable polymer. Our journal publications on this topic date from 2002 to 2010, while the patents run from 2010 to 2018. In August 2023, Teva received FDA approval for a risperidone extended-release injectable suspension for the treatment of schizophrenia in adults. This is the first subcutaneous, long-acting formulation of risperidone.

JJ X-ray: Designs for an environmental sample chamber for controlling relative humidity and temperature during *in situ* X-ray scattering experiments. (*Review of Scientific Instruments*, **83**, 025112, 2012.) Subsequently, JJ X-ray combined with XENOCs, which now sells an environmental chamber with many of our design elements.

CSIRO: Polymerized ionic liquid block copolymers (exclusive license). Includes the following patents: 8,853,286; 9,365,688; 9,806,314; 10,122,001 (June 2021). See joint publication and patents with Prof. Yossef Elabd.

RESPONSIBILITIES AT THE UNIVERSITY OF PENNSYLVANIA**Department of Chemical and Biomolecular Engineering =====**

<u>Faculty Advisor</u> , Senior Design Team	12/22 – 5/23
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Department of Materials Science and Engineering =====

<u>Faculty Advisor</u> , Undergraduate Student Advisor	9/92 -
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Past

<u>Department Chair</u>	7/16 – 6/21
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<u>Chair</u> , Hiring Committee for Materials Science and Engineering	8/15 – 5/16
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<u>Chair</u> , Hiring Committee for Materials Science and Engineering	7/11 – 6/14
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<u>Chair</u> , JackFest, A Symposium in Celebration of Prof. John E. Fischer	9/08 - 5/09
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<u>Chair</u> , ABET Committee	1/05 - 1/07
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<u>Chair</u> , Graduate Admissions, Materials Science and Engineering	9/00 - 10/03
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<u>Chair</u> , Graduate Recruiting, Materials Science and Engineering	9/98 - 10/03
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<u>Chair</u> , MSE Departmental Website	9/01 - 7/03
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<u>Member</u> , Consultative Committee for Vice Provost for Research	2/13 – 7/13
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<u>Member</u> , University Nano Advisory Council	11/11 – 7/13
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<u>Member</u> , Hearing Panel for Student Disciplinary System	9/11 – 8/13
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<u>Member</u> , ABET Committee	7/10 - 12/11
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<u>Member</u> , Faculty Hiring Committee	10/06 - 6/10
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<u>Member</u> , Consultative Committee for New Department Chair	4/07 - 6/07
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<u>Member</u> , MSE Departmental Seminars	1/06 to 12/06
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<u>Member</u> , Graduate Admissions, Materials Science and Engineering	7/96 - 6/99
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<u>Member</u> , Graduate Recruiting, Materials Science and Engineering	9/92 - 6/98
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<u>Member</u> , MSE Consultative Committee for New Department Chair	5-9/97; 9-11/00, 12/01 - 3/02
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<u>Member</u> , MSE Research and Centers Planning Committee	9/95 - 5/96
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<u>Member</u> , Biomaterials Curriculum Committee	9/94 - 6/96
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<u>Faculty Advisor</u> , Materials Engineering and Research Society (MERS)	1/07 - 12/11
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<u>Faculty Advisor</u> , initiated Alpha Sigma Mu, honor society for materials science	9/97 - 4/05
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<u>Wellness Ambassador</u>	9/22 -6/23
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<u>Founder</u> , MSE Undergraduate Laboratory in Polymer Science	6/93 - 6/98
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<u>Coordinator</u> , MSE Departmental Seminar Series	9/92 - 5/93
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School of Engineering and Applied Science =====**Current**

<u>Faculty Advisor</u> , Tau Beta Pi	11/22 -
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Past

<u>Chair</u> , Bioengineering Chair Search Committee	5/12 - 9/12
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<u>Chair</u> , Oversight Committee, Engineering Management & Technology Masters' Pgm	10/09 - 6/11
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<u>Chair</u> , Faculty Council	7/03 – 6/04
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<u>Chair</u> , Academic Performance Committee	1-6/96; 7/97 - 6/99
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<u>Co-Faculty Advisor</u> , Society of Women Engineers	11/98 - 6/04
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<u>Penn Engineering Wellness Ambassador</u> ,	10/15 – 7/18
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<u>Member</u> , SEAS Faculty Awards Committee	9/12 – 6/14
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<u>Member</u> , Faculty Personnel Committee	7/11 - 6/12
<u>Member</u> , Chemical and Biomolecular Engineering Chair Search Committee	04/12 - 5/12
<u>Member</u> , Steering Committee, Advancing Women in Engineering (AWE)	3/07 - 12/11
<u>Member</u> , Faculty Personnel Committee	9/07 - 6/09
<u>Member</u> , Faculty Council	7/02 - 6/06
<u>Member</u> , Academic Performance Committee	9/92 - 6/99

