ARTHI JAYARAMAN

I. EDUCATION

Birla Institute of Technology and Science (BITS), Pilani India
B. E. (Honors) Chemical Engineering 08/1996 - 07/2000

North Carolina State University, Raleigh NC
M.S. Chemical and Biomolecular Engineering 08/2000 - 12/2002
Ph.D. Chemical and Biomolecular Engineering 12/2002 – 05/2006

University of Illinois, Urbana-Champaign
Postdoctoral Research, Material Science and Engineering 06/2006 – 08/2008

II. PROFESSIONAL EXPERIENCE

Associate Professor with Tenure 08/2014-
Department of Chemical and Biomolecular Engineering
& Department of Materials Science and Engineering
University of Delaware, Newark

Patten Assistant Professor (received tenure in 06/2014) 11/2011 – 07/2014
Department of Chemical and Biological Engineering
University of Colorado (CU), Boulder

Fellow 11/2012 – 07/2014
Materials Science and Engineering Program
University of Colorado (CU), Boulder

Assistant Professor 08/2008 – 07/2014
Department of Chemical and Biological Engineering
University of Colorado (CU), Boulder

Postdoctoral Research Associate 06/2006 – 08/2008
Department of Material Science and Engineering
University of Illinois, Urbana-Champaign
(*Advisor:* Dr. Kenneth Schweizer)

Graduate Research Assistant 01/2001 – 05/2006
Department of Chemical and Biomolecular Engineering
North Carolina State University
(*Advisors:* Dr. Carol Hall and Dr. Jan Genzer)

III. HONORS/AWARDS

- Saville Lecturer, Princeton University 2016
- Featured in *Emerging Investigators in Materials Science* Issue in Materials Research Express 2015-16
- Editorial Board, ACS Journals - Macromolecules and ACS Macroletters (2015-present)
- *Outstanding Faculty Graduate Teaching Award* in Dept. of Chemical Engineering CU Boulder 2013-14
- *Outstanding Junior Faculty Award* in Dept. of Chemical Engineering CU Boulder 2013-14
- ACS Polymeric Materials Science and Engineering (PMSE) Young Investigator 2014
- Provost Faculty Achievement Award 2013

- AIChE Computational Molecular Science and Engineering Forum (COMSEF) Young Investigator Award 2013
- Featured in Soft Matter's Emerging Investigators Issue 2013
- Featured in Journal of Polymer Science B: Polymer Physics Young Investigators Issue 2013
- *Patten Faculty Fellow*, University of Colorado (2011-15)
- University of Colorado College of Engineering *Dean's Faculty Fellowship* 2011-12
- Department of Energy (DOE) *Early CAREER Research Award* 2010
- *Outstanding Faculty Undergraduate Teaching Award* in Dept. of Chemical Engineering CU Boulder 2010–11
- ACS Women Chemist Committee Lectureship Award 2010
- *Edward M. Schoenborn Award* for outstanding graduate research, Department of Chemical Engineering, NC State University, 2006
- *Richard D. Gilbert Award* for Best Poster, ACS Polymer Discussion Group, NC section, 2004
- *Monali Dey Award* for outstanding undergraduate student Chemical Engineering department, Birla Institute of Technology and Science, Pilani, 2000

IV. RESEARCH EXPERTISE

My group's research has been aimed at developing molecular models and simulation methods to design macromolecular materials from the molecular level to achieve optimal materials for biomedical and energy applications. We have focused on the following research thrusts:

1. Molecular Modeling and Simulations of Peptides and Nucleic Acid based Biomaterials
2. Polymer Functionalized Nanoparticles and Polymer Nanocomposites
3. Molecular Design of Conjugated Polymers for Organic Photovoltaics

V. PEER-REVIEWED RESEARCH PUBLICATIONS

(* denotes corresponding author**,** † denotes undergraduate, # equal contributions)

Papers with A. Jayaraman as Principal Investigator

52. F. Stanzione, **A. Jayaraman***, Hybrid Atomistic and Coarse-Grained Molecular Dynamics Simulations of Polyethylene glycol (PEG) in Explicit Water, *J. Phys Chem. B (*2016), 120, pp 4160–4173

51. T.B. Martin, **A. Jayaraman*** Tuning the Wetting-Dewetting and Dispersion-Aggregation Transitions in Polymer Nanocomposites using Composition of Graft and Matrix Polymers *Materials Research Express* Special Issue on Emerging Investigators in Materials Science, (2016) 3 034001

50. A. Ghobadi, **A. Jayaraman*,** Effect of Backbone Chemistry on Hybridization Thermodynamics of Oligonucleic Acids: A Coarse-Grained Molecular Dynamics Simulation Study, *Soft Matter* (2016), **12**, 2276-2287

49. A. Ghobadi, R. Letteri, T. Emrick*, **A. Jayaraman*** Dispersing zwitterions within comb polymers for non-viral transfection: Experiments and molecular simulations, *Biomacromolecules* (2016), 17(2):546-57.

48. H. M. Frier (H. S. Marsh), **A. Jayaraman*** Effect of side chain length on the morphology of blends of 2,5-bis(3-alkylthiophen-2-yl)thieno[3,2-b]thiophene (BTTT) oligomers and fullerene derivatives *J. Polymer Science B: Polymer Physics* (2016) 54,1, 89-97

47. F. Stanzione, **A. Jayaraman***, Computational design of oligopeptide containing poly(ethylene glycol) brushes for stimuli-responsive drug delivery *J. Phys. Chem B* (2015) 119 (42), 13309-13320

46. T. B. Martin#, K. I. Mongcopa#, R. Ashkar, P. Butler, R. Krishnamoorti*, **A. Jayaraman***, Wetting-Dewetting and Dispersion-Aggregation Transitions are Distinct in Mixtures of Polymer Grafted Nanoparticles and a Chemically Dissimilar Polymer Matrix *J. Am. Chem. Soc.* (2015) 137 (33), pp 10624–10631 DOI: 10.1021/jacs.5b05291

45. R. M. Elder, J. Pfaendtner, **A. Jayaraman***, Effect of hydrophobic and hydrophilic surfaces on the stability of double-stranded DNA, *Biomacromolecules* (2015) *16* (6), pp 1862–1869

