Curriculum Vitae

KRISTI L. KIICK, PH.D.

Blue and Gold Distinguished Professor
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EDUCATION

Doctor of Philosophy	Polymer Science and Engineering University of Massachusetts Amherst, Amherst, MA *NDSEG Predoctoral Fellow*	2001
Master of Science	Polymer Science and Engineering University of Massachusetts Amherst, Amherst, MA	1998
Master of Science	Chemistry University of Georgia, Athens, GA *NSF Predoctoral Fellow*	1991
Bachelor of Science	Chemistry, *Summa cum laude* University of Delaware, Newark, DE *Eugene duPont Memorial Scholar*	1989

PROFESSIONAL HISTORY

Blue and Gold Distinguished Professor	Materials Science and Engineering University of Delaware	2017-present
Deputy Dean	College of Engineering University of Delaware	2011-2019
Professor	Materials Science and Engineering University of Delaware	2011-present
	Biomedical Engineering University of Delaware	2011-present
	Biological Sciences	2017-present
Associate Professor	Materials Science and Engineering University of Delaware	2007-2011
	Associate Director, Biomedical Engineering University of Delaware	2010-2011
Assistant Professor	Materials Science and Engineering University of Delaware	2001 – 2007
Affiliated Faculty	Nemours Department of Biomedical Research	2016-present

Affiliated Faculty	Chemical Engineering University of Delaware	2001-present
Affiliated Faculty	Delaware Biotechnology Institute Newark, Delaware	2001-present
Affiliated Faculty	Delaware Rehabilitation Institute Newark, Delaware	2009-present
Special Student Status	California Institute of Technology Pasadena, California	1998-2001
Research Scientist	Kimberly Clark Corporation Roswell, Georgia	1992-1996
Analytical Development Chemist	Martin Marietta Energy Systems Oak Ridge, Tennessee	1991-1992

RESEARCH INTERESTS

Biologically derived methods for the synthesis and assembly of advanced macromolecular materials

The development of protein engineering methods for the synthesis of artificial protein polymers functionalized with both natural and non-natural amino acids, and the chemical modification of protein polymers to produce well-defined protein-based architectures. The use of modified proteins in both biological and materials applications such as manipulation of cell signaling, actuation, and injectable therapies. The development of new elastomeric materials with well-defined conformational and temperature-responsive assembly behavior, for advanced manufacturing of micro-structured living materials.

The assembly of hydrogel networks that have controlled mechanical, erosion, and drug delivery properties. The development of delivery vehicles that respond to stimuli presented on cell surfaces, with potential applications in wound healing, chemotherapy, and tissue engineering. Application of these materials in basic investigations of cell-material interactions, and in clinical venues such as wound healing and cardiovascular repair.

ACADEMIC HONORS AND LEADERSHIP

Faculty

2020	Fellow, National Academy of Inventors
2020	Fulbright Scholar, United Kingdom
2019	Leverhulme Fellow, University of Nottingham, Nottingham, UK
2017	Blue and Gold Distinguished Professorship, University of Delaware
2014	Bayer Distinguished Lectureship, University of Southern Mississippi, September 2014
2014	Fellow, American Chemical Society, August 2014
2014	Fellow, American Chemical Society Division of Polymer Chemistry, March 2014
2013-2014	Selected participant, ELATE leadership program, Drexel University
2013	Delaware Biosciences Academic Research Award, May 2013
2013	Distinguished Service Award, Division of Polymer Chemistry, American Chemical Society, April 2013
2013	Meeting Chair, Fall 2013 Materials Research Society National Meeting
2012	Trabant Award for Women's Equity, University of Delaware
2012	College of Fellows, American Institute of Medical and Biological Engineering
2011	University of Delaware Research Foundation Mentoring Award
2010	Etter Memorial Lectureship in Chemistry, University of Minnesota

2009-2011	ACS POLY Division Program Chair
2008	Invited 2008 NIH Advisory Workshop: Multivalency
2007	Invited 2007 NSF Polymers Advisory Workshop: Interdisciplinary, Globally Leading Polymer Science and Engineering
2007	Inaugural Stevenson Biomaterials Lectureship, Syracuse University
2006	University of Delaware Research Foundation Award
2005	Outstanding Junior Faculty of Engineering Appointment, University of Delaware
2005	Nomination for University of Delaware Excellence in Teaching Award
2004	Francis Alison Young Scholar Award
2004	Nomination for University of Delaware Excellence in Teaching Award
2003	National Science Foundation CAREER Award
2003	Arnold and Mabel Beckman Foundation Young Investigator Award (One of 20 nationwide)
2003	DuPont Young Professor Award (One of 15 nationwide)
2002	University of Delaware Research Foundation Award
2001	Camille and Henry Dreyfus New Faculty Award (One of 11 nationwide)

Student

2002	American Chemical Society Unilever Award for Outstanding Graduate Research
1998	GenCorp Foundation Signature University Award
1997-2000	National Defense Science and Engineering Graduate Fellowship
1996-1997	Monsanto Fellow
1989-1991	University of Georgia Research Scholarship
1989-1991	National Science Foundation Predoctoral Fellowship
1985-1989	National Merit Scholar
1985-1989	Eugene duPont Memorial Distinguished Scholar

SPECIAL INVITATIONS

Invited Lecture, Biomacromolecules 20th Anniversary Symposium, National American Chemical Society Meeting, August 2019. (Unable to attend)

Invited Lecture, 50th Anniversary of Macromolecules Symposium, Pacific Polymer Conference, Xiamen, China, December 10-14th, 2017. (Declined.)

Invited Lecture, Gordon Research Conference: Polymers, Mt. Holyoke College, Mt. Holyoke, MA, June 11-16, 2017.

Invited Lecture, Gordon Research Conference: Signal Transduction in Engineered Extracellular Matrices, Biddleford, ME, June 26-30, 2016. (Declined.)

ACS Podcast Interview, ACS Macro Letters, October 23, 2013.

NPR Interview, Science Friday with Ira Flatow, August 9, 2013.

Invited Lecture, International Conference on Materials for Advanced Technologies, MRS-Singapore, July 1-7, 2013.

Invited Lecture, Gordon Research Conference: Polymers, Mt. Holyoke College, Holyoke, MA, June 10-13, 2013. (Declined.)

Author of the Week, Polymer Chemistry, December 2012.

Plenary Lecture. Zing Conference on Polymer Chemistry, Xcaret, Mexico, November 12-16, 2012.

Plenary Lecture, Materials Science and Engineering Conference (Novel Materials in Tissue Engineering and Drug Delivery), Darmstadt, Germany, September 25-27, 2012.

Keynote Lecture. World Biomaterials Congress, Chengdu, Sichuan, China, June 1-5, 2012.

Invited Lecture. Gordon Research Conference: Bioinspired Materials (inaugural meeting), Davidson College, North Carolina, June 24-29, 2012.

Distinguished Women Invited Lecture. Institute of Technology, University of Minnesota, October 21, 2010.

Invited Lecture. Polymer Networks Conference, Goslar, Germany, August 29-September 2, 2010.

Keynote Lecture. MACRO 2010: 43rd IUPAC World Polymer Congress, Glasgow, Scotland, July 11-16, 2010.

Invited Lecture. International Biomaterials Congress, University of Reading, Reading UK, April 16-18, 2010.

Invited Lecture. Gordon Research Conference: Supramolecular Chemistry and Assemblies, Waterville, MN, June 28-July 3, 2009.

Invited Participant. High Polymer Research Group, Pott Shrigley, UK, 2007-present.

Invited Lecture. Inaugural MACROMEX Polymer Chemistry Symposium, Los Cabos, Mexico, December 7-10, 2008.

Invited Lecture. Gordon Research Conference - Biomaterials: Biocompatibility and Tissue Engineering, Session on Delivery of Therapeutics, Plymouth, NH, July 22-27, 2007.

Invited Participant. National Science Foundation US-UK Symposium, "Synthesis of Complex Macromolecular Systems," Oxford, UK, March 20, 2006.

Invited Participant. US-Japan Young Scientists Symposium on Bionanotechnology, Tokyo, Japan, December 9, 2005.

Invited Lecture. Gordon Research Conference: Polymers (West), Ventura, CA, January 9, 2005.

Invited Lecture. Gordon Research Conference: Supramolecular Chemistry and Assemblies, Andover, NH, July 8, 2003.

PUBLICATIONS

Refereed journal papers prior to joining the University of Delaware
(* Denotes corresponding author)

1. Kiick-Fischer, K.L; Tirrell, D.A.* "Controlling Absorbency in Gelatin Networks: Preparation and Characterization of Alkylated, Crosslinked Gelatin," *J. Appl. Polym. Sci.,* 1998, *68*, 281-292.

2. van Hest, J. C. M.; Kiick, K. L.; Tirrell, D. A.* "Efficient Incorporation of Unsaturated Methionine Analogs into Proteins *in Vivo*," *J. Am. Chem. Soc.* 2000, *122*, 1282-1288.

3. Kiick, K. L.; van Hest, J. C. M.; Tirrell, D. A.* "Expanding the Scope of Protein Biosynthesis by Altering Methionyl tRNA Synthetase Activity in a Bacterial Expression Host," *Angew. Chem. Int. Ed.* 2000, *39*, 2148-2152.
Highlighted in News@Nature.com

4. Kiick, K. L.; Tirrell, D. A.* "Protein Engineering by *in Vivo* Incorporation of Nonnatural Amino Acids: Control of Incorporation of Methionine Analogues by Methionyl-tRNA Synthetase," *Tetrahedron*, 2000, *56*, 9487-9493.

5. Kiick, K. L.; Weberskirch, R.; Tirrell, D.A.* "Identification of an Expanded Set of Translationally Active Methionine Analogues in Escherichia coli," *FEBS Lett.* 2001, *502*, 25-30.

6. Kiick, K. L.; Saxon, E.; Tirrell, D. A.; Bertozzi, C. R.* "Incorporation of Azides into Recombinant Proteins for Chemoselective Modification by the Staudinger Ligation," *Proc. Natl. Acad. Sci. USA* 2002, *99*, 19-24.

Refereed journal papers at the University of Delaware

1. Farmer, R. S.; Kiick, K. L.* "Conformational Behavior of Chemically Reactive Alanine-Rich Repetitive Protein Polymers," *Biomacromolecules* 2005, *6*, 1531-1539. PMCID PMC2650394

2. Stephens J. S.; Fahnestock, S. R.; Farmer. R. S.; Kiick, K. L.; Chase, D. B.; Rabolt, J. F.* "Effects of Electrospinning and Solution Casting Protocols on the Secondary Structure of a Dragline Spider Silk Analog Investigated via FT-Raman Spectroscopy," *Biomacromolecules* 2005, *6*, 1405-1413. No PMCID available.

3. Yamaguchi, N.; Kiick, K. L.* "A Polysaccharide-Poly(ethylene glycol) Star Copolymer as a Scaffold for the Production of Bioactive Hydrogels," *Biomacromolecules* 2005, *6*, 1921-1930. NIHMSID 205339; PMCID PMC2887734

4. Yamaguchi, N.; Chae, B-S.; Zhang, L; Kiick, K.L.*; Furst, E. M.* "Rheological Characterization of Polysaccharide-Poly(ethylene glycol) Star Copolymer Hydrogels," *Biomacromolecules* 2005, *6*, 1931-1940. PMCID PMC2621325

5. Casper, C. L.; Yamaguchi, N.; Kiick, K. L.*; Rabolt, J. F.* "Functionalizing Electrospun Fibers with Biologically Relevant Macromolecules for Biomaterials Applications," *Biomacromolecules* 2005, *6*, 1998-2007. PMCID PMC2744094
Highlighted in Science News, Vol 169, April 8, 2006.

6. Wang, Y. and Kiick, K. L.* "Monodisperse Protein-Based Glycopolymers via a Combined Biosynthetic and Chemical Approach," *J. Am. Chem. Soc.* 2005, 127 (47), 16392-16393. PMCID PMC2606051

7. Farmer, R. S.; Argust, L. M.; Sharp, J.D.; Kiick, K. L.* "Conformational Properties of Helical Protein Polymers with Varying Densities of Chemically Reactive Groups," *Macromolecules* 2006, 39(1), 162-170. PMCID PMC2632593

8. Patwardhan, S. V.*; Maheshwari, R.; Mukherjee, N.; Kiick, K. L.*; Clarson, S. J.* "Conformation and Assembly of Polypeptide Scaffolds in Templating the Synthesis of Silica: An Example of a Polylysine Macromolecular "Switch"," *Biomacromolecules* 2006, 7(2), 491-497. No PMCID available.

9. Polizzotti, B. D.; Kiick, K. L.* "Effects of Polymer Structure on the Inhibition of Cholera Toxin by Linear Polypeptide-Based Glycopolymers," *Biomacromolecules*, 2006, 7(2), 483-490. PMCID PMC2657727

10. Yamaguchi, N.; Kiick, K. L.* "Assembly of Bioactive, Heparin-Derivatized Polymer Hydrogels for Protein Delivery," in Degradable Polymers and Materials: Principles and Practice, ACS Symposium Series, 2006, Vol. 939, Khemani and Scholz, Eds. Chap 13. No PMCID available

11. Yim, H.; Kent, M. S.*; Sasaki, D. Y.; Polizzotti, B. D.; Kiick, K. L.; Majewski, J.; Satija, S.* "Rearrangement of Lipid Ordered Phases upon Protein Adsorption Due to Multiple Site Binding," *Phys. Rev. Lett*. 2006, 96, 198101-1 – 198101-4. PMCID PMC2893566

12. Kas, O.; Charati, M. B.; Kiick, K. L.*; Galvin, M. E.* "Manipulating Association of Electroactive Chromophores via the Use of Peptidic Templates," *Chem. Mater*. 2006, 18(18), 4238-4245. No PMCID available.

13. Zhang, L.; Furst, E. M.*; Kiick, K. L.* "Manipulation of Hydrogel Assembly and Growth Factor Delivery via the Use of Peptide-Polysaccharide Interactions," *J. Control. Release* 2006, 114(2), 130-142. PMCID PMC2606047

14. Bonder, M. J.; Zhang, Y.; Kiick, K. L.; Papefthymiou, V.; Hadjipanayis, G. C.* "Controlling Synthesis of Fe Nanoparticles with Polyethylene Glycol," *J. Mag. Magnet. Mater.* 2007, 311, 658-664. No PMCID available.

15. Yamaguchi, N.; Zhang, L.; Chae, B.-S.; Palla, C.; Furst, E. M.; Kiick, K. L.* "Growth Factor Mediated Assembly of Cell Receptor-Responsive Hydrogels", *J. Am. Chem. Soc.* 2007, 129(11), 3040-3041. PMCID PMC2606044

16. Pogula, S. D.; Patwardhan, S.V.; Perry, C.C.; Yarlagadda, S.; Gillespie, J.M.; Kiick, K. L.* "Continuous Silica Coatings on Glass Fibers via Bioinspired Approaches", *Langmuir* 2007, 23(12), 6677-6683. No PMCID available. PMID 17489615

17. Nie, T.; Baldwin, A.; Yamaguchi, N.; Kiick, K. L.* "Production of Heparin-Functionalized Hydrogels for the Development of Responsive and Controlled Growth Factor Delivery Systems", *J. Control. Release* 2007, 122, 287-296. PMCID PMC2668661
Invited contribution in special issue on drug delivery

18. Polizzotti, B. D.; Maheshwari, R.; Vinkenborg, J.; Kiick, K. L.* "The Role of Saccharide Spacing and Chain Extension on Inhibition of the Cholera Toxin B Pentamer by Glycopolypeptides of Well-Defined Architecture", *Macromolecules* 2007, 40(20), 7103-7110. PMCID PMC2629637

19. Kim, S.-H.; Kiick, K. L.* "Heparin-mimetic Sulfated Peptides with Modulated Affinities for Heparin Binding Peptides and Growth Factors", *Peptides* 2007, 28, 2125-2136. PMCID PMC3100587.