University =====

Current

<u>Member</u> , Vagelos Institute for Energy Science and Technology (Viest)	9/17 -
<u>Member</u> , Laboratory for Research on the Structure of Matter (LRSM)	9/92 -

Past

<u>Penn Director</u> , Nanotechnology Institute	12/11 – 6/14
<u>Penn Director</u> , Energy Commercialization Institute	12/11 – 3/14

<u>Co-Chair</u> with Paul Heiney, Structural Tools Workshop, LRSM full-day workshop	1/10
<u>Co-Chair</u> with Ray Gorte, Public Symp., Fuel Cells: Materials, Challenges & Breakthroughs	9/09

<u>Member</u> , Selection Committee, The President's Innovation Prizes	2/23 – 5/23
<u>Member</u> , Middle States Reaccreditation, subcommittee on leadership	10/21 – 8/23
<u>Member</u> , Search committee for the LRSM Director	10/19 – 12/19
<u>Member</u> , Pennergy Advisory Board	1/10 -12/16
<u>Member</u> , Vice Provost for Research's Faculty Innovation Council	12/13 - 6/17
<u>Member</u> , Nano-Bio Interface Center Education Committee	7/06 - 6/09
<u>Member</u> , Institute for Medicine and Engineering	4/03 - 6/09
<u>Member</u> , University Committee on Communications	/02 - 7/03
<u>Member</u> , University Safety and Security Committee	9/96 - 6/99
<u>Co-Instructor</u> , X-ray Scattering Mini-Course sponsored by LRSM	6/01
<u>Instructor</u> , Advanced Materials Characterization sponsored by LRSM	4/00
<u>Faculty Associate</u> , Ware College House	9/98 - 5/99

Courses =====

<u>Structure of Materials</u> (MSE 3600; required junior level course)
<u>Sustainability and Materials</u> (CBE 5020; new elective)

<u>Introduction to Engineering: Energy, Environment & Sustainability</u> (ENGR 1010)
<u>Materials Lab II</u> (MSE 2020; revised undergraduate laboratory class)
<u>Materials Sustainability</u> (MSE 5040; seminar style course; new course)
<u>Micro- & Nano-Scale Materials Laboratory</u> (MSE 250); revised undergraduate laboratory class)
<u>Experimental Methods in Materials Science</u> (MSE 500; new course; graduate level laboratory class)
<u>Introduction to Materials Science</u> (EMTM 665; masters level course for management program)
<u>Introduction to Nanotechnology</u> (EAS 210; new course; interdisciplinary course for engineers)
<u>Introduction to Polymers</u> (MSE 430 / MSE 580; first level course in polymers)
<u>Senior Design</u> (MSE 495 & 496; one or two small group projects per year)
<u>Structural Materials</u> (MSE 220; first required course within the department)
<u>Topics in Polymer Physics</u> (MSE 790; graduate elective)

PROFESSIONAL ACTIVITIES BEYOND PENN**Advisory Positions** =====**Current**

Chair, EFRC Advisory Board, FaCT: Fast and Cooperative ion Transport
in Polymer Based Materials 9/22 – present