44. H. S. Marsh, **A. Jayaraman***, Effect of additive length and chemistry on the morphology of blends of conjugated thiophenes and fullerene derivative acceptor molecules' *J. Polymer Science B: Polymer Physics*. 2015 DOI: 10.1002/polb.23739

43. C. E. Estridge, **A. Jayaraman***, Diblock copolymer grafted particles as compatibilizers for immiscible homopolymer blends *ACS Macroletters,* 2015, 4, 155–159

42. L. Zhang, F. Liu, Y. Diao, H. S. Marsh, N. Collela, **A. Jayaraman**, T. P. Russell, S. C. Mannsfeld*, A. Briseno*, The good host: formation of discrete fullerene "autobahnen" in well-ordered BTTT Oligomers *J. Am. Chem. Soc* (2014) 136 (52), 18120-18130

41. C. E. Estridge, **A. Jayaraman***, Effect of homopolymer matrix on diblock copolymer grafted particle conformation and potential of mean force: a molecular simulation study, *J Polymer Science B: Polymer Physics* (2015) 53, 76-88 **Selected for Journal Cover Art**

40. B. Lin, T. Martin, **A. Jayaraman***, Decreasing Polymer Flexibility Improves Wetting and Dispersion of Polymer Grafted Particles in a Chemically Identical Polymer Matrix *ACS Macroletters, (*2014) 3, 628–632

39. T. Martin, **A. Jayaraman***, Effect of Matrix Bidispersity on the Morphology of Polymer Grafted Nanoparticle filled Polymer Nanocomposites' *J. Polymer Science B: Polymer Physics* (2014) (Special Issue on "Hairy Nanoparticles") 52, 1661-1668

38. C. Estridge, **A. Jayaraman*,** Assembly of diblock copolymer functionalized spherical nanoparticles as a function of copolymer composition . *J. Chem Phys* (2014) 140 (14) 144905

37. R. Elder, **A. Jayaraman***, Simulation Study of the Effects of Surface Chemistry and Temperature on the Conformations of ssDNA Oligomers near Hydrophilic and Hydrophobic Surfaces *J. Chem Phys* (2014) 140 (15) 155103

36. H. Marsh, E. Jankowski, **A. Jayaraman***, Controlling the morphology of model conjugated thiophene oligomers through alkyl side chain length, placement and interactions. *Macromolecules* 47 (8), 2736–2747 (2014) (This was one of 20 most downloaded articles from Macromolecules in May 2014)

35. J.J. Roberts, R.Elder, **A. Jayaraman**, S.J. Bryant*. Characterization of Matrix Retaining Hydrogels Containing Hyaluronan Binding Peptides. *Biomacromolecules* 15 (4), pp 1132–1141 (2014)

34. V. Ganesan* and **A. Jayaraman***, Theory and simulation studies of effective interactions, phase behavior and morphology in polymer nanocomposites, Invited peer-reviewed review article to *Soft Matter*, **10**, 13-38 (2014)

33. A. Seifpour, S. Dahl, **A. Jayaraman*,** Molecular simulation studies of assembly of DNA-grafted particles-Effect of bidispersity in DNA strand length. *Molecular Simulation* (published online) DOI:10.1080/08927022.2013.845888

32. T. Martin, **A. Jayaraman***, Identifying the ideal characteristics of a polydisperse polymer graft length distribution for maximizing dispersion of polymer grafted nanoparticles in a polymer matrix *Macromolecules* 46 (22), pp 9144–9150 (2013)

31. R. Elder, **A. Jayaraman*** Structure and thermodynamics of ssDNA Oligomers near hydrophobic and hydrophilic Surfaces: A molecular simulation study, *Soft Matter* **9**, 11521-11533 (2013)

30. R. Elder and **A. Jayaraman*** Molecular simulations of polycation-DNA binding exploring the effect of peptide chemistry and sequence in nuclear localization sequence based polycations, *J. Phys Chem B 117* (40), 11988–11999 (2013)

29. E. Jankowski[#], H. S. Marsh[#], **A. Jayaraman*,** Computationally linking molecular features of conjugated polymers and fullerene derivatives to bulk heterojunction morphology *Macromolecules* 2013 ([#] equal contribution) 46 (14) 5775-5785 (2013) (This was one of 20 most downloaded articles from Macromolecules in July 2013)

28. T. Martin, **A. Jayaraman*,** Polydisperse Polymer Grafts for Stabilizing Dispersion of Homopolymer Grafted Nanoparticles in Chemically Identical Homoolymer Matrix. Peer-reviewed article for special issue on '***Emerging Investigators in Soft Matter***' in *Soft Matter* 9 (29), 6876 – 6889 (2013)

27. A. Seifpour, S. Dahl, B. Lin[†], **A. Jayaraman*,** Molecular simulation studies of assembly of DNA-functionalized particles- Effect of DNA strand sequence and composition. *Molecular Simulation* 39(9)741-753 2013

26. A. Jayaraman*, Polymer Grafted Nanoparticles: Effect of Chemical and Physical Heterogeneity in Polymer Functionalization on Particle Assembly and Dispersion, Invited Peer-reviewed Feature Article for special issue ***highlighting innovative young polymer researchers*** in *Journal of Polymer Science B: Polymer Physics 51*(7), 524–534 (2013) (This was the fourth most downloaded article in the Journal in February 2013)

25. T. Martin, P. Dodd[†], **A. Jayaraman***, Polydispersity in polymer grafts for tuning potential of mean force between polymer grafted nanoparticles in a polymer matrix *Physical Review Letters* 110, 018301 (2013)

24. T. Martin, C. McKinney[†], **A. Jayaraman***, Effect of monomer sequences and particle monomer interactions on assembly of copolymer grafted nanoparticles' *Soft Matter* **9**, 155-169 (2013)

23. H. Marsh, **A. Jayaraman***, Morphological Studies of Blends of Conjugated Polymers and Acceptor Molecules using Langevin Dynamics Simulations ' *J. Polymer Science B: Polymer Physics* 51 (1), 64-77 (2013)

22. R. Elder, **A. Jayaraman***, "Coarse-grained simulation studies of effects of polycation architecture on structure of the polycation and polycation-polyanion complexes" *Macromolecules* (19), pp 8083-8096 (2012)