20. Kiick, K. L.* "Polymer Therapeutics" *Science* 2007, 317, 1182-1183.
Invited Perspectives piece NIHMSID 210814, PMCID PMC2884993

21. Farmer, R. S.; Top, A.; Argust, L. M.; Liu, S.; Kiick, K. L.* "Evaluation of the Conformation and Association Behavior of Multivalent Alanine-Rich Polypeptide Scaffolds", *Pharm. Res.* 2008, 25(3), 700-708. PMCID PMC2632585
Invited contribution in special issue on biomaterials

22. Maheshwari, R.; Liu, S.; Polizzotti, B.D.; Wang, Y.; Kiick, K. L.* "Polypeptide-Based Glycopolymers for the Study of Multivalent Binding Events", *ACS Symp. Ser.* 2008, 990, 288-305. No PMCID available.
Invited contribution in special issue on glycopolymers

23. Fichter, K. M.; Zhang, L.; Kiick, K. L.*; Reineke, T. M.* "Peptide-Functionalized Poly(ethylene glycol) Star Polymers: DNA Delivery Vehicles with Multivalent Molecular Architecture," *Bioconjugate Chem.* 2008, 19(1), 76-88. PMCID PMC2650482

24. Kiick, K. L.* "Peptide- and Protein-Mediated Assembly of Responsive Heparinized Hydrogels", *Soft Matter*, 2008, 4, 29-37. PMCID PMC2787454
Invited review on soft biomaterials

25. Kent, M.S.*; Yim, H.; Murton, J.K; Sasaki, D.Y.; Polizzotti, B.D.; Charati, M. B.; Kiick, K.L.; Kuzmencko, I.; Satija, S. "Synthetic Polypeptide Adsorption to Cu-IDA Containing Lipid Films: A Model for Protein-Membrane Interactions", *Langmuir* 2008, 24(3), 932-942. PMCID PMC2896795

26. Liu, S.; Kiick, K. L.* "Architecture Effects on the Binding of Cholera Toxin by Helical Glycopolypeptides", *Macromolecules* 2008, 41(3), 764-772. PMCID PMC2639716

27. Spinelli, F. J. ; Kiick, K. L.*, Furst, E. M.* "The Role of Heparin Self-Association in the Gelation of Heparin-Functionalized Polymers", *Biomaterials* 2008, 29(10), 1299-1306. PMCID PMC2657724

28. Kas, O.; Charati, M.B.; Rothberg, L. J.; Kiick, K. L.*; Galvin, M. E.* "Regulation of Electronic Behavior via Confinement of PPV-Based Oligomers on Peptide Scaffolds", *J. Mater. Chem.* 2008, 18(32), 3847-3854. No PMCID available.
Invited contribution in special issue:"Biology in the Service of Materials"

29. Charati, M. B.; Kas, O.; Galvin, M. E.; Kiick, K. L.* "Chemically Reactive Peptides for the Production of Electroactive Conjugates of Specified Conformation and Side-Chain Placement",in Polymer Biocatalysis and Biomaterials II, *ACS Symp. Ser.* 2008, 999, 22-36. No PMCID available.

30. Top, A.; Kiick, K.L.*; Roberts, C.J.* "Modulation of Self-Association and Fibril Formation in an Alanine-Rich Helical Polypeptide", *Biomacromolecules* 2008, 9(6), 1595-1603. PMCID PMC2606058

31. Schultz, K. M.; Baldwin, A.D.; Kiick, K.L.; Furst, E.M.* "Rapid Rheological Screening to Identify Conditions of Biomaterial Hydrogelation", *Soft Matter* 2009, 5, 740-742. PMCID PMC2748930

32. Liu, S.; Maheshwari, R.; Kiick, K. L.* "Polymer-Based Therapeutics", *Macromolecules* 2009, 42(1), 3-13. PMCID PMC3074525
Cover article, Invited Perspectives piece

33. Khurshid, H.; Kim, S.H.; Bonder, M.J.; Colak, B.A.; Shah, I.S.; Kiick, K.L.*; Hadjipanayis, G.C.* "Development of Heparin-Coated Magnetic Nanoparticles for Applications in Drug Delivery", *J. Appl. Phys.* 2009,105(7), Article number 07B308. No PMCID available.

34. Jia, X.*, and Kiick, K.L.* "Hybrid Multicomponent Hydrogels for Tissue Engineering", *Macromol. Biosci.* 2009, 9, 140-156. PMCID PMC2746362
Invited review on hydrogels

35. Nie, T.; Akins, R.E. Jr.; Kiick, K. L.* "Production of Heparin-Containing Hydrogels for Modulating Cell Responses", *Acta Biomaterialia* 2009, 5, 865-875. PMCID PMC2746376
Invited contribution in special issue on responsive hydrogels

36. Bergstrom, M.*; Liu, S.; Kiick, K. L.; Ohlson, S. "Cholera Toxin Inhibitors Studied with High Performance Liquid Chromatography – A Robust Method to Quantify Receptor-Ligand Interactions", *Chemical Biology and Drug Design* 2009, 73, 132-141. PMCID PMC2718734

37. Grieshaber, S.E.; Farran, A.J.E.; Lin-Gibson, S.; Kiick, K.L.*; Jia, X.* "Synthesis and Characterization of Elastin Mimetic Hybrid Polymers with Multiblock, Alternating Molecular Architecture and Elastomeric Properties", *Macromolecules* 2009, 42(7), 2532-2541. PMCID PMC2743465

38. Wiss, K.T.; Krishna, O.D.; Roth, P.J.; Kiick, K. L.*; Theato, P.* "A Versatile Grafting-To Approach for the Bioconjugation of Polymers to Collagen-Like Peptides using an Activated Ester Chain Transfer Agent", *Macromolecules* 2009, 42(12), 3860-3863. No PMCID available.

39. Schultz, K.M.; Baldwin, A.D.; Kiick, K.L.; Furst, E.M* "Gelation of Covalently Cross-Linked PEG-Heparin Gels", *Macromolecules* 2009, 42(14), 5310-5316. PMCID PMC3074524

40. Sharma, N.; Top, A.; Kiick, K.L.*; Pochan, D.J.* "One-Dimensional Gold Nanoparticle Arrays using Template-directed Organization by a Self-Assembled Polypeptide", *Angew. Chem. Int. Ed.* 2009, 48 (38), 7078-7082. DOI: 10.1002/anie.200901621**;** PMCID PMC2796555

41. Krishna, O.D.; Kiick, K.L.* "Supramolecular Assembly of Electrostatically Stabilized, Hydroxyproline-Lacking Collagen-mimetic Peptides", *Biomacromolecules* 2009, 10(9), 2626-2631. PMCID PMC2751732

42. Sahin, E.; Kiick, K.L.* "Macromolecule-induced assembly of coiled-coils in alternating multiblock polymers", *Biomacromolecules* 2009, 10(10), 2740-2749. No PMCID available.

43. Charati, M.B.; Ifkovits, J.; Burdick, J.A.; Linhardt, J.G.; Kiick, K.L.* "Hydrophilic Elastomeric Biomaterials based on Resilin-Like Polypeptides", *Soft Matter.* 2009, 5(18), 3412-3416. PMCID PMC2883189

44. Kim, Y.; Chase, B.; Kiick, K.L.*; Rabolt, J.F.* "Molecular Rearrangement of Metal-Chelating Lipid Monolayers upon Protein Adsorption", *Langmuir* 2010, 26(1), 336-343. No PMCID available.

45. Maheshwari, R.; Levenson, E.A.; Kiick, K.L.* "Manipulation of Electrostatic and Saccharide Linker Interactions in the Design of Efficient Glycopolypeptide-Based Cholera Toxin Inhibitors", *Macromol. Biosci.* 2010, 10(1), 68-81. PMCID PMC2893567

46. Baldwin, A.D.; Kiick, K.L.* "Polysaccharide-Modified Synthetic Polymeric Biomaterials", *Biopolymers* 2010, 94(1), 128-140. PMCID PMC2900782
Invited review

47. Krishna, O.D.; Kiick, K.L.* "Protein- and Peptide-Modified Synthetic Polymeric Biomaterials" *Biopolymers* 2010, 94(1), 32-48. PMCID PMC4437713
Invited review

48. Li, L.; Charati, M. B.; Kiick, K. L.* "Elastomeric Polypeptide-based Biomaterials", *Polym. Chem*. 2010, 1(8), 1160-1170. PMCID PMC3104281
Invited review

49. Kim, S.-H.; Kiick, K.L.*, "Cell-mediated Delivery and Targeted Erosion of VEGF-crosslinked Hydrogels", *Macromol. Rapid Commun.* 2010, 31(14), 1231-1240. PMCID PMC3108855.
Special article series on polymer conjugates

50. Top, A.; Kiick, K. L.* "Multivalent Protein Polymers with Controlled Chemical and Physical Properties", *Adv. Drug. Deliv. Rev*. 2010, 62(15), 1530-1540. PMCID PMC3025749
Invited review

51. Grieshaber, S.E.; Nie, T.; Yan, C.; Zhong, S.; Teller, S.S.; Clifton, R.J.; Pochan, D.J.; Kiick, K.L.*; Jia, X.* "Assembly Properties of an Alanine-Rich, Lysine-containing Peptide and the Formation of Peptide/Polymer Hybrid Hydrogels" *Macromol. Chem. Phys*. 2011, 212(3), 229-239. PMCID PMC3045203

52. Blocker, K.M.; Kiick K. L.; Sullivan, M.O.* "Surface Immobilization of Plasmid DNA with a Cell-Responsive Tether for Substrate-Mediated Gene Delivery", *Langmuir* 2011, 27(6), 2739-2746. NIHMS274186, PMCID PMC3113645.

53. Greene, A.C.; Zhu, J.; Pochan, D.J.; Jia, X.*, Kiick, K.L.* "Poly(acrylic acid-b-styrene) Amphiphilic Multiblock Copolymers as Building Blocks for the Assembly of Discrete Nanoparticles", *Macromolecules* 2011, 44(7), 1942-1951. PMCID PMC3087604

54. Top, A.; Roberts, C.J.*; Kiick, K.L.* "Conformational and Aggregation Properties of a PEGylated, Alanine-rich Polypeptide", *Biomacromolecules* 2011, 12(6), 2184–2192. DOI: 10.1021/bm200272w; PMCID PMC3114202.

55. Liu, S.; Kiick, K.L.* "Architecture Effects on L-Selectin Shedding Induced by Polypeptide-based Multivalent Ligands", *Polym. Chem*. 2011, 2(7), 1513-1522. PMCID PMC3733253.
Highlighted as a "Hot Topic" article.

56. Li, L.; Teller, S.D.; Clifton, R.; Jia, X.*, Kiick, K.L.* "Tunable Mechanical Stability and Deformation Response of a Resilin-based Elastomer", *Biomacromolecules* 2011, 12*(*6), 2302–2310. PMID: 21553895, PMCID PMC3139215.

57. Krishna, O.D.; Jha, A.; Jia, X.*; Kiick, K.L.* "Integrin-Mediated Adhesion and Proliferation of Human Mesenchymal Stem Cells Elicited by a Hydroxyproline-lacking, Collagen-like Peptide", *Biomaterials* 2011, 32, 6412-6424. DOI: 10.1016/j.biomaterials.2011.05.034 PMID: 21658756, PMCID PMC3134156.

58. Baldwin, A.D.; Kiick, K.L.* "Tunable Degradation of Maleimide-Thiol Adducts in Reducing Environments", *Bioconj. Chem*. 2011, 22(10), 1946-1953. DOI: 10.1021/bc200148v PMCID PMC 3220410.

59. Top, A.; Zhong, S.; Yan, C.; Roberts, C.J.; Pochan, D.J., Kiick, K.L.* "Controlling Assembly of Helical Polypeptides via PEGylation Strategies", *Soft Matter* 2011, 7 (20), 9758 - 9766**.** PMCID 3769986

60. Van Eldijk, M.B.; McGann, C.L.; Kiick, K.L.*; van Hest, J.C.M.* "Elastomeric Polypeptides", *Topics in Current Chemistry* 2012, 310, 71-116. PMCID PMC3733241.

61. Schultz, K.M.; Bayles, A.V.; Baldwin, A.D.; Kiick, K.L.; Furst, E.M.* "Rapid, High Resolution Screening of Biomaterial Hydrogelators by μ^2rheology", Biomacromolecules 2012, 12(12), 4178-4182. DOI: 10.1021/bm201214r. PMCID PMC3237905.

62. Baldwin, A.D.; Robinson, K.G.; Militar, J.; Derby, C.D.; Kiick, K.L.*, Akins, R.E. Jr.* "In Situ-Crosslinkable, Heparin-Containing Poly(ethylene glycol) Hydrogels for Sustained Anticoagulant

Release", *J. Biomed. Mater. Res.* 2012, 100A(8), 2106-2118. DOI: 10.1002/jbm.a.34050. PMCID: PMC4096162.

63. Krishna, O.D.; Wiss, KT.; Luo, T.; Pochan, D.J., Theato, P.D.; Kiick, K.L.* "Morphological Transformations in a Dually Temperature-responsive Coil-Rod-Coil Bioconjugate" *Soft Matter* 2012**,** 8 (14), 3832 - 3840**.** DOI: 10.1039/C2SM07025A PMCID PMC3677730.

64. Robinson, K.G.; Nie, T.; Baldwin, A.D.; Yang, E.; Kiick, K.L.*; Akins, R.E.* "Differential Effects of Substrate Modulus on Human Vascular Endothelial, Smooth Muscle, and Fibroblastic Cells" *J. Biomed. Mater. Res.* 2012, 100A, 5, 1356-1367. DOI: 10.1002/jbm.a.34075 PMCID: PMC3351091

65. Schultz, K.M.; Baldwin, A.D.; Kiick, K.L.*; Furst, E.M.* "Measuring the Modulus and Reverse Percolation Transition of a Degrading Hydrogel", *ACS Macro Letters* 2012, 1(6), 706-708. DOI: 10.1021/mz300106y; PMCID PMC3568976.

66. Grieshaber, S.E.; Farran, A.; Bai, S.; Kiick, K.L.*, Jia, X.* ""Tuning the Properties of Elastin Mimetic Hybrid Copolymers via a Modular Polymerization Method", *Biomacromolecules* 2012, 13(6), 1774-1786. DOI: 10.1021/bm3002705. PMCID PMC3372701.

67. Grieshaber, S.E.; Paik, B.; Bai, S.; Kiick, K.L.*; Jia, X.* "Nanoparticle Formation from Hybrid, Multiblock Copolymers of Poly(Acrylic Acid) and a VPGVG Peptide", *Soft Matter*. 2013, 9(5), 1589-99. DOI: 10.1039/C2SM27496E, PMCID 3749889.

68. McGann, C.L.; Levenson, E.A.; Kiick, K.L.* "Resilin-based Hybrid Hydrogels for Cardiovascular Tissue Engineering", *Macromol. Chem. Phys.* 2013, 214(2), 203-213. *Invited paper.* DOI: 10.1002/macp.201200412; PMCID PMC3744378.

69. Baldwin, A.D; Kiick, K.L.* "Reversible Thiol-maleimide Adducts Yield Glutathione-sensitive Poly(ethylene glycol)-Heparin Hydrogels", *Polym. Chem.* 2013**,** 4(1), 133–143; DOI: 10.1039/C2PY20576A; PMCID PMC3677572.

70. Li, L.; Tong, Z.; Jia, X.*; Kiick, K.L.* "Resilin-like Polypeptide Hydrogels Engineered for Versatile Biological Functions", *Soft Matter* 2013, 9, 665-673. DOI**:** 10.1039/C2SM26812D. PMCID PMC3595062.

71. Schultz, K. M.; Campo-Deaño, L; Baldwin, A.D.; Kiick, K.L.; Clasen, C.; Furst, E.M.* "Electrospinning covalently cross-linking biocompatible hydrogelators", *Polymer* 2013, 54, 363-371. DOI: 10.1016/j.polymer.2012.09.060. No PMCID available.

72. Kharkar, P., Kiick, K.L.*; Kloxin, A.M.* "Designing degradable hydrogels for orthogonal control of cell microenvironments", *Chem. Soc. Rev.* 2013 Sep 7;42(17):7335-72. DOI: 10.1039/C3CS60040H**.** PMCID: PMC3762890.

73. Li, L.; Kiick, K.L.* "Resilin-based materials for biomedical applications", ACS Macro Letters 2013, 2(8), 635-640. PMCID: PMC3755776 DOI: 10.1021/mz4002194
Featured on National Public Radio (Aug 2013), Medical Product Outsourcing (Sept 2013), ACS Podcast (Oct 2013).

74. Luo, T.; Kiick, K.L. "Collagen-like peptides and peptide-polymer conjugates in the design of assembled materials", *Eur. Polym. J.* 2013, Oct;49(10):2998-3009. DOI: 10.1016/j.eurpolymj.2013.05.013. PMCID PMC3770267 *Invited review for special issue on peptide-polymer conjugates.*

75. Bhagwat, N.; Kiick, K.L. "Polymer-peptide templates for controlling the electronic interactions of organic chromophores", *J. Mater. Chem*. C, 2013, 1, 4836-4845 DOI: 10.1039/C3TC30766B. No PMCID available.