Past

Member, Scientific Advisory Board,
Max Planck Institute of Polymer Research (Mainz, Germany) [6 year appointment] 4/19 – 3/25
Councilor, American Physical Society (elected), representing Div. of Polymer Physics 1/21 – 12/24
Member, Advisory Board, MRS-Cambridge Materials Fundamentals book series 10/18 – 10/22
Member, Technical Advisory Board, Center for Hierarchical Materials Design (CHiMaD),
Northwestern University, University of Chicago, Argonne National Laboratory 3/14 – 12/19
Invited Participant, NSF Workshop on Materials Laboratories of the Future Soft Materials 10/22
Member, External Advisory Board, Lehigh University [4-year appointment] 5/18 – 4/22
Member, Advisory Committee, Experimental Physics Investigators, Moore Foundation 1/22 – 12/22
Expert Reviewer, European Science Foundation (3 years) 12/18 – 12/21
Member, Condensed Matter & Materials Research Committee, The National Academies 10/17 – 9/20
Co-Chair, DOE Office of Basic Energy Science Roundtable on Polymer Upcycling 12/18 – 6/20
Member, External Review Panel, Pennsylvania State University 2/19
Program Reviewer, University of California, Merced, Materials Program 7/18
Co-Organizer, NSF-Sponsored Frontiers in Polymer Science and Engineering Workshop (decadal
report; workshop in August 2016) 9/15 – 7/17
Member, Search Committee for Editors of *Macromolecules* and *ACS Macro Letters* 3/17 – 8/17
Member, International Advisory Board, Department of Materials Science and Engineering,
Tel Aviv University 12/13 – 12/17
Member, Advisory Board, Materials Science and Engineering, Cornell University 4/10 – 6/17
Committee Chair 2011
Member (elected), Center for Integrated Nanotechnologies Users Executive Committee,
Sandia National Laboratories 6/12 – 5/16
Member, External Review Committee, Materials Science and Eng., Cornell University 11/13
Member, European Research Council's Consolidator Grant Evaluation Panel 3/13 – 10/13
Member, EPSRC Peer Review College 1/10 – 9/12
Member, Committee of Visitors, Materials Science and Engineering Division,
Basic Energy Sciences, Department of Energy 3/09
Invited Participant, NSF Workshop on Polymer Science and Engineering 8/07
Member, External Review Committee, Polymer Sci. and Engineering, Univ. of Massachusetts 2/07
Invited Participant, Institute for Theoretical Physics, University of California, Santa Barbara,
"Dynamics of Complex and Macromolecular Fluids" 5/02
Trustee, Alpha Sigma Mu, honor society for materials science 9/96 – 9/98

Editorial and Reviewing Activities =====

Member, Editorial Advisory Board, *Journal of Chemical Physics* 1/23 – (12/25)
Member, Editorial Advisory Board, *Progress in Polymer Science* 1/22 – present
Member, Advisory Board, *MRS Energy & Sustainability* 7/21 – present

Member, Editorial Advisory Board, *Progress in Polymer Science* 1/17 – 12/20
Member, Proposal Review Panel, Brookhaven Nat. Lab. Ctr for Functional Nanomat'ls 1/12 – 12/15
Member, Editorial Advisory Board, *Polymer* 7/10 – 6/12

<u>Member</u> , Editorial Advisory Board, <i>Journal of Macromolecular Science Part A: Pure and Applied Chemistry</i>	7/08 – 6/12
<u>Member</u> , Editorial Advisory Board, <i>Journal of Polymer Science B: Polymer Physics</i>	1/00 – 12/04
<u>Chair</u> , Best Paper Award Selection Committee, <i>Journal of Polymer Science B</i>	2003
<u>Member</u> , Editorial Advisory Board, <i>Macromolecules</i>	1/01 - 12/03

American Chemical Society =====

<u>Member</u> , ACS Award Canvassing Committee	7/20 – 6/22
<u>Symposium Co-Organizer</u> , Polymer Nanocomposites: Fundamentals and Applications	3/20
<u>Member</u> , ACS National Award Selection Committee	3/15 – 12/18
<u>Member</u> , Selection Committee for PMSE Fellows	3/15 – 2/18
<u>Co-Chair</u> , 14 th Pacific Polymer Conference, Polyolefin Symposium in Kauai Hawaii	12/15
<u>Associate Editor</u> , <i>Macromolecules</i>	7/10 – 6/14

American Institute of Chemical Engineering =====

<u>Chair</u> , Braskem Award Selection Committee	2023
<u>Member</u> , Braskem Award Selection Committee	2021, 2022, 2024