21. R. Elder, **A. Jayaraman***, 'Sequence specific recognition of cancer drug-DNA adducts by HMGB1a repair protein', *Biophysical Journal* Volume 102, Issue 10, Pages 2331–2338, (2012)

20. A. Jayaraman* and N. Nair, 'Integrating PRISM theory and Monte Carlo simulation to study polymer functionalized particles and polymer nancomposites', for a special issue "New developments in Molecular Simulations" in *Molecular Simulation* 38, Issue 8-9, pages 751-761, (2012)

19. P. Dodd[†] and **A. Jayaraman***, 'Monte Carlo simulation studies of effects of polydispersity in polymer grafted nanoparticle on chain conformations and grafted layer', *J Polym Sci B: Polymer Physics* Volume 50, Issue 10, pages 694–705, (2012)

18. R. Elder, **A. Jayaraman***, 'Role of Conformational Dynamics of DNA with Cisplatin and Oxaliplatin Adducts in Various Sequence Contexts on Binding of HMGB1a Protein: a Molecular Dynamics Simulation Study' *Molecular Simulations* Volume 38, Issue 10, pages 793-808 (2012)

17. R. Elder, T. Emrick, and **A. Jayaraman*** 'Understanding the effect of polylysine architecture on DNA binding using molecular dynamics simulations' *Biomacromolecules* 12(11):3870-9 (2011)

16. T. B. Martin[†#], A. Seifpour[#], **A. Jayaraman***, Assembly of copolymer functionalized nanoparticles: A Monte Carlo simulation study' *Soft Matter* **7**, 5952-5964 ([#] equal contributions, [†] undergraduate) (2011)

15. N. Nair, N. Wentzel and **A. Jayaraman*** ,'Effects of bidispersity in grafted chain length on grafted chain conformations and Potential of Mean Force between polymer grafted nanoparticles in a Homopolymer Matrix' *J. Chem Phys* 134, 194906 (2011)

14. N. Nair and **A. Jayaraman*** ,'Self-Consistent PRISM Theory-Monte Carlo Simulation Studies of Copolymer Grafted Nanoparticles in a Homopolymer Matrix' *Macromolecules* 43 (19), pp 8251–8263 (2010)

13. A. Seifpour, P. Spicer†, N. Nair, **A. Jayaraman***, 'Effect of monomer sequences on conformations of copolymers grafted on spherical nanoparticles: A Monte Carlo simulation study' *J. Chem. Phys.* 131, 164901 (2010) (Selected to appear in *Virtual Journal of Biological Physics)* († undergraduate)

Papers from A. Jayaraman's Doctoral and Postdoctoral Work

12. L. M. Hall, **A. Jayaraman**, K. S. Schweizer*, 'Molecular theories of polymer nanocomposites' (invited article to *Current Opinion in Solid State & Materials Science*) 14, 38-48 (2010) *** Listed as one of the top cited articles published in *Current Opinion in Solid State & Materials Science* from 2007

11. **A. Jayaraman*** and K. S. Schweizer, 'Liquid state theory of the structure and phase behaviour of polymer-tethered nanoparticles in dense suspensions, melts and nanocomposites' invited review article in Frontiers of Molecular Simulation, special issue) M*olecular Simulation* 35, 835-848 (2009)

10. **A. Jayaraman** and K. S. Schweizer*, 'Effective Interactions and Self Assembly of Hybrid Polymer Grafted Nanoparticles in a Homopolymer Matrix' *Macromolecules* 42,8423-8434,(2009)

9. **A. Jayaraman** and K. S. Schweizer*, 'Effective interactions, structure and phase behavior of lightly tethered nanoparticles in polymer melt' *Macromolecules 41* (23), 9430–9438 (2008)

8. **A. Jayaraman** and K. S. Schweizer*, `Effect of number and placement of polymer tethers on the structure of concentrated solutions and melts of hybrid nanoparticles ' *Langmuir* 24(19) 11119-11130 (2008)

7. **A. Jayaraman** and K. S. Schweizer*, `Structure and phase behavior of dense solutions and melts of single polymer tethered nanoparticles' *J. Chem. Phys.* 128, 164904 (2008) (Selected to appear in *Virtual Journal of Nanoscale Science & Technology* and *Virtual Journal of Biological Physics*)

6. **A. Jayaraman**, E. E. Santiso, C. K. Hall* and J. Genzer, 'Theoretical study of zipping phenomena in biomimetic polymers' *Phys. Rev. E.*, 76 (1), 011915 (2007) (Selected to appear in *Virtual Journal of Biological Physics)*

5. **A. Jayaraman**, C. K. Hall* and J. Genzer, `Computer simulation study to understand the effect of surface density on hybridization in model DNA microarrays' *J Chem. Phys.* 127, 144912 (2007) (Selected to appear in *Virtual Journal of Biological Physics)*

4. **A. Jayaraman**, C. K. Hall* and J. Genzer, `Computer simulation study of molecular recognition in model DNA microarrays' *Biophys. J.,* 91, 2227 (2006)

3. A. Striolo, **A. Jayaraman**, C. K. Hall*, and J. Genzer, `Adsorption of comb copolymers on weakly-attractive solid surfaces' *J. Chem. Phys.* 123, 064710 (2005) (Selected to appear in *Virtual Journal of Biological Physics)*

2. **A. Jayaraman**, C. K. Hall* and J. Genzer, `Computer simulation study of pattern transfer in AB diblock copolymer film adsorbed on a heterogeneous surface' *J. Chem. Phys.* 123, 124702 (2005)

1. **A. Jayaraman**, C. K. Hall* and J. Genzer, `Designing pattern-recognition surfaces for selective adsorption of copolymer sequences using lattice Monte Carlo simulation', *Physical. Review. Letters*., 94, 078103 (2005) (Selected to appear in *Virtual Journal of Biological Physics)*