76. Levenson, E.A.; Kiick, K.L. "DNA-Polymer Conjugates for Immune Stimulation through Toll-like Receptor 9 Mediated Pathways", *Acta Biomaterialia* 2014, Mar;10(3):1134-45. DOI: 10.1016/j.actbio.2013.11.022. PMCID: PMC3927139

77. Liang, Y.; Kiick, K.L. "Multifunctional lipid-coated polymer nanogels crosslinked by photo-triggered Michael-type addition", *Polym. Chem*. 2014**,** 5 (5), 1728 – 1736**.** DOI: 10.1039/c3py01269g; PMCID PMC3770267.

78. Li, L. and Kiick, K. L. "Transient dynamic mechanical analysis of resilin-based elastomeric hydrogels", Frontiers in Chemistry, Special Research Topic: "Protein engineering and other bio-synthetic routes for bio-based materials: Current uses and potential applications" (Topic Editor: Carissa M. Soto) 2014, 2, 21, 20-32. *Invited submission.*

79. Liang, Y.; Kiick, K.L. "Heparin-functionalized polymeric biomaterials in tissue engineering and drug delivery applications", *Acta Biomaterialia* 2014, 10(4).1588-1600. DOI: 10.1016/j.actbio.2013.07.031. PMCID: PMC3937301.

80. Kharkar, P.; Kloxin, A.M.; Kiick, K.L.* "Dually degradable click hydrogels for controlled degradation and protein release", *J. Mater. Chem B* 2014**,** 2 (34), 5511 – 5521. DOI: 10.1039/c4tb00496e. NIHMS 634571; PMCID in progress.

81. Bhagwat, N.; Martin, D.C.; Kiick, K.L. "Electrochemical deposition and characterization of carboxylic-acid functionalized PEDOT copolymers", *J. Mater. Research* 2014, 29(23), 2835-2844. DOI 10.1557/jmr.2014.314. PMCID in progress.

82. Urello, M. A.; Kiick, K.L.*, Sullivan, M.O.* "A CMP-based method for tunable, cell-mediated gene delivery from collagen scaffolds", *J. Mater. Chem. B* 2014, 2 (46), 8174 - 8185**.** DOI: 10.1039/c4tb01435a. PMCID in progress. *Invited contribution*.

83. Luo, T.; He, L. Theato, P. Kiick, K.L.* "Thermoresponsive self-assembly of nanostructures from a collagen-like peptide-containing diblock copolymer", *Macromol. Biosci.* 2015, 15(1), 111-123. DOI: 10.1002/mabi.201400358. *Invited contribution special issue on peptide-based materials for nanomedicine.* PMCID: PMC PMC4562312

84. Li, L.; Luo, T.; Kiick, K.L.* "Temperature-triggered phase separation of a hydrophilic resilin-like polypeptide", *Macromol. Rapid Commun*. 2015, 36(1), 90-95. DOI: 10.1002/marc.201400521. NIHMS679691; PMCID: PMC4552326

85. Lau, H.; Kiick, K.L.* "Opportunities for multicomponent hybrid hydrogels in biomedical applications" *Biomacromolecules* 2015, 16(1), 28-42. DOI: 10.1021/bm501361c. PMCID in progress.

86. Paik, B.A.; Blanco, M.A.; Jia, X.; Roberts, C.J.*, Kiick, K.L.* "Aggregation of poly(acrylic acid)-containing elastin-mimetic copolymers", Soft Matter 2015, *Soft Matter*, 2015, 11**,** 1839 – 1850. DOI: 10.1039/C4SM02525C**.** PMCID: PMC4376481

87. Mahadevaiah, S.; Robinson, K.G.; Kharkar, P.M.; Kiick, K.L.; Akins, R.E.* "Decreasing matrix modulus of PEG hydrogels induces a vascular phenotype in human cord blood stem cells", *Biomaterials* 2015, 62, 24-34. DOI: 10.1016/j.biomaterials.2015.05.021.

88. Liang, Y.; Coffin, M.V.; Slobodanka, D.M.; Chichester, J.A.; Jones, R.M.; Kiick, K.L.* "Controlled release of an Anthrax toxin-neutralizing antibody from hydrolytically degradable polyethylene glycol hydrogels", *J. Biomed. Mater. Res. A*. 2016, 104(1), 113-123. DOI: 10.1002/jbm.a.35545. PMCID: PMC4933017.

89. Kharkar, P.; Kiick, K.L.*; Kloxin, A.M.* "Design of thiol- and light-sensitive degradable hydrogels using Michael-type addition reactions" *Polymer Chem*. 2015, 6(31), 5565-5574. DOI: 10.1039/C5PY00750J. *Invited contribution.*

90. McGann, C.L.; Dumm, R. E.; Jurusik, A.K.; Sidhu, I.; Kiick, K.L.* "Thiol-ene photocrosslinking of cytocompatible resilin-like polypeptide-PEG hydrogels", *Macromol Biosci*. 2016, 16(1), 129-138. DOI: 10.1002/mabi.201500305 *Highlighted on Materials Views*. PMCID: PMC4834209.

91. Li, L.; Mahara, A.; Tong, Z.; Levenson, E.A.; McGann, C.L.; Jia, X.; Yamaoka, T.; and Kiick, K.L.* "Recombinant resilin-based bioelastomers for regenerative medicine applications", *Adv. Healthcare Mater.* 2016, 5(2), 266-275. DOI: 10.1002/adhm.201500411; PMCID: PMC4754112.

92. Alalwiat, A.; Grieshaber, S. E.; Paik, B.A.; Kiick, K.L.; Jia, X.; Wesdemiotis, C.* "Top-down mass spectrometry of hybrid materials with hydrophobic peptide and hydrophilic or hydrophobic polymer blocks" *Analyst* 2015, 140, 7550-7564. DOI: 10.1039/c5an01600b

93. Luo, T.; Kiick, K.L.* "Noncovalent modulation of the inverse temperature transition and assembly of elastin-b-collagen peptide conjugates", *J. Amer. Chem. Soc*. 2015, 137(49), 15362-15365. DOI: http://dx.doi.org/10.1021/jacs.5b09941. PMCID: PMC4930074.

94. McGann, C.L.; Akins, R.E.; Kiick, K.L.* "Resilin-PEG hybrid hydrogels yield degradable elastomeric scaffolds with heterogenous microstructure", *Biomacromolecules* 2016, 17(1), 128-140. DOI: http://dx.doi.org/10.1021/acs.biomac.5b01255. PMCID: PMC4850080.

95. Liang, Y.; Kiick, K.L.* "Liposome-containing hybrid hydrogels for glutathione-triggered delivery of multiple cargo molecules", *Biomacromolecules* 2016, 17(2), 601-614. DOI: http://dx.doi.org/10.1021/acs.biomac.5b01541. PMCID: PMC4992983

96. Bhagwat, N.; Murray, R.; Shah, I.S.; Kiick, K.L.*; Martin, D.C.* "Biofunctionalization of PEDOT films with laminin-derived peptides" *Acta Biomaterialia* 2016, 41, 235-246. DOI: http://dx.doi.org/10.1016/j.actbio.2016.05.016

97. Freudenberg, U.; Liang, Y.; Kiick, K.L.*; Werner, C.*; "Glycosaminoglycan-based biohybrid hydrogels: A sweet and smart choice for multifunctional biomaterials", *Adv. Mater* 2016, 28(40), 8861-8891. DOI: 10.1002/adma.201601908

98. Lau, H.; Li, L; Jurusik, A.K., Sabanayagam, C.R.; Kiick, K.L.* "Aqueous liquid-liquid phase separation of resilin-like polypeptide/polyethylene glycol solutions for the formation of microstructured hydrogels" *ACS Biomaterials Science and Engineering*, 2017, 3(5), 757-766. DOI: http://dx.doi.org/10.1021/acsbiomaterials.6b00076.

99. Calero-Rubio, C.; Paik, B.A.; Jia, X.; Kiick, K.L.; Roberts, C.J.* "Predicting unfolding thermodynamics and stable intermediates for alanine-rich helical peptides with the aid of coarse-grained molecular simulation" *Biophysical Chemistry* 2016, 217, 8-19. DOI: http://dx.doi.org/10.1016/j.bpc.2016.07.002. NIHMSID: 807359

100. Zhang, H.V.; Polzer, F.; Haider, M.J.; Tian, Y.; Villegas, J.A.; Kiick, K.L*.; Pochan, D.J.*; Saven, J.G.* "Materials with pre-determined nanostructures via the computational design and solution assembly of peptides", *Science Adv*. 2016, 2(9), e1600307. DOI: 10.1126/sciadv.1600307 PMCID not available.

101. Li, L.; Stiadle, J.M.; Lau, H.K.; Zerdoum, A.B.; Jia, X.; Thibeault, S.L.; Kiick, K.L.* "Tissue Engineering-based Therapeutic Strategies for Vocal Fold Repair and Regeneration", *Biomaterials* 2016, 108, 91-110.. DOI: http://dx.doi.org/10.1016/j.biomaterials.2016.08.054/ NIHMS ID 814461

102. Urello, M.A.; Kiick, K.L.*, Sullivan, M.O.* "Integration of growth factor gene delivery with collagen-triggered wound repair cascades using collagen-mimetic peptides", *Bioeng Transl Med* 2016, 1(2), 207-219. DOI: 10.1002/btm2.10037. *Invited contribution.*

103. Liang, Y.; Li, L.; Scott, R.A.; Kiick, K.L.* "Polymeric Biomaterials: Diverse Functions Enabled by Advances in Macromolecular Chemistry" *Macromolecules* 2017, 30(2), 483-502. DOI: 10.1021/acs.macromol.6b02389. *Invited contribution to 50th anniversary special issue.* PMCID: PMC5687278

104. Mahara, A.; Kiick, K.L.; Yamaoka, T.* "In vivo guided vascular regeneration with a non-porous elastin-like polypeptide hydrogel tubular scaffold", *J. Biomed. Mater. Res. A* 2017, 105(6), 1746-1755. DOI: 10.1002/jbm.a.36018

105. Robinson, K.G.; Scott, R.A.; Hesek, A. M.; Woodford, E.; Amir, W.; Planchon, T.A.; Kiick, K.L.*; Akins, R.E*. "Reduced Arterial Elasticity Due to Surgical Skeletonization is Ameliorated by Abluminal PEG Hydrogels" *Bioengineering & Translational Medicine*, 2017, 2(2), 222-232. DOI: 10.1002/btm2.10060

106. Luo, T.Z.; Kiick, K.L.* "Collagen-like Peptide Bioconjugates", *Bioconjugate Chem.* 2017, 28(3), 816-827. *Invited contribution*. DOI:10.1021/acs.bioconjchem.6b00673

107. Scott, R.A.; Kiick, K.L.*, Akins, R.E.* "Aortic Adventitial Fibroblast Sensitivity to Mitogen Activated Protein Kinase Inhibitors Depends on Substrate Stiffness", *Biomaterials* 2017, 137, 1-10. DOI: 10.1016/j.biomaterials.2017.05.010

108. Tian, Y.; Zhang, H.V.; Kiick, K.L.*; Saven, J.G.*; Pochan, D.J.* "Transition from disordered aggregates to ordered lattices: Kinetic control of the assembly of a computationally designed peptide", *Org. Biomolec. Chem.* 2017, 15(29), 6109-6118. *Invited contribution*. DOI: 10.1039/c7ob01197k

109. Urello, M.A.; Kiick, K.L.*; Sullivan, M.O.* "Collagen in gene delivery applications", *Materials Matters* (Sigma Aldrich) 2017.

110. Urello, M.A.; Kiick, K.L.*, Sullivan, M.O.* "ECM turnover-stimulated gene delivery through CMP-plasmid integration in collagen" *Acta Biomaterialia.* 2017, 62, 167-178. https://doi.org/10.1016/j.actbio.2017.08.038; PMCID: PMC5654588;

111. Luo, T.Z.; David, M.A.; Dunshee, L.C.; Scott, R.A.; Urello, M.A.; Price, C.; Kiick, K.L.* "Thermoresponsive elastin-b-collagen-like peptide bioconjugate nanoparticles for targeted delivery to collagen-containing matrices", *Biomacromolecules* 2017, 18(8), 2539-2551. DOI: 10.1021/acs.biomac.7b00686.

112. Kharkar, P.; Olney, L.P.; LeValley, P.; Maverakis, E.M.; Kiick, K.L.*; Kloxin, A.M.* "Controlling the release of small, bioactive proteins via dual mechanisms with therapeutic potential", *Adv. Healthcare Mater.* 2017, 6(24), Article number 1700713. https://doi.org/10.1002/adhm.201700713

113. Paik, B.A.; Mane, S.; Jia, X.*; Kiick, K.L.* "Responsive hybrid (poly)peptide-polymer conjugates", *J. Mater. Chem. B*. 2017, 5(42), 8274-8288. DOI: 10.1039/C7TB02199B *Invited contribution*. PMCID: PMC5802422.

114. Lau, H.; Paul, A.; Sidhu, I; Li, L.; Sabanayagam, C.R.; Parekh, S.H.; Kiick, K.L.* "Microstructured elastomer-PEG hydrogels via kinetic capture of aqueous liquid-liquid phase separation", *Adv. Science* 2018, 5(6), article number 1701010. DOI: https://doi.org/10.1002/advs.201701010

115. Li, L.; Stiadle, J.M.; Levendoski, E.E.; Lau, H.K.; Thibeault, S.L.*; Kiick, K.L.* "Biocompatibility of Injectable Resilin-based Hydrogels*", J. Biomed. Mater. Res. Part A*, 2018, 106(8), 2229-2242. DOI: 10.1002/jbm.a.36418

116. Rattan, S.; Li, L.; Lau, H.; Crosby, A.*; Kiick, K.L.* "Micromechanical methods to determine resilience and failure of soft biopolymers", *Soft Matter*, 2018, 14(18), 3478–3489. DOI: 10.1039/C8SM00501J

117. Sallam, S.; Dolog, I; Paik, B.A.; Jia, X.; Kiick, K.L.; Wesdemiotis, C.* "Sequence and Conformational Analysis of Peptide-Polymer Bioconjugates by Multidimensional Mass Spectrometry", *Biomacromolecules* 2018, 19(5), 1498-1507. DOI: 10.1021/acs.biomac.7b01694

118. Haider, M.; Zhang, H.; Sinha, N.; Fagan, J.; Kiick, K.L.*; Saven, J.G.*; Pochan, D.J.* **"**Self-assembly and soluble aggregate behavior of computationally designed coiled-coil peptide bundles", *Soft Matter* 2018, 14(26), 5488-5496. DOI: 10.1039/c8sm00435h

119. Tian, Y.; Polzer, F.; Zhang, H.V.; Kiick, K.L.*; Saven, J.G.*; Pochan, D.J.* "Nanotubes, Plates, and Needles: Pathway-Dependent Self-Assembly of Computationally Designed Peptides", *Biomacromolecules* 2018, 19(11), 4286-4298. DOI: 10.1021/acs.biomac.8b01163

120. Wu, H.; LeValley, P.J.; Luo, T.; Kloxin, A.M.; Kiick, K.L.* "Manipulation of glutathione-mediated degradation of thiol-maleimide conjugates", *Bioconjug. Chem*. 2018, 29(11), 3595-3605. DOI: 10.1021/acs.bioconjchem.8600546

121. Tian, Y.; Zhang, H.V.; Kiick, K.L.*; Saven, J.G.*; Pochan, D.J.* "Fabrication of One- and Two-Dimensional Gold Nanoparticle Arrays on Computationally Designed Self-Assembled Peptide Templates' *Chem. Mater*. 2018, 30(23), 8510-8520. DOI: 10.1021/acs.chemmater.8b03206

122. King, R.E.; Lau, H.K.; Zhang, H.; Sidhu, I.; Christensen, M.B.; Fowler, E.W.; Li, L.; Jia, X.; Kiick, K.L.*, Thibeault, S.L.* "Biocompatibility and viscoelastic properties of injectable resilin-like polypeptide and hyaluronan hybrid hydrogels in rabbit vocal folds", *Regen. Eng. Transl. Med.* 2019, 5(4), 373-386. NIHMS954981, PMC 6030450, DOI: 10.1007/s40883-019-00094-6

123. Garcia, C.G.; Kiick, K.L.* "Methods for Producing Microstructured Hydrogels for Targeted Applications in Biology" *Acta Biomaterialia* 2019, 84, 34-48. DOI: https://doi.org/10.1016/j.actbio.2018.11.028; NIHMS ID 1515429.