American Physical Society, Division of Polymer Physics =====

<u>Co-organizer</u> with Benjamin Parin, Invited Session at March Meeting Transport in Polymers	(3/26)
<u>Invited Course Instructor</u> , Physics of Charged and Ion-Containing Polymers	3/25
<u>Councilor</u> , American Physical Society (elected), representing Div. of Polymer Physics	1/21 – 12/24
<u>Member</u> , Executive Committee, Div. of Polymer Physics	1/21 – 12/24
<u>Invited Course Instructor</u> , Polymer Microscopy Short Course	3/19
<u>Co-organizer</u> with Robert J. Hickey, Focus Session at March Meeting Polymer Nanocomposites: From Fundamentals to Applications	3/19
<u>Vice Chair</u> , <u>Chair Elect</u> , <u>Chair</u> , Past Chair (elected), Division of Polymer Physics, American Physical Society	3/11 - 3/15
<u>Co-organizer</u> with Laura Clarke, Focus Session at March Meeting Polymer Nanocomposites: Active Particles and Dynamics	3/13
<u>Co-organizer</u> with Chris Soles, DPOLY Short Course, March Meeting Case Studies in Polymer Physics from the Industrial Research World	2/12
<u>Invited Course Instructor</u> , Physics of Polymer Nanocomposites Short Course	3/09
<u>Member</u> , Publicity Committee	3/04 - 3/05
<u>Member-at-Large</u> (elected), Executive Committee	3/01 - 3/04
<u>Program Chair</u> , 2002 March Meeting, Austin, TX	4/01 - 3/02
<u>Member</u> , Program Committee	3/98 - 3/03
<u>Organizer</u> , Focus Session at March Meeting, Defects in Polymers and Soft Materials,	3/99
<u>Invited Course Instructor</u> , Polymer Microscopy Short Course	3/95

Gordon Research Conference =====

<u>Chair</u> , Polymer Physics	6/10
<i>Record level of external funding and record number of participants.</i>	
<u>Vice-Chair</u> , Polymer Physics	6/08, 6/14
<u>Discussion Leader</u> , Polymer Physics	7/98, 8/00, 7/06, 7/16, 7/22

Discussion Leader, Ion-Containing Polymers

5/05

Materials Research Society =====

<u>Chair</u> , Selection Committee for Innovation in Materials Characterization Award	11/12 – 11/15
<u>Guest Co-Editor</u> , <i>MRS Bulletin</i> , Polymer Nanocomposites	4/07
<u>Member</u> , Selection Committee for Innovation in Materials Characterization Award	3/09 -11/12
<u>Member</u> , Strategic Program Planning Subcommittee	1/05 - 12/06
<u>Symposium Co-organizer</u>	12/04

Additional Meeting and Symposia Planning =====

<u>Co-Chair</u> , 2018 American Conference on Neutron Scattering, Materials Chemistry and Synthesis Session.	9/17 – 5/18
<u>Meeting Co-Chair</u> , 2 nd International Conference on Innovative Engineering Materials	10/17
<u>Meeting Co-Chair</u> , 5 th International Conference on Multifunctional, Hybrid and Nanomaterials, Lisbon, Portugal	3/17
<u>Meeting Co-Chair</u> , Neutron Scattering Contractor Meeting, Materials Science and Engineering Division, Basic Energy Sciences, Department of Energy	12/16
<u>Meeting Co-Chair</u> , Synthesis and Processing Contractor Meeting, Materials Science and Engineering Division, Basic Energy Sciences, Department of Energy	10/09
<u>Topical Conference Co-organizer</u> , Society of Plastics Engineering TOPCON SPE	10/08
<u>Symposium Co-organizer</u> , Society of Rheology	10/03
<u>Symposium Co-organizer</u> , Polymers, Microscopy Society of America	8/00
<u>Symposium Co-organizer</u> , Nanophases and Nanocomposites, Microscopy Soc. of America	8/95

Teaching Activities: Invited Course Instructor =====

Lehigh Microscopy School, Lehigh University annually	2003 - 2009
Society of Plastics Engineering Webinar	5/09
Polymer Physics Symposium sponsored by 3M	10/95
Polymer Microscopy; Continuing Engineering Ed, University of Michigan - Ann Arbor	6/92