VI. INVITED RESEARCH TALKS (by A. Jayaraman)

With A. Jayaraman as Principal Investigator

1. ACS Fall Meeting, Philadelphia, August 2016
2. Gordon Research Conference, Polymer Physics July 2016
3. Keynote Lecture, PPG-Pitt Innovations in Materials Symposium, May 2016
4. Dept. of Chemical Engineering, University of Akron, March 2016
5. PittConn Meeting, March 2016
6. Saville Lecture, Department of Chemical Engineering, Princeton University, March 2016
7. ACS Southeast Regional meeting, Multiscale modeling and simulations, November 2015
8. Department Seminar, Nanotechnology Seminar Series, Stevens Institute of Tech, October 2015
9. Department Seminar, Biomedical and Chemical Engg. Syracuse University, September 2015
10. Department Seminar, Chemical Engineering, URhode Island, September 2015
11. ACS Fall Meeting, *Functional Polymers: Connecting Modeling and Experiment,* August 2015
12. SPIE Meeting, Physical Chemistry of Interfaces and Nanomaterials, August 2015
13. Functional Polymeric Material Conference, Ascot UK 2015
14. Telluride workshop on *Multiscale modeling in organic electronic materials*, July 2015
15. Telluride workshop on *Polymer Physics*, June 2015
16. Department seminar, Chemical Engineering, UC Santa Barbara, April 2015
17. ACS Spring Meeting 2015 *Design principles for functional macromolecular materials* March 2015
18. ACS Spring Meeting 2015 *Polymer Modeling: Structure, Function, Properties* March 2015
19. APS March Meeting San Antonio March 2015
20. XPV- Excitonic Photovoltaics –Telluride science workshop August 2014
21. NSF-US-Poland Workshop on Thermodynamics of Complex Fluids and Interfaces June 2014
22. ACS Spring Meeting 2014, *Structure for Function:Rational design of new functional polymeric materials* March 2014
23. ACS Spring Meeting 2014, *PMSE Young Investigators Symposium*, March 2014
24. Seminar, Dept. of Materials Engineering, Purdue University, February 2014
25. Seminar, Center for Molecular Engineering and Thermodyanmics, University of Delaware, Jan 2014
26. AICHE Annual Meeting 2013, *Modeling and Simulation of Polymers* session, November 2013
27. AIChE Annual Meeting 2013, *COMSEF Plenary Session*, November 2013
28. APS meeting, Four Corners section, October 2013
29. Tulane University, Department of Chemical Engineering, September 2013
30. ACS Fall Meeting, Indianapolis, September 2013
31. APS March Meeting in '*Directed Assembly of Hybrid Materials*' session March 2013
32. Army Research Laboratory, Aberdeen Proving Ground, Maryland, March 2013
33. Gordon Research Conference Macromolecular Materials, January 2013
34. Seminar, Department of Material Science and Engineering, University of Delaware, December 2012
35. AICHE Annual Meeting 2012, invited talk in *Thermodynamics of Polymers'* session
36. AICHE Annual Meeting 2012, invited talk in *Emerging Areas in Polymer Science and Engineering* session
37. AICHE Annual Meeting 2012, invited talk in *Multiscale Modeling and Simulation for Renewable Energy* session
38. Seminar, Department of Chemical Engineering, University of Washington, October 2012
39. Seminar, Chemistry Department, Colorado State University, September 2012
40. Seminar, Chancellor's Invitation to present to CU Alumni and friends, September 2012
41. Seminar, Molecular Biophysics Seminar Series, Institute of Computational Engineering and Sciences, University of Texas at Austin, April 2012
42. ACS Spring National Meeting COMP division *Integration of Computer Simulation with Experiments* (talk) March 2012
43. Seminar, Department of Chemical Engineering, Colorado School of Mines, January 2012

44. Seminar, Liquid Crystal Materials Research Center, CU Boulder January 2012
45. Seminar, Department of Polymer Engineering, University of Akron, Ohio, November 2011
46. "Young Investigators in Materials Research" UMass Amherst Materials Research Science & Engineering Center (MRSEC) May 2011
47. Seminar, Dept. of Chemical Engineering, Rice University, March 2011
48. Seminar, Dept. of Chemical Engineering, Texas A&M University, February 2011
49. Seminar, Dept. of Materials Science and Engineering, University of Illinois at Urbana, February 2011
50. Seminar, Dept of Chemical Engineering, Vanderbilt University, November 2010
51. Seminar, Dept. of Applied Math, University of Colorado Boulder, November 2010
52. Interfacial Phenomena in Nanostructured Materials and Devices, Telluride Workshop February 2010
53. Seminar, Dept. of Chemical Engineering, Colorado State University, October 2009
54. Condensed matter lunch seminar, Dept. of Physics, University of Colorado, Boulder, September 2008

From Doctoral and Postdoctoral Work

55. Seminar Dept. of Chemical and Biological Engineering, Rensselaer Polytechnic Institute, April 2008
56. Seminar Dept. of Energy, Environmental and Chemical Engineering, WU St. Louis, March 2008
57. Seminar Dept. of Chemical and Biological Engineering, University of Colorado, Boulder, March 2008
58. Seminar Molecular Foundry, Lawrence Berkeley National Laboratories, February 2008
59. Seminar Dept. of Chemical Engineering, Lehigh University, February 2008
60. Seminar Dept. of Chemical and Biomolecular Engineering, Clemson University, February 2008
61. Seminar Dept. of Chemical Engineering, University of South Carolina, February 2008
62. Seminar Dept. of Chemical and Petroleum Engineering, University of Pittsburgh, January 2008
63. Seminar Dept. of Chemical and Biomolecular Engineering, Ohio State University, January 2008
64. Seminar Dept. of Chemical Engineering, University of California, Berkeley, March 2006
65. Seminar The Center for Engineering in Medicine, Harvard Medical School, February 2006