124. Urello, M.A.; Luo, T.; Fang, B.; Kiick, K.L.*; Sullivan, M.O.* "Drug and Gene Delivery for Regenerative Engineering", in Encyclopedia of Biomedical Engineering (R. Narayan, Ed.), 2019, Volume 1, pp. 565-583. Elsevier (ISBN: 9780128048290) DOI: 10.1016/B978-0-12-801238-3.99892-1

125. Ammu, P.; Taylor, P.; Qin, J.; Kiick, K.L.*; Jayaraman, A.* "Effect of peptide sequence on LCST-like transition of elastin-like peptides (ELP) and elastin-like peptide - collagen-like peptide (ELP-CLP) conjugates: Simulations and experiments" Biomacromolecules 2019, 20(3), 1178-1189. DOI: 10.1021/acs.biomac.8b01503

126. Qin, J.; Luo, T.; Kiick, K.L.* "Self-Assembly of Stable Nanoscale Platelets from Designed Elastin-like Peptide Collagen-like Peptide Bioconjugates" Biomacromolecules, 2019, 20(4), 1514-1521. DOI: 10.1021/acs.biomac.8b01681

127. Palmese, L.; Thapa, R.; Sullivan, M.O.; Kiick, K.L.* "Hybrid Hydrogels for Biomedical Applications", *Curr. Opin. Chem. Eng*. 2019, 24, 143-157. *Invited contribution.* NIHMS 1526216. DOI: 10.1016/j.coche.2019.02.010

128. Dunshee, L.C.; Sullivan, M.O.*; Kiick, K.L.* "Manipulation of the dually thermoresponsive behavior of peptide-based vesicles through modification of collagen-like peptide domains", Bioeng. Biotrans. Medicine 2019, 5(1), article number UNSP e10145. DOI: 10.1002/btm2.10145

129. Thapa, R.; Kiick, K.L., Sullivan, M.O. "Encapsulation of collagen mimetic peptide-tethered vancomycin liposomes in collagen-based scaffolds for infection control in wounds. Acta Biomataerialia 2020, 103, 115-128. NIHMS1548348. DOI: 10.1016/j.actbio.2019.12.014

130. Okesola, B.; Lau, H.; Derkus, B.; Wu, Y.; Kiick, K.L.; Mata, A.* "Covalent co-assembly between resilin-like polypeptide and peptide amphiphile into hydrogels with controlled nanostructure and improved mechanical properties" Biomaterials Science 2020, 8(3), 846-857. DOI: 10.1039/c9bm01796h**.** NIHMS1063819.

131. Lau, H.K.; Rattan, S.; Fu, H.B.; Garcia, C.G.; Barber, D.M.; Kiick, K.L.*; Crosby, A.J.* "Micromechanical properties of microstructured elastomeric hydrogels", Macromolec. Biosci. 2020, article number 1900360. DOI: 10.1002/mabi.201900360

132. Scott, R.A.; Robinson, K.G.; Kiick, K.L.*; Akins, R.E.* "Human adventitial fibroblast phenotype dependes on the progression of changes in substrate stiffness", Adv. Healthcare Mat. 2020, article number 1901593. DOI: 10.1002/adhm.201901593

133. Hwang, J.; Sullivan, M.O.*; Kiick, K.L.* "Targeted drug delivery via the use of ECM-mimetic materials', Frontiers Bioeng. Biotech. 2020, 8, article number 69. DOI: 10.3389/fbioe.2020.00069

Books, Book Chapters, and Edited Journals

*Contributions prior to arrival at the University of Delaware*_____

1. Kiick, K.L.; Tirrell, D.A. "Biosynthetic Routes to Novel Macromolecular Materials," *Materials Science and Technology Series:* "Synthesis of Polymers," A.-Dieter Schluter (ed.), Wiley-VCH Publishers, 1999, 571-594.

*Contributions from the University of Delaware*_____

1. Thomas, J. L.; Kiick, K. L.; Gower, L. A., (Eds.) "Materials Inspired by Biology," MRS Symposium Proceedings, Volume 774, Materials Research Society, Warrendale, PA, 2003.

2. Kiick, K. L. "Genetic Methods of Polymer Synthesis," Encyclopedia of Polymer Science and Technology 3rd Edition, Volume 9, pages 145-197, John Wiley and Sons, New York, 2004.

3. Farach-Carson, M.C.; Wagner, R. C.; Kiick, K. L. "Extracellular Matrix: Structure, Function, and Applications to Tissue Engineering," in Tissue Engineering and Artificial Organs, CRC Biomedical Engineering Handbook, Chapter 32, Taylor and Francis Group, Boca Raton, FL, 2006.

4. Farmer, R. S.; Charati, M. B.; Kiick, K. L. "Biosynthesis of Protein-Based Polymeric Materials," in Macromolecular Engineering, Matyjaszewski, Gnanou, Leibler, Eds. Volume 1, Chapter 11, Wiley-VCH, Weinheim, Germany, 2007.

5. Kiick, K. L., Guest editor, Polymer Reviews 2007, Volume 47, Issue 1 "Biosynthetic Methods for the Production of Protein-Based Materials".

6. Kiick, K. L. and Long, T. E., Editors, "Polymer Processing Methods for Emerging Technologies", Materials Research Society Symposium Series, Materials Research Society, Warrendale, PA, 2007.

7. McGann, C.L.; Kiick, K.L.* "Heparin-functionalized Materials in Tissue Engineering Applications", in Engineering Biomaterials for Regenerative Medicine, Bhatia, S. Ed., Chapter 9, pp. 225-252, Springer Publishing, New York, 2012.

8. Li, L.; Kiick, K. L. "Resilin in the Engineering of Elastomeric Biomaterials", in Comprehensive Polymer Science, Polymers in Biology and Medicine, Langer and Tirrell, Eds., Volume 9, pp. 105-116, Elsevier, Amsterdam, 2012.

Patents and Patent Applications

*Patents on work prior to arrival at the University of Delaware*_____

1. Everhart, D.S.; Kiick-Fischer, K.L. "Method of Applying a Protein Coating to a Substrate and Article Thereof," US Patent No. 5,494,744, February 27, 1996; EP 857,229, August 12, 1998

2. Blaney, C.A.; Kaylor, R.M.; Kiick-Fischer, K.L. "Process and Article for Disinfecting Water," US Patent No. 5,538,629; July 23, 1996; EP 797,544, October 1, 1997.

3. Gillberg-Laforce, G.E.; Kiick-Fischer, K.L.; Turkevich, L.A. "Surface Modified Fibrous Material as a Filtration Medium," US Patent No. 5,618,622, April 8, 1997.

4. Blaney, C. A.; Kaylor, R. M.; Kiick-Fischer, K. L. "Process and Article for Disinfecting Water," US Patent No. 5,662,808, September 2, 1997; EP 797,544, October 11, 2000.

5. Everhart, D. S.; Gadsby, E. D.; Kaylor, R.M.; Kiick-Fischer, K.L. "Charge-Modified Nonwoven Filter", EP 880,393, December 2, 1998.

6. Everhart, D. S.; Gadsby, E. D.; Kaylor, R.M.; Kiick-Fischer, K.L. "Chemically Charge-Modified Filter for Removing Particles from a Liquid and Method Thereof," US Patent No. 5,855,788, January 5, 1999.

7. Everhart, D.S.; Kiick-Fischer, K.L. "Method of Applying Chemical Charge Modifiers to a Substrate and Article Thereof," US Patent No. 5,858,503, January 12, 1999; EP 857,229, April 9, 2003.

8. Everhart, D.S.; Gadsby, E.D.; Kiick-Fischer, K.L.; Quincy, R.B.; Romans-Hess, A.Y.; Woltman, G.R. "Permeable Liquid Flow Control Material", US Patent No. 5,912,194, June 15, 1999; EP 922,132, June 16, 1999

9. Kiick, K. L.; Tirrell, D. A. "Overexpression of Aminoacyl-tRNA Synthetases for Efficient Production of Engineered Proteins Containing Amino Acid Analogues," US Patent No. 6,586,207, July 1, 2003.

10. Kiick, K. L.; Tirrell, D. A. "Overexpression of Aminoacyl-tRNA Synthetases for Efficient Production of Engineered Proteins Containing Amino Acid Analogues," US Patent No.7,198,915, April 3, 2007.

11. Kiick, K. L.; Tirrell, D. A. "Overexpression of Aminoacyl-tRNA Synthetases for Efficient Production of Engineered Proteins Containing Amino Acid Analogues," US Patent No. 7,723,070, May 25, 2010.

12. Kiick, K. L.; Tirrell, D. A. "Overexpression of Aminoacyl-tRNA Synthetases for Efficient Production of Engineered Proteins Containing Amino Acid Analogues," US Patent Application 11/743,538, filed May 2, 2007.

13. Kiick, K. L.; Tirrell, D. A. "Overexpression of Aminoacyl-tRNA Synthetases for Efficient Production of Engineered Proteins Containing Amino Acid Analogues," US Patent Application 12/640,693, filed December 17, 2009.

*Patents issued from work conducted at the University of Delaware*_____

1. Casper, C.L.; Yamaguchi, N.; Kiick, K. L.; Rabolt, J. F. "Multifunctional and Biologically Active Matrices from Multicomponent Polymeric Solutions," US Patent Number 7,732,427; June 8, 2010.

2. Yamaguchi, N.; Kiick, K.L. "Multifunctional and Biologically Active Matrices from Multicomponent Polymeric Solutions" US Patent No. 7,737,131, June 15, 2010.

4. Casper, C.L.; Yamaguchi, N.; Kiick, K.L.; Rabolt, J.F. "Multifunctional and Biologically Active Matrices from Multicomponent Polymeric Solutions," US Patent Number 8,338,390, December 25, 2012.

5. Yamaguchi, N; Kiick, K.L. "Hydrogels with Covalent and Noncovalent Crosslinks", US Patent Number 8,367,639, February 5, 2013.

6. Yamaguchi, N.; Kiick, K.L. "Cell-mediated Delivery and Targeted Erosion of Noncovalently Crosslinked Hydrogels" US Patent Application 12/814,767, US Patent Number 8,415,325: April 9, 2013.

7. Baldwin, A.D.; Kiick, K.L. "Chemical Conjugates for Targeted Degradation under Reducing Conditions", US Patent Application 13/605,297; US Patent Number 9,044,515, June 2, 2015.

8. Kharkar, P.; Sivamani, R.; Maverakis, E.; Kloxin, A.M.; Kiick, K.L. "Multimode Degradable Hydrogels for Controlled Release of Cargo Substances", US Patent Number 10,172,938, January 8, 2019.

9. Luo, T.; Kiick, K.L. "Thermoresponsive Bioconjugates and their Controlled Delivery of Cargo", PCT Patent Application, July 29, 2016; WO 2017/020025A1 published February 2, 2017; Application 15/747,552, Publication US-2018-0236074-A1, published August 23, 2018. Allowed January 6, 2020.

10. Urello, M. Kiick, K.L., Sullivan, M. O. "Collagen-Mimetic Peptide Mediated Delivery of Nucleic Acid Carriers for Efficient Delivery from Collagen", PCT Patent Application, July 18, 2017; PCT/US17/42645. WIPO Publication Number WO 2018/017598 A1, January 25, 2018.

11. Robinson, K.G.; Scott, B.A.; Kiick, K.L.; Akins, R.E. "Method for Protecting Skeletonized Blood Vessels" PCT International Patent Application, November 3, 2017; PCT WO 2018/102074 A1; US Application Number 16/344,115, April 23, 2019.

Refereed Conference Proceedings

1. Patwardhan, S.V.; Kiick, K. L.; Yarlagadda, S.; Leal, A. A.; Gillespie, J. W. Jr.. "Healing of Fiber Damage in Composite Materials," SEM X International Congress & Exposition on Experimental and Applied Mechanics, 2004.

2. Bonder, M. J.; Huang, Y.; Zhang, Y.; Charati, M. B.; Kiick, K. L.; Hadjipanayis, G. C. "Magnetic and Structural Properties of Polymer-coated Fe and FePt Nanoparticles by Chemical Synthesis," *J. Mag. Mag. Mater.* 2004.

3. Bonder, M. J.; Srinivasan, B.; Poirier, G.; Kiick, K. L.; Hadjipanayis, G. C. "In-vitro Heating with Polyethylene Glycol Coated Fe Nanoparticles," International Magnetics Conference, 2006.

INVITED PRESENTATIONS (203 TOTAL)

Keynote talks and invited conference presentations_____

1. Biomaterials – The Next Frontiers, Technology Conference, Newark, DE, March 12, 2002.
2. The 10th Symposium on Polymers for Microelectronics, Wilmington, DE, May 10, 2002.
3. Unilever Award Symposium, American Chemical Society National Meeting, Boston, MA. August 18 , 2002
4. Rolduc Polymer Meeting, Kerkgrade, The Netherlands, May 27, 2003.
5. Middle Atlantic Regional Meeting, American Chemical Society, Princeton, NJ, June 10, 2003.
6. Gordon Research Conference, Supramolecules and Assemblies, Proctor Academy, Andover, NH, July 8, 2003.
7. Biocatalysis in Polymer Science, American Chemical Society National Meeting, New York, NY, September 8, 2003.
8. Bioinspired Materials Symposium, Materials Research Society National Meeting, Boston, MA, December 1, 2003.
9. American Chemical Society National Meeting, Anaheim, CA, March 29, 2004.
10. Controlled Release Society National Meeting, Workshop: Genetically Engineered Polymers for Biomaterials, Honolulu, HI, June 12, 2004.
11. Gordon Research Conference, Polymers (West), Ventura, CA, January 9, 2005.
12. American Chemical Society National Meeting, San Diego, CA, March 17, 2005.
13. Mid-Atlantic Regional Meeting, American Chemical Society, Rutgers, NJ, May 22-25, 2005.
14. Polymers in Medicine ACS Workshop, Sonoma Valley, CA, June 26-29, 2005.
15. Bioinspired Materials, American Chemical Society National Meeting, Washington, D.C., August 29, 2005.
16. Third International Nanomedicine and Drug Delivery Symposium, University of Maryland Baltimore, Baltimore, MD, September 26, 2005.
17. US-Japan Young Scientists Symposium on Bionanotechnology, Tokyo, Japan, December 9, 2005.
18. National Science Foundation Symposium, "Synthesis of Complex Macromolecular Systems," Oxford, UK, March 20, 2006.
19. National American Chemical Society Meeting, Atlanta, GA, March 26, 2006.
20. Polymer Chemistry Division Biennial Conference, American Chemical Society, Key Biscayne, FL, May 21-24, 2006.
21. Biocatalysis in Polymer Science, American Chemical Society National Meeting, San Francisco, CA, September 10-14, 2006.