RESEARCH GROUP**1.) POSTDOCTORAL RESEARCHERS (WITH CURRENT POSITION)**

Mohan Sikka	3/94 - 7/96	
Jonathan H. Laurer	1/98 - 4/99	IRC, Inc.
Andreas H. Taubert	8/00 - 12/02	Dept Chair, Chemistry, Univ. of Potsdam, Germany
Hansoo Kim	2/04 - 1/06	
Mohammad Moniruzzaman	4/05 - 1/08	Senior Research Assoc, BASF
Arun Kota	2/08 - 6/08	Assoc. Professor, North Carolina State University
Michelle Seitz	9/09 - 11/10	Program Director, NIST Circular Economy Program
T. Jamie Ford	4/11 - 1/12	Staff Scientist, University of Pennsylvania
Philip J. Griffin	8/14 - 5/17	Director of Soft Matter Lab., University of Chicago
Francisco Buitrago	2/18 - 4/19	Senior Research Scientist, Arkema
Holden Lai (joint w/Osuji)	9/20 - 5/21	Co-Founder, Osmoses
James Pressly	9/19 - 12/21	Senior Scientist, Axalta
Ye Chan Kim (joint w/Composto)	11/21 - 8/24	Staff Engineer, Samsung
Solmi Oh	10/22 - 10/24	Staff Engineer, Samsung
Chien-Hua Tu	1/23 - 12/24	R&D Chemist, Dupont
William Drayer (w/Frischknecht)	7/23 -	
Hoda Shokrollahzadeh Behbahani	6/24 -	
Yuval Fishler	2/25 -	

2.) DOCTORAL STUDENTS (WITH CURRENT POSITION)

1. B. Scott Pinheiro	MSE	1996	
2. Daniel L. Polis	MSE	1999	Vice President, Sierra Space
3. Nicole N. Pellegrini	ChE	1999	
4. Lei Qiao	MSE	2001	Vice President, Global Mobility Technology, Axalta
5. Brian P. Kirkmeyer	MSE	2003	Senior Assistant Dean, Miami University, Oxford, OH
6. Reto Haggemueller	MSE	2005	Senior Test Engineer, Daimler Trucks
7. Fangming Du	CBE	2005	Technology Manager, Current Chemicals
8. Avinash Budhian	CBE	2006	Global Manager, Reckitt Benckise, NJ
9. Nicholas M. Benetatos	MSE	2006	Principal Consultant, Exponent
10. Nancy C. Zhou	CBE	2007	National Institute of Child Health and Human Dev.
11. Christopher Chan	CBE	2008	Research Scientist, The Chemours Company
12. Minfang Mu	MSE	2009	Project Leader, Shanghai, China
13. Sadie I. White	MSE	2010	United States Patent and Trademark Office
14. Wenqin "Sunny" Wang	MSE	2010	Senior R&D TS&D Scientist, Dow Chemical
15. David Salas-de la Cruz	CBE	2011	Assoc. Prof., Chemistry, Rutgers University - Camden
16. Jae-Hong Choi	MSE	2012	Principal Engineer, Samsung SDI, Korea
17. C. Francisco Buitrago	CBE	2013	Research Scientist, Arkema
18. Rose M. Mutiso	MSE	2013	Research Director, The Energy for Growth Hub
19. Michael O'Reilly	MSE	2014	CMC Consultant, MVO Insights LLC
20. Wei-Shao "Walter" Tung	MSE	2015	R&D Director, China Contact Probe
21. Tsen-Shan Sharon Sharick	MSE	2015	Materials Scientist, W. L. Gore & Associates
22. L. Robert Middleton	MSE	2016	Director of Product & Automation, Labcorp
23. Edward "Ted" Trigg	MSE	2018	Vice President of R&D, Cambium
24. James F. Pressly	MSE	2019	Scientist, Axalta
25. Lu Yan	CBE	2019	Patent Lawyer, Associate, Baker Botts L.L.P.
26. Eric Bailey	MSE	2020	Research Scientist, Arkema
27. Benjamin Paren	MSE	2021	Assistant Prof. Stevens Institute of Technology

28. Tianren Zhang	CBE	2021	Postdoctoral Fellow, UDel (co-advised with Riggleman)
29. Jinseok Park	MSE	2022	Postdoctoral Fellow, KAIST
30. Kaitlin Wang	MSE	2024	Postdoctoral Fellow, Merck
31. Eli Fastow	MSE	2025	Dow Chemical
32. Benjamin Ferko	MSE	started Fall 2021	
33. Katie Sun	MSE	started Fall 2021	(co-advised with Composto)
34. Margaret Brown	MSE	started Fall 2022	
35. Benjamin Indeglia	CBE	started Fall 2022	
36. Lily Wang	CBE	started Fall 2022	
37. Lindsay Jones	MSE	started Fall 2023	
38. Aubry Hymel	CBE	started Fall 2023	
39. William Presson	MSE	started Fall 2024	
40. Sam Chen	CBE	started Fall 2024	