VII. CONTRIBUTED RESEARCH PRESENTATIONS (*presenter)

With A. Jayaraman as Principal Investigator

1. T. Martin*, A. Jayaraman, Entropic and Enthalpic Driving Forces on Morphology in Polymer Grafted Particle Filled Nanocomposites: Integral Equation Theory and Molecular Simulations, AICHE Annual Meeting 2015
2. F. Stanzione*, A. Jayaraman, Hybrid Atomistic and Coarse-Grained Molecular Dynamics Simulations of Polyethylene Glycol (PEG) Chains in Explicit Water for Designing Peg Based Biomaterials, AICHE Annual Meeting 2015
3. T. Martin*, A. Jayaraman,Dispersion-Aggregation and Wetting-Dewetting Phase Transitions in Mixtures of Polymer Grafted Nanoparticles and a Chemically Dissimilar Polymer Matrix, AICHE Annual Meeting 2015
4. F. Stanzione*, A. Jayaraman,Computational Design of Peptide Containing Poly(ethylene glycol) Brushes for Stimuli Responsive Drug Delivery, AICHE Annual Meeting 2015
5. A. Jayaraman*, H. S. Marsh, Coarse-Grained Simulations and Experiments of 2,5-Bis(3-alkylthiophen-2-yl)Thieno[3,2-b]Thiophene (BTTT) Oligomer Morphology for Organic Electronics Applications, AICHE Annual Meeting 2015
6. A. Ghobadi*, A. Jayaraman, Design of Sulfobetaine-Lysine Copolymers for DNA Complexation and Delivery: Molecular Simulations and Experiments, AICHE Annual Meeting 2015
7. A. Ghobadi*, A. Jayaraman, Using Coarse-Grained Molecular Simulations to Understand Effects of Backbone Chemistry in Oligo-Nucleic Acids on the Thermodynamics of Melting/Hybridization, AICHE Annual Meeting 2015
8. F. Stanzione*, A. Jayaraman, Computational design of polyethylene glycol (PEG) brushes for display of biofunctional molecules for delivery applications. ACS Spring Meeting 2015
9. H. Marsh*, A. Jayaraman, Understanding the effects of physical and chemical features of solvent additives on the bulk heterojunction morphology of blends of conjugated polymers and fullerene derivatives using molecular simulations. ACS Spring Meeting 2015
10. C. Estridge*, A. Jayaraman Molecular dynamics simulations of structure and effective interactions of diblock copolymer grafted nanoparticles in a homopolymer blend matrix. ACS Spring Meeting 2015

11. A. Ghobadi*, A. Jayaraman, Coarse-grained Molecular Simulation Studies of Complexation of Sulfobetaine-Lysine Copolymer and DNA for Gene Delivery, APS March Meeting 2015
12. T. B. Martin*, A. Jayaraman, Theory and Simulation Studies of Effect of Entropic and Enthalpic Driving Forces on Morphology in Polymer Grafted Particle Filled Nanocomposites APS March Meeting 2015
13. T. B. Martin*, A. Jayaraman, Theory and Simulations of Macromolecular Materials, Gordon Research Conference Macromolecular Materials, January 2015 (poster)
14. H. S. Marsh*, A. Jayaraman, Understanding the Effects of Physical and Chemical Features of Additives on the Morphology of Blends of Conjugated Polymers and Fullerene Derivatives Using Molecular Simulations (talk) MRS Fall Meeting 2014
15. A. Jayaraman*, H.S. Marsh Understanding the Effects of Physical and Chemical Features of Additives on the Morphology of Blends of Conjugated Polymers and Fullerene Derivatives Using Molecular Simulations (talk) AICHE Annual Meeting 2014
16. R. Elder*, A. Jayaraman, Structure and Thermodynamics of Single- and Double-Stranded DNA Oligomers Near Hydrophilic and Hydrophobic Functionalized Surfaces (talk), AICHE Annual Meeting 2014
17. T. B. Martin*, A. Jayaraman, Decreasing Polymer Flexibility Improves Wetting and Dispersion of Polymer Grafted Particles in a Chemically Identical Polymer Matrix (poster), AICHE Annual Meeting 2014
18. T. B. Martin*, A. Jayaraman, Effect of Polydispersity in Grafts and Matrix on the Morphology of Polymer Grafted Nanoparticle Filled Polymer Nanocomposites (talk), AICHE Annual Meeting 2014
19. H. Marsh*, A. Jayaraman, G. Rumbles, Molecular simulations and experiments linking molecular features of conjugated polymers to morphology and charge carrier behavior, (poster) XPV Meeting 2014 (Won best poster award)
20. T. B. Martin*, A. Jayaraman, Theory and simulation studies of polymer grafted nanoparticles in polymer matrix: effect of polymer flexibility and polydispersity on particle dispersion, (poster) Gordon conference Polymer Physics 2014
21. T. B. Martin*, A. Jayaraman, Effect of Matrix Polydispersity on Morphology of Hybrid Materials Consisting of Homopolymer Grafted Nanoparticles in a Homopolymer Matrix (poster) APS March Meeting 2014
22. C. Estridge*, A. Jayaraman, Assembly of diblock copolymer grafted nanoparticles in a homopolymer blend matrix (talk) APS March Meeting 2014
23. A. Mclelland*, D. Johnson, A. Jayaraman, Coarse-grained molecular dynamics simulations linking molecular features of polycations to polycation-polyanion complexation for gene delivery (poster) APS March Meeting 2014
24. H. Marsh*, E. Jankowski, A. Jayaraman, Using Molecular Simulations to Link Chemical and Physical Features of Conjugated Polymers and Fullerene Derivatives to Bulk Heterojunction Morphology for Organic Photovoltaics (talk) APS March Meeting 2014
25. A. Jayaraman*, Using theory and simulation to link molecular features of nanoscale fillers to morphology in polymer nanocomposites (talk) Dillon Medal Symposium ApS March Meeting 2014
26. T. Martin, A. Jayaraman*, Effects of Polydispersity in Graft and Matrix Polymer on the Morphology of Composites Comprising Polymer Grafted Nanoparticles in a Polymer Matrix: A Theory and Simulation Study (talk), MRS Fall Meeting 2013
27. H. Marsh*, A. Jayaraman, Computationally linking molecular features of conjugated polymers and fullerene derivatives to bulk heterojunction morphology (talk) MRS Fall meeting 2013
28. A. Jayaraman*, Computational Design of Ligands to Graft on Nanoparticle Surfaces to Tailor Nanoparticle Dispersion or Assembly in a Medium (talk), Cabot Corporation, August 2013
29. E. Jankowski*, H. Marsh, A. Jayaraman, Computationally linking molecular features of conjugated polymers and fullerene derivatives to bulk heterojunction morphology (talk) AICHE Annual meeting 2013
30. R.Elder*, A. Jayaraman, Nanoscale behavior of DNA oligomers near hydrophobic and hydrophilic functionalized surfaces. (talk) AICHE Annual Meeting 2013
31. R. Elder* and A. Jayaraman, Molecular Simulation Studies Relating Polycation Architecture to the Structure and Thermodynamics of Polycation-DNA Complexes (poster) GRC Macromolecular Materials 2013
32. R. Elder* and A. Jayaraman "Sequence Specific Recognition of Cancer Drug-DNA Adducts by HMGB1a Repair Protein" (talk) Gordon Research Seminar (Students) Macromolecular Materials 2013
33. T. Martin* and A. Jayaraman," Theory and simulation studies of polymer functionalized nanoparticles with heterogeneity in polymer grafts."(poster) Gordon Conference Macromolecular Materials 2013