22. Chemical Glycobiology, American Chemical Society National Meeting, San Francisco, CA, September 10-14, 2006.
23. International Biorelated Polymers Symposium, American Chemical Society National Meeting, San Francisco, CA, September 10-14, 2006.
24. Polymer Processing Methods for Emerging Technologies, Materials Research Society Meeting, Boston, MA, November 26-30, 2006.
25. Thirteenth Annual International Symposium on Drug Delivery Systems, Salt Lake City, UT, February 26-28, 2007.
26. Novel Approaches Aimed at Rational Design of Functional Polymeric Materials, American Physical Society National Meeting, Denver, CO, March 5-9, 2007.
27. Designed Macromolecular Assemblies for Biomedical Applications, American Chemical Society National Meeting, Chicago, IL, March 25-29, 2007.
28. Tissue Engineering and Regenerative Medicine International Society, North American Meeting, Toronto, Canada, June 13-17, 2007.
29. Biomaterials Gordon Research Conference: Biocompatibility and Tissue Engineering, Session on Delivery of Therapeutics, Plymouth, NH, July 22-27, 2007.
30. Polypeptide and Protein Materials, American Chemical Society National Meeting, Boston, MA, August 19-23, 2007.
31. Hierarchically Ordered Functional Materials, American Chemical Society National Meeting, Boston, MA, August 19-23, 2007
32. Synthetic and Biological Macromolecules for Emerging Nanotechnologies, American Chemical Society National Meeting, Boston, MA, August 19-23, 2007.
33. Inaugural Lecture, Stevenson Biomaterials Lecture, Department of Biomedical and Chemical Engineering, Syracuse University, Syracuse, NY, November 16, 2007.
34. Protein and Peptide Engineering for Therapeutic and Functional Materials, Materials Research Society National Meeting, Boston, MA, November 25-29, 2007.
35. Stimuli-Responsive Polymers, American Chemical Society National Meeting, New Orleans, LA, April 6-10, 2008.
36. ACS Colloids Division Symposium, Biomolecular Assemblies, June 15-18, 2008.
37. Carbohydrate-Polymer Hybrids: Biomaterials and Therapeutics, American Chemical Society National Meeting, Philadelphia, PA, August 17-21, 2008.
38. Inaugural Macromex Polymer Chemistry Symposium, Los Cabos, Mexico, December 7-10, 2008.
39. Supramolecular Chemistry and Assemblies Gordon Research Conference, June 28-July 3, 2009.
40. Biocatalysis in Polymer Science, National ACS Meeting, Washington, DC, August 16-20, 2009.
41. Polymeric Materials for Regenerative Medicine, NRC Canada and Society of Plastics Engineers, Montreal, Canada, September 16-19, 2009.
42. Composites at Lake Louise, Lake Louise, Canada, October 25-30, 2009.
43. Peptides and Polypeptides: From Synthesis and Characterization to Application, American Chemical Society National Meeting, San Francisco, CA, March 21-25, 2010.
44. ACS Award in Polymer Chemistry Symposium in Honor of Timothy P. Lodge, National ACS Meeting, San Francisco, CA, March 21-25, 2010.
45. Materials Exploiting Protein and Peptide Self-assembly: Towards Design Rules, Materials Research Society National Meeting, San Francisco, CA, April 5-9, 2010.
46. International Biomaterials Congress, University of Reading, Reading, UK, April 16-18, 2010.
47. International Army Research Office Workshop, "Engineering the Bio-Abio Interface", Christchurch, New Zealand, June 21-25, 2010.
48. Keynote Lecturer, MACRO 2010: 43rd IUPAC World Polymer Congress, Glasgow, Scotland, July 11-16, 2010.
49. Polymer Networks Conference, Goslar, Germany, August 29-September 2, 2010.
50. Bioactive Polymers and Polymer Surfaces, American Chemical Society National Meeting, Boston, MA, August 22-26, 2010.
51. Etter Memorial Lectureship, Department of Chemistry, University of Minnesota, Twin Cities, MN, October 20, 2010.
52. Institute of Technology Distinguished Women Speaker, University of Minnesota, October 21, 2010.

53. Bioinspired Self-Assembly of Macromolecules, American Chemical Society National Meeting, Anaheim, CA, March 27-31, 2011.
54. Molecular and Biomolecular Recognition, American Chemical Society National Meeting, Anaheim, CA, March 27-31, 2011.
55. Materials for Regenerative Medicine, Materials Research Society National Meeting, San Francisco, CA, April 25-29, 2011.
56. Keynote lecture, Frontiers of Biomedical Polymers, Madeira, Portugal, May 10-12, 2011.
57. Macromex 2012, Cancun, Mexico, December 6-9, 2011.
58. Glycopeptides, National American Chemical Society Meeting, San Diego, CA, March 25-29, 2012.
59. Keynote lecture, World Biomaterials Congress, Chengdu, Sichuan, China, June 1-5, 2012.
60. Inaugural Bioinspired Materials Gordon Research Conference, Davidson College, North Carolina, June 24-29, 2012.
61. Macro Polymer Group Warwick 2012, University of Warwick, Warwick, UK, July 9-12, 2012.
62. Polymer Networks Group, Jackson Hole. WY, August 12-16, 2012.
63. Bioconjugate Polymers II, National American Chemical Society Meeting, Philadelphia, PA August 19-23, 2012.
64. Biocatalysis in Polymer Chemistry, National American Chemical Society Meeting, Philadelphia, PA August 19-23, 2012.
65. Plenary lecture, Novel Materials for Tissue Engineering and Drug Delivery, Darmstadt, Germany, September 25-27, 2012.
66. Plenary lecture, Gore Surface Science Group Annual Technology Conference, Newark, DE, October 5, 2012.
67. Plenary lecture, Zing Conference on Polymer Chemistry, Xcaret, Mexico, November 12-16, 2012.
68. Plenary lecture, Undergraduate Research in Polymer Science, National American Chemical Society Meeting, New Orleans, LA, April 7-11, 2013.
69. Plenary lecture, International Conference on Materials, Singapore, July 1-7, 2013.
70. Bioconjugates symposium, PMSE Division, National American Chemical Society Meeting, Indianapolis, IN, September 6-10, 2013.
71. Engineering Life Symposium, Dresden University, Dresden, Germany, September 16-17, 2013.
72. Composites at Lake Louise, Lake Louise, Alberta, Canada, November 4-7, 2013.
73. MACRO2014, Chiang-Mai, Thailand, July 6-11, 2014.
74. Macromex, December 2014.
75. Keynote address, Biomaterials Day, University of Florida, Gainesville, FL, March 27, 2015. *Student choice seminar.*
76. 98th Canadian Chemistry Conference, "Designer Biomaterials", Ottawa, Canada. June 15, 2015.
77. Plenary Lecture, 12th National Graduate Research Polymer Conference, University of Akron, Akron, OH. June 19-21, 2016.
78. Plenary lecture, Warwick 2016 International Polymers Conference, University of Warwick, Warwick, UK. July 11-14, 2016.
79. Marvel Creative Chemistry Award Symposium in Honor of Theresa Reineke, Division of Polymer Chemistry, National American Chemical Society Meeting, San Francisco, CA, April 2-6, 2017.
80. Gordon Research Conference: Polymers, Mt. Holyoke College, Mt. Holyoke, MA, June 11-16, 2017.
81. Recombinant Type Materials, Division of Polymeric Materials Science and Engineering, National American Chemical Society Meeting, Washington, DC, August 20-24, 2017.
82. Biomaterials Function and Applications, International Symposium on Bioinspired Macromolecular Systems, Aveiro, Portugal, November 6-9, 2017.
83. Modeling, Characterization, Fabrication, and Applications of Advanced Biopolymers—Where Form Meets Function, National Materials Research Society Meeting, Boston, MA, November 26 – December 1, 2017.
84. Macromex 2017, Polymers for Biomedical Applications, Los Cabos, Mexico, December 3-7, 2017.
85. International Symposium on Biorelated Polymers: Innovations in Biomedical Polymers, Division of Polymer Chemistry, National American Chemical Society Meeting, New Orleans, LA, March 18-22, 2018.

86. Polymers in Medicine, ACS Polymer Chemistry Division Workshop, Sonoma, CA, September 9-14, 2018.
87. Inaugural Lecture, Polyaminoacids and Polypeptides as Biomaterials for Tissue Engineering, Workshop and Conference, University of Merida, Yucatan, MX, October 22-24, 2018.
88. Polymer Bioconjugates for a Changing World, ACS Divisions of Polymer Chemistry and Biotechnology, ACS National Meeting, Orlando, FL. March 31-April 4, 2019.
89. Biomimetic Materials, ACS Division of Polymeric Materials Science and Engineering, ACS National Meeting, Orlando, FL. March 31-April 4, 2019.
90. FBPS International Congress on Biomaterials, Valencia, Spain, May 13-14, 2019 (declined).
91. Second International Conference on Biomaterials and Nanomaterials, Vienna, Austria, May 20-21, 2019 (declined).
92. XXVIII International Materials Research Congress, Materials for Health Applications: Biomedical implants, Biomaterials, Therapeutics and Cosmetics, Cancun, MX, August 18-23, 2019 (declined).
93. The Future of Biomacromolecules at a Crossroads of Polymer Science and Biology, 20th Anniversary Celebration of Biomacromolecules, American Chemical Society National Meeting, San Diego, CA. August 25-29, 2019 (declined).
94. Plenary lecture, Macromolecules Innovation Institute Technical Conference and Review, Virginia Polytechnic University, Blacksburg, VA, November 4-6, 2019 (declined).
95. Composites at Lake Louise, Alberta, Canada, November 10-14, 2019 (declined).
96. Biopolymeric Hydrogels, MRS National Meeting, Boston, MA, December 1-6, 2019.
97. Third International Transregio 67 Biomaterials Meeting, Leipzig, Germany. March 19-21, 2020.
98. Macromolecular Materials for Healthcare: Drug Delivery, American Chemical Society National Meeting, Philadelphia, PA, March 22-26, 2020.
99. Collagen-based thermoresponsive drug delivery vehicles, National Institute of Inventors Fellow Highlight Lecture, NAI National Meeting, Phoenix, AZ, April 8-10, 2020.
100. Plenary Lecture, Extracellular-based regenerative materials, TERMIS, Manchester, UK, May 29, 2020.
101. Prestige Lecture, Institute of Mechanical Engineering, London, United Kingdom, June 16, 2020.

Invited academic and industry seminar presentations

1. Army Research Laboratory, Aberdeen Proving Ground, MD, May 15, 1999.
2. University of Nijmegen, Department of Chemistry, Nijmegen, The Netherlands, September 26, 2001.
3. DSM Research, Performance Materials Group, Maastricht, The Netherlands, October 1, 2001.
4. Eindhoven Technical University, Department of Organic and Macromolecular Chemistry, Eindhoven, The Netherlands, October 3, 2001.
5. Chemistry-Biology Interface Seminar, University of Delaware, Newark, DE, October 9, 2001.
6. Materials Science and Engineering Seminar, University of Delaware, Newark, DE, October 15, 2001.
7. Emory University, Department of Chemistry, Atlanta, GA, October 25, 2001.
8. Kimberly-Clark Corporation, Horizons Lecture Series, Roswell, GA, October 26, 2001.
9. Delaware Biotechnology Institute, Newark, DE, November 1, 2001.
10. Department of Physics and Astronomy, University of Delaware,Newark, DE, November 6, 2001.
11. DuPont Central Research and Development, Wilmington, DE, December 10, 2001.
12. University of Delaware Chemical Engineering Polymer Research Group Seminar, Newark, DE, March 21, 2002.
13. National Institute of Standards and Technology, Gaithersburg, MD, June 12, 2002.
14. Air Force Research Laboratory, Wright-Patterson Air Force Base, Dayton, OH, November 8, 2002.
15. Department of Pathology and Cellular Biology; Thomas Jefferson University, Philadelphia, PA, December 18, 2002.
16. Sandia National Laboratories, Albuquerque, NM, October 17, 2003.
17. Department of Materials Science and Engineering, Drexel University, Philadelphia, PA, February 2, 2004.

18. Department of Pharmaceutical Sciences, University of Maryland Baltimore, Baltimore, MD, February 4, 2004.
19. DuPont Central Research and Development, DuPont Young Professor Seminar Program, Wilmington, DE, May 14, 2004.
20. James Madison University, Department of Chemistry, Harrisonburg, VA, July 23,2004.
21. Nottingham Trent University, Nottingham, United Kingdom, August 12, 2004.
22. University of Kalmar, Kalmar, Sweden, August 18, 2004.
23. Fraunhofer Molecular Biotechnology, Newark, DE, October 14, 2004.
24. Rutgers University Chemistry Department Colloquium, Piscataway, NJ, March 8, 2005.
25. Polytechnic University Sesquicentennial Symposium on Innovations at the Interface of Polymers and Biology, Polytechnic University, NY, May 11-13, 2005.
26. University of Tennessee, Department of Chemistry, Knoxville, TN, August 18, 2005.
27. Oak Ridge National Laboratories, Oak Ridge, TN, August 19, 2005.
28. Georgia Institute of Technology, Department of Materials Science and Engineeering, Atlanta, GA, October 4, 2005.
29. Carnegie Mellon University, Department of Chemistry, Pittsburgh, PA, October 27, 2005.
30. Purdue University, Department of Materials Science and Engineering, West Lafayette, IN, November 4, 2005.
31. Nagoya Institute of Technology, Department of Materials Science and Engineering, Nagoya, Japan, December 15, 2005.
32. University of Massachusetts, Department of Polymer Science and Engineering, Amherst, Massachusetts, February 24, 2006.
33. Emory University, Department of Chemistry, Atlanta, GA, April 17, 2006.
34. The College of William and Mary, Department of Chemistry, Williamsburg, VA, April 21, 2006.
35. Stonybrook University of New York, Department of Chemistry, October 5, 2006.
36. University of Washington, Nanotechnology Seminar Series, October 24, 2006.
37. Eindhoven Technical University, Department of Organic and Macromolecular Chemistry, Eindhoven, The Netherlands, November 20, 2006.
38. Radboud University Nijmegen, Department of Chemistry, Nijmegen, The Netherlands, November 21, 2006.
39. Department of Chemistry, University of California Los Angeles, January 10, 2007.
40. Department of Chemistry, Virginia Polytechnic University, Blacksburg, VA, February 22, 2007.
41. Washington University St. Louis, Department of Chemistry, St. Louis, MO, May 24, 2007.
42. Department of Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA, September 27, 2007.
43. Department of Materials Science and Engineering, Johns Hopkins University, Baltimore, MD, November 7, 2007.
44. Bausch and Lomb, Rochester, NY, December 11, 2007.
45. New York Academy of Sciences Invited Lecture, New York City, NY, February 27, 2008.
46. Army Research Laboratory, Sensors and Electron Devices Directorate, Adelphi, MD, September 5, 2008.
47. Massachusetts Institute of Technology, Polymer Science and Technology Symposium Series, Boston, MA, November 5, 2008.
48. Princeton University, Department of Chemical Engineering, Princeton, NJ, January 7, 2009.
49. Department of Biological Sciences, University of Delaware, Newark, DE, February 11, 2009.
50. Bloomsburg University, Department of Chemistry, Bloomsburg, PA, April 3, 2009.
51. University of Wisconsin Madison, Department of Biomedical Engineering, Madison, WI, September 10, 2009.
52. University of Southern California, Department of Chemistry, Los Angeles, CA, December 2, 2009.
53. Harvard University, Wyss Institute for Biologically Inspired Engineering, Harvard University, Boston, MA, December 9, 2009.
54. Imperial College London, Department of Bioengineering, London, UK, April 19, 2010.
55. Melville Seminar, Cambridge University, Department of Chemistry, Cambridge, UK, April 21, 2010.

56. University of Durham, Department of Chemistry, Durham, UK, April 23, 2010.
57. Discovery Seminar Series, DuPont Central Research and Development, Wilmington, DE, May 26, 2010.
58. University of Southern Mississippi, Department of Polymer Science, Hattiesburg, MS, November 10, 2010.
59. University of Massachusetts Dartmouth, Department of Materials and Textiles, November 22, 2010.
60. Fraunhofer CMB Seminar Series, Newark, DE, April 8, 2011.
61. Texas A&M University, Department of Materials Science and Engineering, June 9, 2011.
62. University of Rochester, Department of Chemistry, Rochester, NY, September 21, 2011.
63. Cornell University, Department of Materials Science and Engineering, Ithaca, NY, November 17, 2011.
64. Williams College, Department of Chemistry, Williams, MA, March 9, 2012.
65. University of Maryland, Departments of Chemistry/Biochemistry and Materials Science and Engineering, May 3-4, 2012.
66. University of Maryland Baltimore County, Department of Chemical Engineering, February 26, 2013.
67. Keynote lecture, Undergraduate Research Workshop, University of Delaware, Newark, DE, June 11, 2013.
68. University of South Carolina, Department of Chemistry, Columbia, SC, February 8, 2014.
69. University of Colorado, Patten Lecture, Department of Chemical and Biological Engineering, Boulder, CO, April 29, 2014.
70. Bayer Distinguished Lectureship, University of Southern Mississippi, Hattiesburg, MS, September 19, 2014.
71. Wake Forest University, Department of Chemistry, Winston-Salem, NC, October 22, 2014.
72. North Carolina State University, Department of Chemical and Biological Engineering, Raleigh, NC, October 24, 2014.
73. Medical University of South Carolina, Department of Cardiology, Charleston, SC, February 18, 2015.
74. Stanford University, Department of Materials Science and Engineering, Palo Alto, CA, May 29, 2015.
75. Rensselaer Polytechnic Institute, Department of Chemistry and Chemical Biology, Troy, NY, November 3, 2015.
76. University of Maryland, Fischell Department of Bioengineering, College Park, MD, December 4, 2015. *Student choice seminar*.
77. University of Massachusetts Amherst, Department of Polymer Science and Engineering, Amherst, MA, February 12, 2016.
78. University of Connecticut, Department of Chemical and Biomolecular Engineering, Polymers Program, Storrs, CT, September 22, 2016.
79. Elizabethtown College, Department of Chemistry, Elizabethtown, PA, October 28, 2016.
80. Texas A&M University, Department of Biomedical Engineering, College Station, TX, February 8 2017.
81. University of Nottingham, School of Pharmacy, Nottingham, UK, April 21, 2017.
82. Massachusetts Institute of Technology, Department of Chemical Engineering, Cambridge, MA, May 12, 2017.
83. Lehigh University, Department of Chemical and Biomolecular Engineering, Bethlehem, PA, September 13, 2017.
84. Mid-Atlantic Soft Matter workshop, University of Maryland College Park, College Park, MD. February 2, 2018.
85. Research Administration Conference, University of Delaware, Newark, DE. May 31, 2018.
86. Worcester Polytechnic Institute, Department of Chemical Engineering, Worcester, MA, November 28, 2018.
87. Duke University, Department of Chemical Engineering, Durham, NC, February 14, 2019.
88. Wake Forest Institute of Regenerative Medicine, Winston-Salem, NC, February 15, 2019.
89. Syracuse University, Department of Chemistry, Syracuse, NY, April 10, 2019.