3.) MASTERS STUDENTS (WITH CURRENT POSITION)

1. Theresa E. Derderian	MSE	1994	
2. Maria L. Berba	MSE	1994	Johnson and Johnson Philippines, Manila, Philippines
3. Micheala Tymichova	MSE	1996	
4. Joyce J. Espiritu	MSE	1997	R. J. Composto co-advisor.
5. Oyekunbi Delano	CBE	2001	
6. Forrest Pilgrim	CBE	2002	
7. Marcus Hsu	MSE	2003	Intel
8. Yongsoo Kim	CBE	2004	
9. Naiffer Romero	MSE	2005	Dow
10. Amod Saxena	CBE	2006	Liberty Mutual Insurance
11. Tsung-Ta “Ethan” Chan	MSE	2007	Doctoral program
12. Lai-Ching Chou	MSE	2007	DuPont Taiwan
13. Thomas Acchione	MSE	2008	Engineering Manager, STX
14. Kristin Metkus	MSE	2009	Nova Research Inc.
15. Xiang “Tracy” Hao	MSE	2010	Vice President, IDG Capital
16. Kun Sun	MSE	worked in group	Fall 2012
17. Steven T. Szewczyk	MSE	2014	University of Pennsylvania
18. William Kyei-Manu	MSE	2013	Schlumberger, Houston TX
19. James Borchert	MSE	2013	Innov Dynamics
20. Devdatt Maganty	MSE	2014	Wood Mackenzie
21. Han-Chang “Cathy” Yang	MSE	2015	Senior Scientist, Exponent
22. Clark Shurtleff	MSE	2016	Naval Sea Systems Command
23. Drew Wang	MSE	2019	Deloitte Consulting
24. Miko Stulajter	MSE	2020	Doctoral program, UC Irvine
25. Junwei Xiang	CBE	2021	Changjiang Securities
26. Valerie Ballance	MSE	2021	Estee Lauder Companies
27. Monika Ramini	CBE	2022	

4.) UNDERGRADUATE STUDENTS

(includes NSF REU students, senior design groups; **bold** indicates coauthors on peer-reviewed papers)

1992-93	Andre Sanders	Laura F. Cerini	
1993-94	Y. Lynn Loo		
1994-95	W. Loong Chen	Foo-Sing Wong	Heather M. Koehler
1995-96	Heather M. Koehler	Francis J. Gramkowski	
1996-97	John Nugent	Gregory Booker	Alison Olver