34. A. Jayaraman*, T. Martin, A. Seifpour, Effect of Monomer Sequence on Assembly of Copolymer Functionalized Nanoparticles: A Computational Study, (talk) MRS Fall Meeting 2012
35. R. Elder* and A. Jayaraman "Sequence Specific Recognition of Cancer Drug-DNA Adducts by HMGB1a Repair Protein" (talk) AICHE Annual Meeting 2012
36. R. Elder* and A. Jayaraman, Molecular Simulation Studies Relating Polycation Architecture to the Structure and Thermodynamics of Polycation-DNA Complexes (poster) AICHE Annual Meeting 2012
37. A. Seifpour* and H. Marsh, Molecular Simulation Studies of Assembly of DNA-Grafted Nanoparticles: Effect of Grafted DNA Strand Sequence and Composition (poster) AICHE Annual Meeting 2012
38. H. Marsh* and A. Jayaraman, Molecular Simulations of Blends of Conjugated Polymers and Fullerene Derivatives for Bulk Heterojunction Organic Solar Cells (poster) AICHE Annual Meeting 2012
39. A. Jayaraman*," Theory and simulation studies of polymer functionalized nanoparticles with heterogeneity in polymer grafts."(poster) Gordon Conference Polymer Physics July 2012
40. Robert Elder* and A. Jayaraman," Understanding the effect of polylysine architecture on DNA binding using molecular dynamics simulations", (poster) Gordon Conference Polymer Physics July 2012
41. T. Martin*, A. Jayaraman, "Effect of competing monomer-monomer and monomer-particle interactions on the assembly of copolymer grafted nanoparticles", (talk) APS March Meeting, March 2012
42. A. Jayaraman*, N. Nair, "Effect of bidispersity in grafted chain length on potential of mean force between polymer grafted nanoparticles in a homopolymer matrix", (talk) APS march meeting , March 2012
43. C. Starbird*, D. Zhang, A. Jayaraman, "Dissipative particle dynamics studies of rod-coil polymer nanocomposites" (talk) APS march meeting March 2012
44. P. Dodd*, A. Jayaraman, "Polydispersity effects on scaling behavior of polymers grafted on surfaces with varying curvature", (poster) APS march meeting, March 2012
45. A. Jayaraman*, N. Nair, "Integrated Theory and Simulation Approach for Studying Polymer Functionalized Nanoparticles In Polymer Nanocomposites", (talk) COMSEF Plenary Session, AIChE Annual Meeting, October 2011
46. A. Seifpour*, A. Jayaraman, "Monte Carlo Simulations of the Assembly of Copolymer Functionalized Nanoparticles", (talk) AIChE Annual Meeting, October 2011
47. A. Jayaraman*, R. Elder, "Molecular Simulations of Macromolecular Materials for Non-Viral Gene Delivery", (talk) AIChE Annual Meeting, October 2011
48. R. Elder*, A. Jayaraman, "Molecular dynamics simulation studies of recognition of anticancer drug-induced DNA damage by repair proteins" (poster) First Annual Front Range High Performance Computing Symposium, Golden CO September 2011
49. H. Marsh*, A. Jayaraman, " Molecular Simulations of Conjugated Polymers and Fullerene Derivatives for Bulk Heterojunction Organic Solar Cells", (poster) First Annual Front Range High Performance Computing Symposium, Golden CO September 2011
50. C. Starbird*, A. Jayaraman " Dissipative Particle Dynamics Simulations of Morphology within Conjugated Block Copolymers" (poster) First Annual Front Range High Performance Computing Symposium, Golden CO September 2011
51. X. Ba*, A. Jayaraman " Molecular Dynamics Simulation Studies of Polyamine-DNA Binding "(poster) First Annual Front Range High Performance Computing Symposium, Golden CO September 2011
52. A. Jayaraman*, Theory and molecular simulations of functionalized nanoparticles in polymer nanocomposites (talk) ACS National Meeting, August 2011
53. R. Elder*, A. Jayaraman "Molecular Dynamics Simulations for Designing Non-Viral Gene Delivery Vectors" (talk) ACS National Meeting, August 2011
54. R. Elder*, A. Jayaraman "Molecular Dynamics Simulations for Recognition of Anticancer-Drug induced DNA damage by Repair Proteins" (poster) ACS National Meeting, August 2011
55. A. Jayaraman*, R. Elder, "Molecular Simulations of Macromolecular Materials for Non-Viral Gene Delivery", (talk) IUPAC World Chemistry Congress, August 2011
56. A. Jayaraman*, N. Nair, A. Seifpour, N. Wentzel, Designing Functionalized Nanoparticles for Controlled Assembly in Polymer Matrix: Self consistent PRISM Theory and Monte Carlo simulation Study', (talk) American Physical Society March meeting, March 2011
57. R. Elder*, A. Jayaraman "Molecular Dynamics Simulations for Designing Non-Viral Gene Delivery Vectors" (poster) Gordon Research Conference Macromolecular Materials, January 2011