90. Centre for Biomolecular Sciences Strategic Planning Retreat, University of Nottingham, Nottingham, United Kingdom, June 5, 2019.
91. MERLN Institute, Maastricht University, Maastricht, The Netherlands, October 14-18, 2019.
92. School of Pharmacy Divisional Lecture, University of Nottingham, Nottingham, United Kingdom, November 13, 2019
93. National Cancer Institute Chemical Biology Molecular Discovery Seminar Series, National Institutes of Health, December 5, 2019.
94. Department of Chemistry, University of York, York, United Kingdom, January 29, 2020.
95. Institute of Regenerative Medicine, University of Manchester, United Kingdom, February 14, 2020/
96. Department of Bioengineering, Imperial College London, United Kingdom, February 24, 2020.
97. Department of Bioengineering, Queen Mary University of London, United Kingdom, February 26, 2020.
98. Department of Materials Science and Engineering, University College London, United Kingdom, March 10, 2020.
99. School of Engineering, University of Nottingham, United Kingdom, March 17, 2020.
100. Department of Biomedical Engineering, University of Galway, Galway, Ireland, June 5, 2020.
101. BioForge, University of Vallodolid, Vallodolid, Spain, June 20, 2020.
102. Department of Biomedical Engineering, University of Utah, Fall 2020.

CONTRIBUTED PRESENTATIONS

Prior to arrival at the University of Delaware

1. Kiick, K. L.*; van Hest, J. C. M.; Tirrell, D. A. "Expanding the Scope of Protein Biosynthesis via Introduction of a Mutant Methionyl-tRNA Synthetase," Oral Presentation, ACS National Meeting, San Francisco, CA, March 25-29, 2000.

2. Kiick, K. L.*; van Hest, J. C. M.; Tirrell, D. A. "Expanding the Scope of Protein Biosynthesis: Incorporation of Methionine Analogs into Proteins *in vivo*," Student Poster Award, Polymers East Gordon Research Conference, New London, CT, June 10-15, 2000.

3. Kiick, K. L.*; Weberskirch, R., Saxon, E., Bertozzi, C. R., Tirrell, D. A. "Protein Engineering by *in Vivo* Incorporation of Methionine Analogues," Oral Presentation, National ACS Meeting, San Diego, CA, April 1-5, 2001.

Contributions from the University of Delaware
(Kiick presentations only; Kiick group presentations not delineated here)

1. Farmer, R. S.; Polizzotti, B. D.; Sharp, J. D.; Kiick, K. L.* "Structure-Based Design and Synthesis of Artificial Protein Polymers for Toxin Inhibition," Oral Presentation, National American Chemical Society Meeting, Philadelphia, PA, August 2004.

2. Farmer, R. S.; Sharp, J. D.; Wang, Y.; Kiick, K. L.* "Structure-Based Design and Synthesis of Helical Glycoproteins," Oral Presentation, Materials Research Society National Meeting, Boston, MA, December 2004.

3. Yamaguchi, N.; Chae, B-S.; Furst, E. M.; Kiick, K. L.* "Polysaccharide-Poly(ethylene glycol) Star Copolymers for the Production of Polymer Networks for Protein Delivery," Poster Presentation, Materials Research Society National Meeting, Boston, MA, December 2004.

4. Yamaguchi, N.; Chae, B.S.; Furst, E.M.; Kiick, K. L.* "Polysaccharide-Derivatized Polymers for the Noncovalent Assembly of Bioactive Hydrogels," Oral Presentation, Materials Research Society National Meeting, San Francisco, CA, March 2005.

5. Liu, S.; Polizzotti, B. D.; Maheshwari, R.; Wang, Y.; Kiick, K. L.* "Polypeptide-Based Glycopolymers for Applications in Materials and Biology," Oral Presentation, BMES National Meeting, Chicago, IL, October 11-13, 2006.

RESEARCH FUNDING

(Single-investigator awards to Kiick unless otherwise noted)

Prior to promotion to the rank of Associate Professor

Camille and Henry Dreyfus Foundation New Faculty Award
Polymeric Materials for Molecular and Cellular Recognition
- Amount: $40,000
- Project period: 9/1/01-8/31/06
- Objective: Support of general laboratory needs (equipment, salary) in the area of the expression of recombinant polypeptides for uses in toxin neutralization

National Institutes of Health, COBRE seed project
Novel Protein-Polymer Networks for Delivery Applications
- Amount: $25,000 (KLK); $50,000 total
- Project period: 2/1/02-1/31/04
- Co-PI: Eric M. Furst
- Objective: Initial synthesis and rheological characterization of polysaccharide-derivatized polymeric networks

Army Research Office, DURIP
Well-Controlled Polymeric Architectures for Cellular Recognition
- Amount: $85,000
- Project period: 4/1/02-3/31/03
- Objective: Purchase of an FPLC for the purification of polypeptides and polymer bioconjugates

University of Delaware Research Foundation
Production and Characterization of Genetically Engineered Proteins
- Amount: $30,000
- Project period: 6/1/02-5/31/03
- Objective: Instrument purchases for the bacterial expression of recombinant polypeptides

National Science Foundation
NIRT: Enhancing the Properties of Nanoscale Electrospun Fibers
- Amount: $175,000 (KLK); $1,000,500 total
- Project period: 9/1/02-8/31/05
- PI: John Rabolt
- co-PIs: Mary Galvin, Darrin Pochan, Norman Wagner, Jian-Qiao Sun
- Objective: Manipulation of electrospun fiber morphologies and function via the use of polymeric, biopolymeric, organic, and inorganic materials

National Institutes of Health
COBRE: Design of Hierarchical Recognition Motifs
- Amount: $1,140,766 (KLK); $10,000,000 total
- Project period: 9/1/02-8/31/07
- PI: Mahendra Jain
- co-PIs: Joseph Fox, Darrin Pochan, Clifford Robinson, Joel Schneider, Neal Zondlo
- Objective: Demonstration of the quantitative glycosylation of recombinantly derived polypeptides and correlation of the binding of these glycopolymers to lectin and toxin targets as a function of polymer architecture and conformation

National Science Foundation
CAREER: Proteins Containing Non-Natural Amino Acids as Building Blocks for Novel Materials
Amount: $420,000
Project period: 6/1/03-5/31/08
Objective: The incorporation of nonnatural amino acids into polypeptides and peptides, their modification with electroactive conjugated sidechains, and the demonstration of the impact of architecture on electron transport properties of the hybrid molecules

Arnold and Mabel Beckman Foundation
Young Investigator Award: Novel Protein-Based Materials For Directing Biological Responses
Amount: $240,000
Project period: 9/1/03-8/31/06
Objective: The production of functionalized biopolymers for drug delivery applications employing assembled materials

National Institutes of Health
Nanoscale Engineering of Novel Erodible Networks for Drug Delivery
Amount: $549,620 (KLK); $1,186,841 total
Project period: 9/1/03-8/31/07
Co-PI: Eric M. Furst
Objective: The assembly of erodible and responsive networks for the delivery of bioactive proteins, characterization of the hydrogels via microrheological methods, and correlation of rheological properties with delivery and cell activity

National Aeronautics and Space Administration
Synthesis, Characterization, and Processing of Genetically Engineered Polymers for Biological and Structural Applications
Amount: $284,255 (KLK); $568,509 total
Project period: 9/1/03-8/31/06
PI: John Rabolt
co-PI: Stephen Fahnestock
Objective: Characterization of the conformation of polypeptides in electrospun fibers for the development of biomaterials applications

DuPont Company
DuPont Young Professor Award
Amount: $75,000
Project period: 6/1/03-5/31/12
Objective: Unrestricted funding in the general area of biosynthetic polypeptide design and application

Sandia National Laboratories
Design of Helical Peptides for Adsorption to Functionalized Lipid Membranes
Amount: $25,000
Project Period: 2/18/04 – 9/30/06
Objective: Synthesis and characterization of helical peptides functionalized with histidine residues at specified positions, and the subsequent characterization (by our collaborators at Sandia National Laboratories) of the binding of these peptides at lipid membranes

National Science Foundation, Delaware EPSCoR Seed Grant
Controlled Two- and Three-Dimensional Assembly of Nanostructures via Biologically Derived Recognition Processes

Amount: $50,000
Project period: 9/1/05-8/31/07
Objective: Synthesis of coiled-coil polypeptides and their self-assembly into well-defined structures

University of Delaware Research Foundation
Cell-Responsive Elastomeric Biomaterials from Engineered Polypeptides
Amount: $25,000
Project period: 6/1/07-5/31/08
Objective: Production of new modular, hydrophilic elastomeric polypeptides

National Institutes of Health, RO1EB006006
Aggregation of Protein Therapeutics: Mechanisms, Stability, and Interdiction
Amount: $771,983 to UD
$2,931,965 for overall project
Project period: 9/15/06-9/14/11
PI: Theodore Randolph (Univ. Colorado); 4 co-PIs, incl. Kiick
Objective: Theoretical prediction and experimental validation of controlled aggregation/association in peptide- and polypeptide-based materials.

National Institutes of Standards and Technology
Small Angle Neutron Scattering on Polymers and Complex Fluids
Amount: $ 7,013,335
Project period: 9/03/07-9/02/12
PI: Norman Wagner (Univ. Delaware); Kiick and 4 co-PIs
Objective: Development of scattering methods for characterization of well-defined polymers and complex fluids.

Nemours Foundation
Controlled Release of Low Molecular Weight Heparin for Anticoagulation Therapy
Amount: $37,500
Project Period: 1/1/08-12/31/09
Objective: Development of LMWH-containing, injectable hydrogels with controlled degradation rates for anticoagulation therapy

National Institutes of Health
Molecular Design of Advanced Biomaterials
Amount: $11,536,623
Project period: 9/15/08-9/14/13
PI: Thomas Beebe (Univ. Delaware);
Kiick (one of three lead writers) and 10 other project leaders
Objective: Development of tissue engineering and drug delivery scaffolds and their characterization

National Science Foundation
Photophysical Studies of Conjugated Chromophores on Peptide Templates
Amount: $502,621
Project period: 6/01/08-5/31/11
PI: Kiick and Lewis Rothberg (Univ. Rochester), co-PIs
Objective: Characterization of electron transport between conjugated oligomers on peptide templates of specified aggregate size and geometry.

National Institutes of Health

IDeA Network of Biomedical Research Excellence
Amount: $17,448,789
$358,546 to subproject
Project Period: 5/01/2009-4/30/2014
PI: David Weir
Objective: Strengthen existing infrastructure and programs in cardiovascular, cancer, and neurobiology. Akins/Kiick/Rabolt subproject: Materials to direct CV cell phenotypes.

National Science Foundation
Multifunctional Biomaterials from Collagen-Containing Multiblock Polymers
Amount: $420,000
Project Period: 5/15/2009-4/30/2012
PI: Kiick
Objective: The recombinant synthesis of collagen-containing triblock polymers for assembly of ordered materials capable of elaboration with nanoparticles and ligands.

University of Delaware Research Foundation
Cell-Responsive Elastomeric Biomaterials from Engineered Polypeptides
Amount: $25,000
Project period: 6/1/07-5/31/08
PI: Kiick
Objective: Production of new modular, hydrophilic elastomeric polypeptides

National Institutes of Health, 1R01DC011377A
RO1: Highly Resilient, Hydrophilic Bioelastomers for Engineering Vocal Fold Tissue
Amount: $489,856/yr
Project Period: 3/20/2012-2/28/2019
PI: Kiick (with Jia and Thibeault as collaborators)
Objective: Generation of resilin-like hydrogels materials as injectable therapies for vocal fold disorders.

Army Research Office
STIR: Defining Peptide Nanostructures by Engineering Assembly Interfaces
Amount: $50,000
Project Period: 10/1/2012 - 6/30/2013
PI: Kiick (Pochan co-PI)
Objective: Synthesis and assembly of beta-sheet peptides that assemble into controlled fibril shapes based on the nature of the hydrophobic face of the folded peptide.

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National Science Foundation
Utilization of Collagen Remodeling Pathways to Control Gene Delivery
Amount: $140,066/yr
Project Period: 8/1/2012 – 7/31/2016
PIs: Sullivan and Kiick
Objective: Examination of trafficking pathways for DNA delivered by collagen-modified polyplexes.

National Science Foundation
Systems Biology of Cells in Engineered Environments
Amount: $700,000/yr
Project Period: 7/1/2012 – 6/30/2017
PIs: Lee, Green, Hanson, Kiick, Wu

Objective: Training grant to establish joint bioinformatics and materials engineering approaches in the study of cell signaling pathways.

Fraunhofer CMB
Efficacy and Stability Testing of Biologicals in Novel, Biologically Inspired Matrices
Amount: $49,950/yr
Project Period: 11/1/12-10/31/14
PI: Kiick
Objective: Characterization of the delivery of select plant-derived antigens and proteins (flu antigens and esterases) from engineered polymer hydrogels.

National Science Foundation
DMREF: Collaborative Research – Programmable peptide-based hybrid materials
Amount: $664,000/yr (Kiick, Pochan)
Project Period: 9/1/2012 – 8/31/2017
PIs: Pochan, Kiick, Saven
Objective: Design of controlled two-dimensional, coiled-coil peptide-based nanostructures via a combination of computational and experimental methods.

National Science Foundation
Directing nanoscale assembly of peptide-containing multiblock polymers
Amount: $193,346/yr
Project Period: 7/1/2012 – 6/31/2016
PIs: Kiick, Jia, Roberts
Objective: The goals of this program are to design multiblock polymers with prescribed assembly pathways to generate novel nanoscale materials.

National Institutes of Health, RO1HL108110
RO1: Cell-instructive materials for engineering vascular grafts
Amount: $555,317 (to UD)
Project Period: 6/17/2013 - 5/31/2019
PI: R.E. Akins Jr., Nemours
Objective: Development of polymer-protein hydrogels for adjunctive therapies during vascular graft surgeries

National Institutes of Health, R01EB006006
RO1 (renewal): Aggregation of Protein Therapeutics: Mechanisms, Stability, and Interdiction
Amount: $680,140 (Kiick, Roberts)
Project Period: 2/15/2013 - 1/31/2019
PI: Theodore Randolph (Univ Colorado, with 5 other PIs incl Kiick and Roberts)
Objective: Synthesis of peptide-polymer multiblock materials as model systems for understanding protein aggregation phenomena.

Delaware Health Science Alliance
Clinical Immersion Experience for Biomedical Engineering Students
Amount: $19,974
Project Period: 9/1/2012 - 8/31/2014
PI: Higginson (with co-PIs)
Objective: Providing opportunities for BME undergraduates to participate in clinical environments for short-term internships

National Institutes of Health, R01AR067247
Collagen turnover-stimulated gene delivery to enhance chronic wound repair
Amount: $176,998 (to KLK)

Project period: 04/01/2016-3/31/2020
PI: Millicent O. Sullivan (Kiick CoPI)
Objective: Project goal is to detail an innovative strategy to improve control over the dynamics and location of growth factor delivery by harnessing ECM remodeling to stimulate gene release and expression.

National Science Foundation, DMR1609544
Collaborative Research: Controlling Microstructure in Resilin-based Hydrogels: Linking Microscale Mechanical Properties to Behavior
Amount: $330,000
Project Period: 7/15/2016-6/30/2019
PI: Kiick, Kristi L.
Objective: This proposal aims to use novel resilin-like elastomeric polypeptides (RLP) and simple processing protocols to generate microstructured RLP-based hydrogels, characterize their mechanical failure, and correlate structures with mechanisms of deformation.

National Science Foundation, CBET-1605130
Collagen turnover-stimulated gene delivery to enhance tissue repair
Amount: $141,804
Project Period: 9/1/2016-8/31/2019
PI: Sullivan, Millicent (Kiick co-PI)
Objective: This project describes an approach to understand the dynamics, mechanisms, and location of growth factor delivery when ECM remodeling is used to control the delivery of genes encoding growth factors.