1997-98	Nikeva Brown	Robert D. Armitage	
1998-99	Michael D. Grubb	Jason R. Vollbracht	Anna K. Johnsen
1999-00	Reto Haggenmueller	Neel Gandhi	
2000-01	Neel Gandhi	Nakiva Showell	Jason DeGaetano
	Tiffany Selman	Sarah Rothman	Karen Sohn
2001-02	Anna H. Pilipienko	Joyce Tam	
2002-03	Joyce Tam	Anthony Barsotti	Lindsey Karpowich
2003-04	Robert C. Scogna	Leah Henderson	Tarin Hart
	Stijn Brand		
2004-05	Josh Stillman	Justin Samuels	Clarinda Lim
	Thomas Acchione		
2005-06	Thomas Acchione	Zachary Williams	
2006-07	Michael Purdham	Michael Young	Bruce Hilman
	Asli Sahin	Thomas Acchione	Henry Friedman
	Jena Deng	Nicholas Smeets	
2007-08	Michael DeLiso	Zachary Combs	Jason Ginsberg
	Nicholas Smeets	Rebecca Goldman	Patrick Curran
	Scott Juang	Lea Nowar	
2008-09	Layla Houshmand	Conor Donnelly	Michael Frankel
	Samuel Hsu	David Jahnke	Tarun Vemulkar
	Amanda Levy	Matt Bramson	
2009-10	Matt Bramson	Dan King	Shaina Oake
	Jen Ehrich	Michelle Sherrott	Jeff Denis
2010-11	Matt Bramson	Michelle Sherrott	Jeff Denis
	Katharine Oleske	Alex Dolgonos	Michael Engber
	Jason Bernstein	Miten Mistry	Erik ReVeal
2011-12	Angeles C. Chaparro	Maria E. Vincent	Michelle Sherrott
	Sneha Deshpande	Tyler Citek	Eric Maltiel
2012-13	Michelle Sherrott	Colleen Reynolds	Kathryn Johnson
	Ruben Waldman		
2013-14	Alexa Kuenstler	Jacob Gissinger	Eric Schwartz
2014-15	Alexa Kuenstler	Eric Schwartz	Grace Salmon
2015-16	Eric Schwartz	Demi Moed	Noah Geller
	Gracie Salmon	Sonya Kripke	Jason Woo
2016-17	Demi Moed	Nicholas Han	Neha Goswami
2017-18	Demi Moed	Nicholas Han	Dakota Wallach
	Lauren Hoang	Olivia Landgrover	Grant Shao
2018-19	Lauren Hoang	Nicholas Han	Nathan Xu
	Anita Yang	Arjun Kanthawar	
2019-20	Tia Denby	Arjun Kanthawar	Zach Whitlock
	Eli Newberger	Alexander Proschel	
2020-21	Son Hoang	Madina Arapova	Caroline Birkel
2021-22	Son Hoang	Caroline Birkel	Sarah Beth Gleeson
	Julia Yan	Shoshana Weintraub	Leah Narun
	Lauren Chua	Lynn Ahrens	Erin Siciliano
	Caroline de Andrade		
2022-23	Caroline Birkel	Caroline de Andrade	Son Hoang
	Jae Wan Lee	Jacob Reisner	Sean Deresh
	Victoria Lee	James Votruba-Drzal	Vivek Nair
2023-24	Victoria Lee	James Votruba-Drzal	Vivek Nair
	Madeline G. Port	Emily Duanhoa	James Johnson

	Anthony Senouillet	James Votruba-Drzal	Awahan Sapkota
	Allen Jiang		
2024-25	Allen Jiang	Anthony M. Senouillet	Emily Duan
	Zixuan (Gina) Lin	Madeline Port	Victoria Lee
	William McCambridge		
2025-26	Anatoli Beyene	Allen Jiang	Victoria Lee
	Zixuan (Gina) Lin	William McCambridge	Anthony M. Senouillet
	Alexandra Whittle		

5.) HIGH SCHOOL STUDENTS AND TEACHER

2000-01	Samuel Berman-Freedman	
2002-03	Caroline Reilly	
2003-04	Kerry Scholz	
2004-05	Susan Schylander	Robert Stokes
2005-06	Brenda Gelinas	
2007-09	Schuyler Patton	
2011-12	Jackson Feeny	
2012-13	Jackson Feeny	

6.) MISCELLANEOUS VISITORS TO PENN (WITH CURRENT POSITION)

Ken Schweizer	1/13 – 4/13	University of Illinois (LRSM Visitor)
Leticia Socal da Silva	4/13 – 12/13	Visiting scientist from Braskem (Brazilian oil company)
Connie Roth	5/14	Visiting professor, Emory University
Laurent Bernard	5/17 – 8/17	Visiting doctoral student, University of Grenoble
Laura Issartel	6/19 – 8/19	Visiting masters student, Technical University, Grenoble
Anne Ladegaard Skov	2/20 – 3/20	Visiting professor, DTU Denmark
Moon Jeong Park	(8/25 – 7/26)	Fulbright Sabbatical Fellow,