58. A. Jayaraman*, N. Nair, "Self-Consistent PRISM Theory-Monte Carlo Simulation of Functionalized Nanoparticles in a Polymer Nanocomposite" (poster) Gordon Research Conference Macromolecular Materials, January 2011
59. A. Jayaraman*, Nitish Nair "Self-Consistent PRISM Theory-Monte Carlo Simulation of Functionalized Nanoparticles in a Polymer Matrix" (talk) AIChE Annual Meeting, November 2010
60. A. Seifpour*, A. Jayaraman, "Monte Carlo Simulations of Assembly of Copolymer Functionalized Spherical Nanoparticles", (talk) AIChE Annual Meeting, November 2010
61. A. Jayaraman*, R. Elder, M. Seyam "Molecular Dynamics Simulation Study of DNA Damage Recognition" (talk) AIChE Annual Meeting, November 2010
62. R. Elder*, A. Jayaraman, "Molecular Dynamics Simulation Studies of Polycation-DNA Binding for Gene Delivery", (poster) AIChE Annual Meeting, November 2010
63. A. Jayaraman*, Nitish Nair "Self-Consistent PRISM Theory-Monte Carlo Simulation of Functionalized Nanoparticles in a Polymer Matrix" (poster) Gordon Research Conference Polymer Physics, June 2010
64. A. Seifpour*, Nitish Nair, A. Jayaraman "Functionalized nanoparticles in polymer nanocomposites" (poster) Energy Institute Student Poster Session, Boulder CO April 2010
65. A. Jayaraman*, Arezou Seifpour, Phil Spicer, Nitish Nair, "Theory and simulation of copolymer grafted nanoparticles in polymer nanocomposites" (talk) APS March Meeting, Portland OR, March 2010
66. Nitish Nair*, A. Jayaraman "Self-Consistent PRISM Theory-Monte Carlo Simulation of Functionalized Nanoparticles in a Polymer Matrix" (poster) APS March Meeting, Portland OR, March 2010
67. A. Jayaraman*, Arezou Seifpour, Phil Spicer, Nitish Nair, "Theory and simulation of copolymer grafted nanoparticles in polymer nanocomposites" (talk) AIChE Annual Meeting, Nashville, TN November 2009
68. A. Jayaraman* Arezou Seifpour, Phil Spicer, "Theory and simulation of copolymer grafted nanoparticles in polymer nanocomposites" (poster) Fundamentals of Molecular Modelling and Simulations, July 2009

From A. Jayaraman's Graduate and Postdoctoral Research

- A. Jayaraman* and K. S. Schweizer, 'Theoretical study of polymer tethered nanoparticles as novel fillers in polymer nanocomposites' (talk) APS March Meeting, Pittsburgh, PA March 2009
- A. Jayaraman* and K. S. Schweizer, 'Theoretical study of polymer tethered nanoparticles as novel fillers in polymer nanocomposites' (talk) AIChE Annual Meeting, Philadelphia, PA November 2008
- A. Jayaraman* and K. S. Schweizer, 'Structure and phase behavior of melts and dense solutions of polymer tethered nanoparticles and colloids' APS March Meeting, New Orleans, LA March 2008
- A. Jayaraman* and K. S. Schweizer, 'Structure and phase behavior of melts and dense solutions of polymer tethered nanoparticles and colloids' (talk) AIChE Annual Meeting, Salt Lake City, UT November 2007
- A. Jayaraman* and K. S. Schweizer, 'Structure and phase behavior of melts and dense solutions of polymer tethered nanoparticles and colloids' (talk) 81st ACS Colloid and Surface Science Symposium, Newark, DE, June 25, 2007
- A. Jayaraman*, 'Computational and Theoretical Studies of Soft Materials and Biological Systems' poster presentation AIChE Annual Meeting, Salt Lake City, UT November 2007
- A. Jayaraman*, C. K. Hall and J. Genzer, 'A Computer Simulation and Theoretical Study of Molecular Recognition in Model DNA Microarrays' (talk) AIChE Conference, November 14, 2006, San Francisco, CA
- A. Jayaraman*, C. K. Hall and J. Genzer, 'A Computer Simulation and Theoretical Study of Molecular Recognition in Model DNA Microarrays' (poster) Polymer Physics Gordon Conference, June 2006.
- A. Jayaraman*, C. K. Hall and J. Genzer, 'A Computer Simulation and Theoretical Study of Molecular Recognition in Model DNA Microarrays' (talk) AIChE Conference, October 31, 2005, Cincinnati, OH
- A. Jayaraman*, C. K. Hall and J. Genzer, 'Computer Simulation Studies of Pattern Recognition in Biomimetic Polymers' AIChE Conference, October 30, 2005, Cincinnati, OH
- A. Jayaraman*, C. K. Hall and J. Genzer, 'Computer Simulation Studies of Pattern Recognition in Biomimetic Polymers' (poster) Thermo 2005, College Park, MD
- A. Jayaraman*, C. K. Hall and J. Genzer, 'Designing pattern recognition surfaces for copolymers using computer simulation' (talk) AIChE Conference, November 10, 2004, Austin, TX
- A. Jayaraman*, C. K. Hall and J. Genzer, 'Designing pattern recognition surfaces for copolymers using computer simulation' (poster) 10th PPEPPD Conference, May 18, 2004, Snowbird, UT.

- A. Jayaraman*, C. K. Hall and J. Genzer, 'Designing pattern recognition surfaces for copolymers using computer simulation' (poster) Richard D. Gilbert Award Symposium, ACS Polymer Discussion Group, February 12, 2004, Raleigh, NC.
- A. Jayaraman*, C. K. Hall and J. Genzer, 'Designing pattern recognition surfaces for copolymers using computer simulation' (talk) AIChE Conference, November 20, 2003, San Francisco, CA.

VIII. TEACHING (2014 -) at UNIVERSITY OF DELAWARE

- **Fall 2014** Introduction to Polymer Science and Engineering CHEG600/MSEG450 (40 students) – 3 credits
- **Fall 2015** Introduction to Polymer Science and Engineering CHEG600/MSEG450 (47 students) – 3 credits
- **Spring 2016** Introduction to Chemical Engineeing CHEG 112 (139 students) – 3 credits

IX. TEACHING (2008-2014) at UNIVERSITY OF COLORADO

(Course rating and Instructor rating on a scale from 1 (low) to 6 (high))