National Institutes of Health, P30GM110758-04 COBRE Pilot Award
Collagen-based targeting for improved treatments of musculoskeletal pathologies
Amount: $75,300
Project Period: 8/1/2017-7/31/2018
Prime PI: Polenova, Tatayana (Pilot project PI: Kiick)
Objective: This pilot study will demonstrate the utility of CLP-modified nanoparticles to locally deliver drugs to articular cartilage via integration with damaged collagen, and to show the retention and thermally triggered release of model fluorescent compounds at one or two temperatures.

National Institutes of Health, R21AR069778
Collagen-based targeting for improving delivery and efficacy of osteoarthritis drugs
Amount: $130,000 (Kiick)
Project Period: 4/01/2017-3/31/2019
PI: Kiick
Objective: We propose a novel approach for improving delivery of OA drugs that will exploit interactions between collagen-like peptides and natural collagens to develop a new thermoresponsive paradigm for drug delivery to OA joints.

National Science Foundation, PFI1700980
DNA-Linked ECM Gels for Enhanced Healing in Chronic Wounds
Amount: $53,963 (Kiick)
Project Period: 7/1/2017-12/31/2018
PI: Sullivan, Millicent (Kiick co-PI)
Objective: We propose a proof-of-principle demonstration of novel, collagen-based dressings with the potential to improve cutaneous wound repair.

National Science Foundation, CBET1703402

Understanding Molecular Driving Forces to Tailor Macromolecular Materials with Dual-Thermoresponsive Behavior

Amount: $146,778 direct (Kiick)
PI: Jayaraman, Arthi (Kiick co-PI)
Project Period: 9/1/2017-8/31/2020
Objective: This proposal is aimed at developing computational models for understanding the molecular level mechanism driving phase transitions in conjugates of elastin-like peptides (ELP) and other peptide domains (CXP).

ADVISORY AND EDITORIAL BOARDS

2003-2005	SensIR Technologies, Inc. (CT)
2004-2005	Consultant, Spine Preservation, Inc. (PA)
2004-2007	Scientific Advisory Board, ENS Incorporated (MA)
2004-present	Associate Editorial Board, *Journal of Bioactive and Compatible Polymers*
2007– present	Editorial Advisory Board, *Macromolecular Bioscience*
2007- present	Editorial Advisory Board, *Biomacromolecules*
2009-present	Nemours Center for Childhood Cancer Research, member
2009-2013	Board of Directors, Division of Polymer Chemistry, American Chemical Society
2010-2014	Advisory Board, PANOPTES; European Consortium for Peptide-Based Nanomaterials for Ocular Drug Delivery
2011-2014	Editorial Advisory Board, *Macromolecules*
2011-2014	Founding Principal Editor, *MRS Communications*
2011-2014	Editorial Advisory Board, *MRS Communications*
2011-2013	Development Council, Division of Polymer Chemistry, American Chemical Society
2014-present	External Advisory Council, University of New Hampshire COBRE
2014-present	Editorial Advisory Board, *ACS Biomaterials Science and Engineering*
2014-present	Internal Advisory Council, UD NIH COBRE on Biomaterials
2014-present	Delaware Health Science Alliance Council
2016-present	External Advisory Council, Villanova University Department of Mechanical Engineering
2017-present	Editorial Advisory Board, *Molecular Systems Design and Engineering*

RESEARCH MENTORING

Doctoral Students (40 total advised, 31 graduated) _____

2002-2006	Robin Farmer (September 1, 2006; University of Toronto postdoctoral position 2006; Assistant Professor of Chemical Engineering 2008, West Virginia University)
2002-2006	Brian Polizzotti (August 22, 2006; University of Colorado postdoctoral position 2006; GE Plastics Research and Development 2008; Assistant Professor, Harvard Medical School 2018.)
2002-2009	Manoj Charati (May 8, 2009; University of Pennsylvania postdoctoral position 2009; Research Scientist, Pfizer)
2002-2007	Le Zhang (September 7, 2007; Milliken Company, South Carolina 2007)
2003-2009	Ann Kim (January 9, 2009; University of California Los Angeles postdoctoral position 2009; Celanese 2011)
2003-2009	Ronak Maheshwari (December 18, 2008; Rochester Polytechnic Institute Postdoctoral position 2009; Research Scientist, Amgen)
2003-2009	Erinc Sahin (October 31, 2008; postdoctoral position UD ChemE 2009; Bristol Myers Squibb 2011)
2004-2010	Shuang Liu (July 7, 2010; postdoctoral position Yale University 2010; postdoctoral

	fellow Johns Hopkins University 2012; staff scientist University of Delaware 2014)
2005-2010	Ayben Top (August, 2010; Associate Professor, Izmir Institute of Technology, Turkey)
2005-2012	Aaron Baldwin (April 2012; Research Scientist, Microvention, Aliso Viejo, CA)
2005-2011	Ohm Divyam Krishna (February 2011; Research Scientist, Intel Corporation, Portland, OR)
2005-2008	Zaiwen Liu (co-advised with Prof. John Rabolt; Masters Degree July 17, 2008)
2006-2012	Sarah Grieshaber (co-advised with Prof. Xinqiao Jia; January 2012; Research Scientist, SABIC Plastics, Indiana)
2007-2013	Linqing Li (January 2014; Postdoctoral research scientist, University of Delaware, Boston University)
2007-2014	Eric Levenson (Biochemistry major, co-advised with Prof. Zhihao Zhuang; April 2014; Research Scientist, NIAID)
2008-2014	Christopher McGann (December 2014; Research Scientist, Naval Research Laboratory)
2009-2015	Nandita Bhagwat (May 2015; Research Scientist, Zymergen, CA)
2010-2012	Ingrid Spielman (co-advised with Prof. Millicent Sullivan, Masters Degree May 2012)
2010-2016	Tianzhi Luo (November 2016; Assistant Professor of Biomedical Engineering, Southern University of Science and Technology, China)
2010-2012	Bo Xie (Masters Degree, May 2012)
2011-2016	Prathamesh Kharkar (co-advised with Prof. April Kloxin; Research Scientist,)
2011-present	Bradford Paik (co-advised with Prof. Xinqiao Jia)
2011-2016	Yingkai Liang (July 2016, Scientist, Merck)
2012-2017	Morgan Urello (August 2016, Chemical Engineering, co-advised w/Millicent Sullivan, Postdoctoral Research Fellow, MedImmune, Bethesda MD)
2012-2018	Hang Lau (August 2018, Applications Development Scientist, TA Instruments, Newark, DE)
2012-2019	Michael Haider (May 2019, co-advised with Prof. Darrin Pochan)
2013-2015	Danielle Ferguson (Masters Degree, May 2015)
2014-2017	Haocheng Wu (Masters Degree, November 2017)
2014-2019	Ishnoor Sidhu
2014-2019	Yu Tian (May 2019, co-advised with Prof. Darrin Pochan)
2015-present	Lucas Dunshee (Chemical Engineering, co-advised with Prof. Millicent Sullivan)
2016-present	Cristobal Garcia
2016-present	Jingya Qin
2016-2019	Colleen Fridley (Master's Degree, August 2019, Chemical Engineering, co-advised with Prof. Millicent Sullivan)
2017-present	Jeongmin Hwang (Biomedical Engineering, co-advised with Prof. Millicent Sullivan)
2017-present	Haofu Huang
2017-present	Luisa Palmese
2018-present	Sai Patkar
2019-present	Bin Wang

Undergraduate Students (29 advised)

2002	Theresa Beinke, Chemical Engineering major, University of Delaware
2002	Nathan Jovanelly, Chemical Engineering major, University of Delaware
2003	Katie Sheasgreen, Biology major, St. Joseph's University
2003-2004	Jared Sharp, Chemistry and Biochemistry major, University of Delaware
2004	Undine Kipka, Environmental Engineering major, University of Delaware
2004-2005	Erin O'Dea, Chemical Engineering major, University of Delaware Senior Thesis: *Thermodynamic and Kinetic Characterization of the Unfolding and Aggregation of a Synthetic Polypeptide*
2005	Erin Gallagher, Chemical Engineering major, Case Western University
2004-2006	Lindsey Argust, Chemical Engineering major, University of Delaware

	Senior Thesis: *Sequence and Solvent Effects on the Aggregation and Unfolding of Synthetic Polypeptides*
2005-2007	James Nelson, Chemistry and Biochemistry major, University of Delaware Senior Thesis: *Design and characterization of leucine zipper coiled-coils for use in ordered nanostructures* 2nd place poster award, Regional undergraduate research meeting University of Maryland Baltimore County, October 14, 2006.
2008	Nadia Shobnam, Bioengineering major, Johns Hopkins University
2008-2009	Kevin Huynh, Biochemistry major, University of Delaware
2010-2013	Christopher Black, Biochemistry major, University of Delaware
2010-2012	Matt Siccione, Biology major, University of Delaware
2011-2012	Kevin Chang, Biomedical Engineering major, University of Delaware
2011-2013	Ryan Mitchell, Biomedical Engineering major, University of Delaware
2012-2015	Rebekah Dumm, Biochemistry major, University of Delaware
2012-2015	Anna Jurusik, Biochemistry major, University of Delaware
2013-2014	Ryan McDonough, Chemical and Biomolecular Engineering major, University of Delaware
2014-2016	Nile Bunce, Biomedical Engineering major, University of Delaware
2014-2016	Kyle Lusignea, Chemical and Biomolecular Engineering major, University of Delaware
2014-2015	Justin Martinez, Chemical and Biomolecular Engineering major, University of Delaware
2015-2016	Dina Collins, Medical Technologies major, University of Delaware
2015-2016	Juliana Farina, Biology major, University of Delaware
2016-2017	Erin Yizzi, Chemical and Biomolecular Engineering major, University of Delaware
2016-2017	Madeline Smith, Biomedical Engineering major, University of Delaware
2017-2018	Michelle Thuruthickara, Biomedical Engineering major, University of Delaware
2019-	Alex Sinclair, Chemical and Biomolecular Engineering major, University of Delaware
2020-	Adam Veasey, Biomedical Engineering major, University of Delaware
2020-	Emily MacMahon, Chemical and Biomolecular Engineering major, University of Delaware

High School Students (5 mentored)

2002	Emily Peng
2004	Sarah Cotts
2004-2007	Neil Nayak, 1st place regional science fair award (2005, 2006) and national Davidson Fellowship Honorable Mention (2005) for work conducted in Kiick laboratories
2014	Caroline Cook, laboratory experience in Kiick laboratories
2015-2016	Max Roberts, laboratory experiences in Kiick laboratories

Postdoctoral Fellows (17 sponsored)

2002-2006	Dr. Nori Yamaguchi (current position: SABIC Innovative Polymers).
2003	Dr. Siddharth Patwardhan (current position: Lecturer at University of Strathclyde)
2004-2006	Dr. Ying Wang (current positions: Northwestern University)
2004-2005	Dr. Qiang Hu (current position: GE Plastics)
2004-2006	Dr. Suvarchala Devi Pogula (current position: University of Portland)
2006-2009	Dr. Ting Nie (current position: SUNY Stonybrook)
2009-2010	Dr. Anna Greene
2010-2011	Dr. Kathleen Garber
2013	Dr. Samuel Lahasky
2013-2014	Dr. Kenneth Koehler
2014-2016	Dr. Linqing Li
2014-2016	Dr. Shivshankar Mane

2014-present	Dr. Rebecca Scott, NIH Postdoctoral Fellow
2016-2017	Dr. Tianzhi Luo
2017-2019	Dr. Raj Thapa
2019-present	Dr. Anuraag Boddupalli
2020-present	Dr. Hanieh Safari

Visiting Scholars (10 sponsored) _____

2003	Rosalie Teeuwen (M.S. candidate, University of Nijmegen, The Netherlands)
2005	Jan Vinkenborg (M.S. Candidate, Eindhoven University, The Netherlands)
2006	Alma Mingels (M.S. Candidate, Eindhoven University, The Netherlands)
2008	Kerstin Wiss (Ph.D Candidate, University of Mainz, Germany)
2009	Atsushi Mahara (Senior scientist, National Cardiovascular Research Institute, Osaka, Japan)
2010	Sandip Kumar (Postdoctoral volunteer, University of Delaware)
2010	Kimberly Wojeck (Cell biology, volunteer)
2012	Ana Rioz (PhD, University of Oviedo, Spain)
2016-2018	Ming Fan (PhD, Nanjing University of Science and Technology, P.R. China)
2016	Floor Ruiter (PhD, University of Nottingham, UK)

Dissertation Committees* _____

Garland Fussell (ChemE, Cooper, graduated 2002)
Jeannie Stephens (MSE, Rabolt, graduated 2003)
Witchuda Suwanawatana (MSE/CCM, Gillespie, graduated 2004)
Mary Kurian (MSE, Galvin, graduated 2004)
Cheryl Casper (MSE, Rabolt, graduated 2005)
Quamrul Hassan (Chemistry, Koh, graduated 2005)
Zhanpeng Zhang (Chemistry, Beebe, graduated 2005)
Daniel Cline (Chemistry, Schneider, graduated 2005)
Vahik Krikorian (MSE, Pochan, graduated 2005)
Hermona Christian (MSE, Galvin, graduated 2005)
Lisa Pakstis (MSE, Pochan, graduated 2005)
Yujuan Liu (MSE, Rabolt, graduated 2005)
Wei Zhang (Chemistry, Duan, graduated 2005)
Bulent Ozbas (MSE, Pochan, graduated 2006)
Fan Zhang (Chemistry, Fox, graduated 2006)
Seth Washburn (ChemE, Lauterbach, graduated 2006)
John Papalia (MSE, Galvin, graduated 2006)
Matt Lamm (MSE, Pochan, graduated 2007)
Shalini Balakrishnan (Chemistry, Zondlo, graduated 2007)
Tuna Yucel (MSE, Pochan, graduated 2008)
Andres Leal (MSE/CCM, Gillespie, graduated 2008)
Steve Givens (MSE, Rabolt, graduated 2008)
Frances Spinelli (MS ChemE, Furst, graduated 2008)
Rohan Hule (MSE, Pochan, graduated 2009)
Lynn Schwarting (Biological Sciences, Farach-Carson, graduated 2009)
Jianfei Zheng (Chemistry, Koh, graduated 2009)
Akhil Khanal (Chemistry, Bahnson, graduated 2009)
Rong Yang (Chemistry, Beebe, graduated 2010)
Hongli Wang (Physics, Hadjipanayis, graduated 2010)
Indira Gopal (ChemE, Furst, graduated 2008)
Danjie Liu (Electrical Eng., Roberts, graduated 2009)

Srinivasan Balakrishnan (Physics, Hadjipanayis, graduated 2010)
Patricia Jones (Biology, R. Duncan, graduated 2011)
Junjun Chen (Chemistry, Mueller/Zhuang, graduated 2011)
Kelly Schultz (ChemE, Furst, graduated 2011)
Kory Blocker (ChemE, Sullivan, graduated 2012)
Sheng Zhong (MSEG, Pochan, graduated 2010)
Aysegul Altunbas (MSEG, Pochan, graduated 2011)
Carl Giller (MSEG, Rabolt, graduated 2010)
Olga Hartmann (MSEG, Rabolt, graduated 2010)
Alexandra Farran (MSEG, Jia, graduated 2011)
Amit Jha (MSEG, Jia, graduated 2011)
Sarah Yerkes (Biology, Kmiec, graduated 2009)
John Larsen (ChemE, Sullivan, graduated 2012)
Lisa Gurtz (Biology, Farach-Carson and van Golen, graduated 2012)
Longxi Xiao (MSEG, Jia, graduated 2013)
Xiaoxian Ma (MSEG, Rabolt)
Xian Xu (MSEG, Jia, graduated 2013)
Zhixiang Tong (MSEG, Jia, graduated 2012)
Harathi Srinivas (Chemistry, M Watson, graduated 2014)
Nathan Ouyang (MSEG, Martin, graduated 2014)
Jesse Sun (MSEG, Pochan, graduated 2015)
Anna Jurusik (Plant and Soil Sciences, Yan Jin)
JiYeon Song (MSEG, Jia)
Jenna Harris (MSEG, Day)
Kristen Van de Voorde (MSEG, Korley)
Xiaoyu Zou (MSEG, Jia)
Paige LeValley (CBEG, Kloxin)

TEACHING

My administrative appointment as Deputy Dean of the UD College of Engineering has subsumed my official classroom teaching responsibilities from 2011-present.