HONORS AND AWARDS OF STUDENTS AND ALUMS

1992	L.F. Cerini	Nassau Grant, University of Pennsylvania
1996	D.L. Polis	Presidential Award, Microscopy Society of America
1996	J.J. Espiritu	Ford Foundation Fellowship
1997	R.D. Armitage	Nassau Grant, University of Pennsylvania
1998	D.L. Polis	Gold Medal for Graduate Student Paper, Materials Research Society
1999	D.L. Polis	Finalist, Padden Award, Division of Polymer Physics, Am. Physical Society
2002	L. Qiao	Finalist, Padden Award, Division of Polymer Physics, Am. Physical Society
2003	B.P. Kirkmeyer	Finalist, Padden Award, Division of Polymer Physics, Am. Physical Society
2003-05	N. Zhou	NSF-IGERT Fellow
2006-08	Moniruzzaman	NSERC Canadian Postdoctoral Fellowship
2006-09	S.I. White	NSF Graduate Student Fellowship
2007	N. Zhou	IBM's Employee Excellence Award
2008	M. Mu	Best Poster, Research Forum @ Penn Engineering
2008	Sr. Design Grp	Jason Ginsberg, Nicholas Smeets, Rebecca Goldman, Patrick Curran
		Third Prize, MSE Senior Design Competition
2008	L. Houshmand	REU Certificate of Merit for Student Paper Competition

2009	M. Mu	Finalist, Padden Award, Division of Polymer Physics, Am. Physical Society
2009	S.I. White	Geoffrey Belton Graduate Fellowship Award, Univ. of Pennsylvania
2009	Moniruzzaman	Most Valuable Players, SABIC Innovative Plastics (global competition)
2009	D.L. Polis	NASA Exceptional Engineering Achievement Medal for Materials Engineering Excellence in the Implementation of Composites for Primary Structure in NASA Human Spacecraft
2009	N. Benetatos	FDA Special Recognition Award - Drug-eluting stents and drug-coated balloon team
2010	W.Q. Wang	Finalist, Padden Award, Division of Polymer Physics, Am. Physical Society
2010	D. Salas-de la Cruz	Recipient, GRC Carl Storm Underrepresented Minority Fellowship
2010	D. Salas-de la Cruz	Recipient, Fontaine Travel Award
2010	F. Buitrago	Best Poster Award, North American Thermal Analysis Society
2011	Sr. Design Grp	Alex Dolgonos, Michael Engber, Erik Reveal Third Prize, MSE Senior Design Competition
2012	R. M. Mutiso	Geoffrey Belton Graduate Fellowship Award, Univ. of Pennsylvania
2012	M. Sherrott	Wolf-Hallac Award, University of Pennsylvania
2012	T. Citek	R. M. Brick Award, University of Pennsylvania
2014	L. R. Middleton	W. L. Gore and Associate Fellow Awards recognizes Excellence in Early Graduate Studies in Science, Technology & Engineering
2015	E. Trigg	DOE Office of Science Graduate Student Research Award
2015	L. R. Middleton	NSF Fellowship, East Asia and Pacific Summer Institutes (EAPSI) with the Japan Society for the Promotion of Science Fellowship
2015	L. R. Middleton	Milliken Graduate Research Symposium, Honorable Mention
2015-18	E. Bailey	NSF Graduate Student Fellowship
2016	E. Trigg	Geoffrey Belton Graduate Fellowship Award, Univ. of Pennsylvania
2016	D. Moed	1 st Prize Poster, Thermal Analysis Forum of Delaware Valley
2018	E. Trigg	Finalist, Padden Award, Division of Polymer Physics, Am. Physical Society
2018	D. Moed	NSF Graduate Research Fellow
2018	E. Trigg	NRC Postdoctoral Research
2018	B. Paren	VIEST Doctoral Fellow
2020	E. Bailey	Finalist, Padden Award, Division of Polymer Physics, APS
2020	J. Park	VIEST Doctoral Fellow
2021	B. Paren	Finalist, Padden Award, Division of Polymer Physics, APS
2021	B. Paren	DSM Bright Science Award for PhD Students, ACS
2021	M. Win	NSF Graduate Research Fellow
2022	J. Park	Finalist, Padden Award, Division of Polymer Physics, APS
2022	L. Ahrens, L. Chua, L. Narun, E. Siciliano	Senior Design Social Impact Prize
2022	S.B. Gleeson, S. Weintraub, J. Yan	President's Sustainability Prize
2022	E. Fastow	VIEST Doctoral Fellow
2023	M. Win	DOE Office of Science Graduate Student Research Award
2023	E. Fastow	Geoffrey Belton Graduate Fellowship Award, Univ. of Pennsylvania
2024	S.B. Gleeson, S. Weintraub, J. Yan	Forbes 30 Under 30 in North America
2024	K. Sun	Geoffrey Belton Graduate Fellowship Award, Univ. of Pennsylvania
2025	M. Brown	Second Place Poster Award, DPOLY at March APS meeting