MSEG 667-010, MSEG 632-010/832-010 (Fall 2002, Spring 2006)
Principles of Polymerization
Course development and lecturer
This course introduces the principles and chemistry of a variety of industrially and academically important polymerization methods and introduces new advanced polymerization methods that are useful for the production of polymeric materials, including protein engineering and living polymerization methods.

MSEG 603-173, MSEG 603-010, MSEG633-010/833-010 (Sp 2003, Sp 2004, Sp 2005, Sp 2007, Sp 2010)
Polymer Synthesis & Characterization Laboratory
New course development and lecturer
This course provides direct laboratory experience in several major polymerization methods including condensation, free radical, living free radical, and anionic polymerization and copolymerization, as well as direct experience with several methods of polymer characterization, such as NMR, IR, DSC, and GPC.

MSEG 667-013 (Fall 2003, Fall 2006, Fall 2009)
Biopolymeric Materials
New course development and lecturer
This lecture course highlights the increasing importance of biopolymeric materials across materials science,

and integrates current research topics with fundamental polymer/materials concepts. Topics covered include protein engineering methods of polymer synthesis, protein materials, polysaccharide materials, DNA-based methods of materials assembly, phage display methods for the production of inorganic materials, and lipid-based materials.

MSEG 667-011 (Fall 2004)
Introduction to the Science and Engineering of Polymeric Systems
Course development and lecturer
This course introduces the basic science and engineering principles of polymeric materials, including a basic theoretical treatment of polydispersity in polymers, synthesis of polymers via step and chain growth mechanisms, dilute and concentrated solution behavior of polymers, phase separation in polymer systems, the amorphous and crystalline states in polymers, rheology, rubber elasticity, and processing of polymers.

CHEG 805-010, BISC 805-010 (Fall 2007)
Multidisciplinary Biotechnology
Course development, organization, and lecturer
This course introduces biotechnology R&D within a multidisciplinary context involving engineering, chemistry, biology, and business. Topics include drug delivery, vaccine development, monomer and polymer synthesis via renewable feedstocks and technologies, pharmaceutical development, biomaterials, ethics, and oral and written communication skills within technology. Guest lectures from outside industrial scientists are included in this course. Students write detailed biotechnology proposals in interdisciplinary teams, and these proposals need to involve new scientific ideas with an achievable business objective.

MSEG 811-010 (Fall 2008)
Advanced Topics in Materials Science and Engineering
Course development and lecturer
This advanced topics course covers current research areas within soft materials and surface engineering. Topics include vibrational spectroscopy of polymers and functionalized surfaces, processing of polymers, polymeric hydrogels, and polypeptide-based materials. The course format involves detailed presentation and critique of current literarture, and relationships of that literature to fundamental concepts in polymer science. Introduction to various forms of technical writing are also presented; students compose letters to the editor to critique current articles in the literature; the final project involves a thorough and detailed literature analysis, in both written and oral form.

MSEG 608-010 (Fall 2010) and 609-010
Structure and Properties of Materials I and II
Course development and lecturer
This fundamental, new core graduate course is structured to provide a firm basis for the graduate studies of MSEG students in both hard and soft materials. Topics include atomic structures, electronic properties of materials, and organization of materials. Emphasis is placed on relating these fundamental topics to applications including photonics, optics, photovoltaics, and biomaterials. The course format involves both lectures and laboratories; laboratory work on vibrational spectroscopy, electron microscopy, thermal characterization (DSC, TGA), and surface techniques (XPS, AFM) is an integral part of the course.

MSEG 302-010 (Spring 2011)
Materials Science for Engineers
Course lecturer
This required course for engineering majors covers a basic introduction to materials science and enrolls ca. 150-200 students per semester. Topics include atomic structures, crystal structures, phase transitions, polymers, ceramics and metals, mechanical properties, and electronic/magnetic/optical properties of materials. The course is given in lecture format; recitation sections and review sections are held as a part of this course. Demonstrations are used as appropriate and feasible for the topics and classroom; the course is recorded so that students can access it when a class is missed.

INTERNATIONAL ACADEMIC SERVICE

- International committee member for Jurgen Smeenk's Ph.D. Dissertation, University of Nijmegen, Nijmegen, The Netherlands, November 2006. Advisor: Jan van Hest
- International committee member for Rosalie Teeuwen's Ph.D. Dissertation, University of Nijmegen, Nijmegen, The Netherlands, November 2009. Advisors: Jan van Hest and Fritz de Wolf
- External letter writer, Promotion and Tenure case, University of Leiden, July 2010
- Editorial Advisory Board, Macromolecular Bioscience, 2007-present
- Executive Advisory Board, Macromolecular Journals, 2011-present
- Executive Advisory Board, PANOPTES European consortium, 2011-2016
- Hosting of international visiting scholars
- Biomaterials Selection Subcommittee, American Institute for Medical and Biological Engineering

PROFESSIONAL SERVICE

Scientific meetings chaired and organized

2003 Symposium co-organizer
"Materials Inspired by Biology" (4.5-day symposium)
Materials Research Society National Meeting, San Francisco, CA, April 20-25, 2003.

2003 Session chair (3 separate oral sessions)
"Tissue Engineering and Biomaterials", "Novel Biomimetic and Bioinspired Polymers"
"Biomineralization and Hard Tissue Engineering"
Materials Research Society National Meeting, San Francisco, CA, April 20-25, 2003.

2004 Session chair
"Proteins, DNA, and Polysaccharides"
National American Chemical Society Meeting, Philadelphia, PA, August 22-26, 2004.

2004 Session chair
6th International Biorelated Polymers Symposium Joint PMSE and POLY Poster Session, National American Chemical Society Meeting, Philadelphia, PA, August 22-26, 2004.

2005 Discussion Leader
"Polymerization of Block Copolymers and Conducting Polymers"
Gordon Research Conference, Polymers (West), January 10, 2005.

2005 Chair
Graduate Student Awards Panel
Materials Research Society National Meeting, San Francisco, CA, March 29, 2005.

2005 Discussion Leader
"Biological Routes to Polymers"
Gordon Research Conference, Polymers (East), June 19-23, 2005.

2005 Symposium co-organizer and session chair
"Polymers for Bioactive Surfaces" (3 day symposium)
American Chemical Society National Meeting, Washington, DC, August 28-September 1, 2005.

2006 Session Chair
"Biocatalysis in Polymer Science"
National American Chemical Society Meeting, San Francisco, CA, September 10-14, 2006.

2006 Session Chair
"International Biorelated Polymers Symposium"
National American Chemical Society Meeting, San Francisco, CA, September 10-14, 2006.

2009-Present ACS POLY Division Program Chair
National American Chemical Society Meetings, April 2009-August 2010
Implemented innovative programming recognized by ACS Presidential Office: POLY/PMSE Plenary Lecture, and new POLY/PMSE Poster Session formats.

2009 Discussion Leader
Gordon Research Conference, Polymers (East), Mt. Holyoke College, June 21-25, 2009.

2009 Session Chair
"Biocatalysis in Polymer Science"
National American Chemical Society Meeting, Washington, DC, August 16-20, 2009.

2009 Session Organizer and Chair
"POLY/PMSE Plenary Lecture and Awards Symposium"
National American Chemical Society Meeting, Washington, DC, August 16-20, 2009.

2010 Session Chair
"General Topics in the Characterization of Polymers"
National American Chemical Society Meeting, Boston, MA, August 22-26, 2010.

2010 Session Organizer and Chair
"POLY/PMSE Plenary Lecture and Awards Symposium"
National American Chemical Society Meeting, Boston, MA, August 22-26, 2010.

2011 Session Organizer
"ACS Award in Affordable Green Chemistry" and
"POLY/PMSE Plenary Lecture and Awards Symposium"
National American Chemical Society, Anaheim, CA, March 26-31, 2011.

2011 Session Organizer and Chair
"General Topics in Polymer Chemistry" (Chair)
"POLY/PMSE Plenary Lecture and Awards Symposium" (Organizer and Chair)
National American Chemical Society Meeting, Denver, CO, August 26-September 1, 2011.

2013 Meeting Chair, Materials Research Society
Fall 2013 MRS Meeting, Boston, MA, December 1-6, 2013.

2013 Session Chair, Biocomposites
Composites at Lake Louise, Lake Louise, Alberta, Canada, November 4-7, 2013.

2014 Session Chair, Environmentally Friendly Polymers
MACRO2014 IUPAC meeting, Chiang Mai, Thailand, July 6-11, 2014.

2016 Session Chair, Biological Polymers
Warwick 2016, University of Warwick, UK, July 11-14, 2016.

2017 Session Chair, International Symposium on Bioinspired Macromolecular Systems
University of Aveiro, Portugal, November 6-8, 2017.

2017 Session Organizer and Chair, Polymers for Biomedical Applications
Macromex 2017, Los Cabos, Mexico, December 7-10, 2017.

2017 Co-chair Synthetic Biology Roadmap Group; workshops and sessions
Materials Research Society annual meetings, 2017-2019

2018 Session chair and organizer, Molecular Systems Design and Engineering Symposium
University of Chicago, Chicago IL, September 28-29, 2018.

Memberships in Professional Organizations

American Chemical Society, Member, Division of Polymer Chemistry
2009-present Board of Directors, Division of Polymer Chemistry
2009-2013 Executive Committee, Division of Polymer Chemistry
American Association for the Advancement of Science
American Institute of Medical and Biological Engineering
Materials Research Society
Society for Biomaterials
Controlled Release Society

Reviewing Activities

Journal reviewing activities. Journal of the American Chemical Society, Advanced Materials, Angewandte Chemie, Nature Materials, Macromolecules (top 25% of reviewers), Macromolecular Bioscience (editorial board), Biomacromolecules (editorial board and top 25% of reviewers), Chemistry and Biology, Advanced Drug Delivery Reviews, Acta Biomaterialia, ACS Nano, Journal of Biomedical Materials Research Part A, Journal of Bioactive and Compatible Polymers, Journal of Polymer Science A (Chemistry), Encyclopedia of Biomaterials and Biomedical Engineering, Journal of Materials Chemistry, Progress in Polymer Science, Science Advances.

Proposal and center reviewing activities. National Science Foundation, Site visit panel, NSEC review (2010); US Department of Energy (ad hoc), US Army Research Office (ad hoc), National Science Foundation (2003-present, ad hoc), National Institutes of Health (2003-present, ad hoc and Special Emphasis Panels), US Department of Defense, National University of Singapore, American Chemical Society, Petroleum Research Fund; National Center for Neutron Research, NIST.

UNIVERSITY SERVICE

2002-2003	Departmental Seminar Series Organizer
2002-2008	Undergraduate Research Information Sessions, Panel Member
2003-present	University of Delaware Board of Senior Thesis Readers
2003-2004	Eugene duPont Memorial Scholar Selection Committee
2003-2004	Member, Faculty Search Committee
2005	Panel member, "Planning for Success in the Job Hunt," Women in Engineering Workshop, January 19, 2005
2005-2006	Member and co-chair, MSEG Faculty Search Committee
2005-present	Faculty Advisor, Materials Research Society Student Chapter, University of Delaware
2006	Faculty Focus Group, UD President Selection Advisement
2006-2010	Graduate Program Co-Director, Materials Science and Engineering
2007-2009	Chair, UD MSEG Graduate Awards Committee

2007	Promotion and Tenure University-wide Workshop, October 12, 2007
2007-2008	Chair Search Committee, Materials Science and Engineering
2007-2008	Dean Search Committee, College of Engineering
2007-2009	MSEG Chair Advisory Committee
2007-2011	Provost-appointed member of University Biosafety Committee
2008-2012	Executive Committee (Dean-appointed), Biomedical Engineering
2008-present	Delaware Rehabilitation Institute Council
2008-2014	Workshop development, NSF ADVANCE P.A.I.D. program
2009	External member, UD Astronomy and Physics faculty search committee
2009-2011	Diversity and Curriculum Development committees, MSEG, University of Delaware
2009-2010	UD College of Engineering Bioengineering Cluster Hiring Committee
2009-2010	UD College of Engineering Workshop Development: "Success Strategies for Emerging Faculty"
2009-present	UD WISE (Women in Science and Engineering)
2010-2011	Associate Director, College of Engineering Biomedical Engineering
2010-2011	Chair, College of Engineering Bioengineering Faculty Search Committee
2010-present	Mentor, University of Delaware Faculty Mentoring Program
2011-2016	International Global Studies Advisory Board
2011-2015	JPMC-UD Executive Committee
2011-2015	UD Research Council
2011-2014	UD Research Deans Council
2011-2012	UD Core Facilities Task Force
2011-2019	Professional Engineering Outreach Advisory Group
2012-2014	UD Lab Fees Task Force
2012	Chair, Nanofabrication Facility Manager Search Committee
2012	Search Committee, Vice Provost for Research
2012-present	STAR Advisory Council
2013-present	DHSA Research and Development Task Force
2013	Panel participant, Fraunhofer-UD Technology Summit
2013-2014	AAUP post-contract committee on academic searches
2014-2015	Co-chair, UD strategic planning initiative "Models of the New American Research University"
2014-present	Internal Advisory Council, NIH Center of Biomedical Research Excellence on Biomaterials
2014-2015	Search committee member, UD nanofabrication senior faculty search
2014-2015	Steering committee, Art and Science of Lighting
2015-2017	Member, Administration CBA Negotiation Team
2015-2016	Co-Chair, Institute for Energy Conversion Task Force
2016-2017	Co-Chair, University of Delaware Energy Institute Working Group
2016-present	Member, Karl W. Böer Solar Energy Medal of Merit Trust
2017-2018	Co-Chair, University of Delaware Honors Program Task Force
2017-2018	Member, UD Pharmaceutical Sciences Working Group
2017-2018	Member, Provost Search Committee
2017-2019	Member, UD Budget Model Working Committees, Special Academic Revenue Generation Subgroup
2018-2019	Member, Faculty Senate ad hoc Committee for new Graduate College By-Laws
2018-2019	Member, Geological Sciences Department Chair Review and Reappointment Committee
2018-2020	Member, Master Planning Committee, University of Delaware Campus Planning

COMMUNITY SERVICE

1989-1991	Organizer, Challenge Program in Chemistry, University of Georgia, Amherst, GA

1996-1998	Outreach Program Coordinator, University of Massachusetts Amherst, MA
1998-2001	Secondary Education Science Tutor, Chemistry and Biology, Pasadena, CA
2003-2010	Outreach Program Design, "The Science of Art," Haddon Township High School, NJ This outreach program introduces basic materials science concepts into the arts and crafts curriculum in Haddon Township High School. The program engages primarily female high school students in scientific concepts in a nontraditional environment, and provides students with materials science exposure that expands their projects as well as their experience in science.
2004	Keynote Speaker, CAA Undergraduate Research Conference, February 27, 2004
2005	Keynote Speaker, American Association of University Women Math-Science Luncheon, April 3, 2005
2006	Organization and hosting of on-campus outreach activities for art students, "Altering the Visual Impact of Metals," January 6, 2006
2007	Guest lecturer and laboratory demonstrations, Delaware State Teacher Professional Development Day, October 12, 2007
2009-2010	Documentation and development of outreach program "The materials science of everyday things"
2010	Delaware Governor's School, Hydrogel demonstrations
2012	Laboratory demonstrations, UD K-12 outreach (various organizations)
2013	Engineering 101 lecture, Alpha Omega Epsilon, for sophomore and junior females in Delaware high schools
2013	Hosted laboratory experience for Pack 28 Cub Scouts (Chester County, PA), May 2013
2013	Outreach lecture, Newark Charter High School, November 14, 2013
2013	Invited speaker, Graduate recruiting workshop, University of Delaware, November 22, 2013
2014	Keynote speaker, Women of Promise Dinner, University of Delaware, March 18, 2014
2015	Laboratory experience for Chester County Council Cub Scouts Pack 28, Den 2, January 2015
2015	Outreach video (with K-12 Outreach in UD College of Engineering), "The House that Engineering Built", January 2015
2016	Habitat for Humanity, Wilmington, DE, May 19, 2016
2016	Keynote lecture, Pope John Regional Robotics Team, Augusta, NJ, May 20, 2016
2016-present	Hospice Dinner Preparation and Service, Hospice Inpatient Facility, Mount Joy, PA.
2016-present	Delaware Food Bank, Newark, DE, December 5, 2016; May 17, 2017; June 11, 2018
2017-present	Homeless Shelter Dinner Program, Moore's Chapel Church, Rising Sun, MD, February 15, 2017; January 24, 2018
2017-present	Leadership Committee, Boy Scout Troop 92, BSA, Colora, MD
2018	Faithful Friends donation collection and delivery, January and February 2018