- **Fall 2008** Materials and Energy Balances CHEN2120 (48 students) – 3 credits
  Course Rating: 4.2 Instructor Rating: 4.7
- **Spring 2009** ProcessControl CHEN4570 (64 students) - 4 credits
  Course Rating: 5.2 Instructor Rating: 4.7
- **Spring 2010** ProcessControl CHEN4570 (1 section of lecture, 2 sections of lab) (69 students) – 4 credits
  Course Rating: 4.1 Instructor Rating: 4.3
- **Spring 2011** ProcessControl CHEN4570-01 (1 section lecture, 1.5 sections of lab) (49 students) – 4 credits
  Course Rating: 4.2 Instructor Rating: 4.5
- **Spring 2011** ProcessControl CHEN4570-0**2** (1 section lecture, 1.5 sections of lab) (47 students) – 4 credits
  Course Rating: 4.6 Instructor Rating: 5.0
- **Spring 2012** ProcessControl CHEN4570-01 (1 section lecture, 1.5 sections of lab) (52 students) – 4 credits
  Course Rating: 3.5 Instructor Rating: 3.3
- **Spring 2012** ProcessControl CHEN4570-0**2** (1 section lecture, 1.5 sections of lab) (50 students) – 4 credits
  Course Rating: 3.7 Instructor Rating: 3.7
- **Fall 2012** CHEN5838 Molecular Modeling and Simulation of Materials and Biological Systems (15 students) – 3 Credits
  Course Rating: 5.6 Instructor Rating: 5.7
- **Spring 2013** ProcessControl CHEN4570 (1 section lecture, 2 sections of lab, 2 sections of recitation) (81 students) – 4 credits
  Course Rating: 4.9 Instructor Rating: 5.4
- **Fall 2013** Analytical Methods Chemical Engineering CHEN5740 (1 section lecture) (25 students)
  Course Rating: 5.4 Instructor Rating: 5.8
- **Spring 2014** ProcessControl CHEN4570 (1 section lecture, 2 sections of lab, 2 sections of recitation) (94 students) – 4 credits
  Course Rating: 4.7 Instructor Rating: 4.9

X. PERSONNEL SUPERVISED (08/2008 – present)

(UD- University of Delaware; CU=University of Colorado)

GRADUATE STUDENTS

Name	Dept./Univ.	Title (Current Position)	Period
Thomas Gartner	CHBE (UD)	2nd year PhD student (coadvised w Epps)	01/2015-current
Joshua Condon	CHBE (UD)	1st year PhD student	07/2015-current
Tyler Martin	ChBE (CU)	5th year PhD student	12/2011-05/2016
Ryan Friedrich	CHBE (UD)	1st year MS student	01/2015-06/2015
Hilary Marsh	ChBE (CU)	PhD 2015	01/2011-05/2015

Carla Estridge	Chem (CU)	PhD 2015	01/2013-04/2015
Daniel Johnson	ChBE (CU)	MS 2014	12/2012-05/2014
Robert Elder	ChBE (CU)	PhD 2014	01/2010-12/2013
Alex Van Fosson	ChBE (CU)	MS with thesis 2013	12/2011-06/2013
Arezou Seifpour	ChBE (CU)	PhD 2013	06/2009-01/2013
Charles Starbird	ChBE (CU)	MS 2012	01/2011-06/2012
Mohamed Seyam	ChBE (CU)	MS 2011	08/2008-06/2011

UNDERGRADUATES

Name	Department	Title	Period
Paul Blanchard	Penn State	REU Undergrad Research	06/2016-current
Kevin Modica	ChEG (UD)	Undergrad summer research	06/2016-current
Christopher Kneieste	ChEG (UD)	Undergrad research	01/2015-12/2015
Sloane McNeill	AppMath (CU)	Undergrad summer research	05/2014-07/2014
Anna Mcleland	ChBE (CU)	Undergrad Senior Thesis	08/2013-05/2014
Brandon Lin	ChBE (CU)	Undergrad Senior Thesis, MS thesis	08/2011-05/2014
Melika Ashtiani	ChBE (CU	Undergrad research	06/2013-05/2014
Paul Dodd	ChBE (CU)	Undergrad Senior Thesis	08/2010-05/2012
Xiao Ba	ChBE (CU)	Undergrad Senior Thesis	06/2011-07/2012
Gilberto Haro	ChBE (CU)	Undergrad Independent study	01/2012-05/2012
Chris Mckinney	ClarksonU	Undergraduate REU student	06/2011-08/2011
Tyler Martin	ClarksonU	Undergraduate REU student	06/2010-08/2010
Philip Spicer	ChBE (CU)	Undergraduate Research Asst.	04/2009-12/2009
Owen Lewis	Math (CU)	Undergraduate Research Asst	05/2009-08/2009
Audrey Schaiberger	ChBE (CU)	Undergraduate Independent study	08/2008-12/2008

POSTDOCS

Name	Title (Current Position)	Period
Ahmadreza Ghobadi	Postdoc (starting position at P&G in September 2016)	08/2014-current
Francesca Stanzione	Postdoc	02/2014-03/2016
Renfeng Hu	Postdoc	09/2013-05/2014
Eric Jankowski	Postdoc (currently at Boise State University Tenure track Faculty)	08/2012-03/2014
Dongsheng Zhang	Postdoc (currently at UT Dallas postdoc)	06/2010-09/2011
Nathaniel Wentzel	Postdoc (currently at Milligen as Instructor)	07/2010-05/2011
Steven Dahl	Postdoc @50% appointment (currently at BP)	01/2010-03/2011
Nitish Nair	Postdoc (currently at Shell)	06/2009-12/2010

COMPLETED DOCTORAL and MASTERS DEGREES From University of Colorado - Boulder

Ms. Arezou Seifpour PhD 2013 –Intel
Mr. Robert Elder Phd 2014 –Army Research Lab
Mr. Alex Van Fosson MS 2013 -OSISoft
Mr. Charles Starbird MS 2012 –Eastman
Mr. Mohamed Seyam MS 2011 –BioGen Idec
Mr. Brandon Lin MS 2014 –Shell
Ms. Carla Estridge PhD 2015 –Boeing
Ms. Hilary Marsh PhD 2015 – Ch2M Hill
Ms. Tyler Martin PhD 2016- NIST NRC Fellow as of October 2016

RESEARCH AWARDS TO STUDENTS MENTORED

Robert Elder UColorado Max Peters award for Outstanding Doctoral Thesis 2013
ACS Peter Kollman award for Supercomputing 2011

AICHE COMSEF outstanding graduate student award 2013

Hilary Marsh Excitonic Photovoltacis (XPV) Best Research Poster award 2014
MRS Fall meeting 2014 Best Oral Research Presentation (Symposium Q: Organic semiconducting materials)

Tyler Martin Finalist of "Excellence in Polymer Graduate Research" AICHE Annual Meeting 2015
Finalist in "Padden symposium for Excellence in Graduate Research" APS March Meeting 2016

XI. PROFESSIONAL SOCIETY SERVICE ACTIVITIES (2008—present)

- **Professional meetings, workshops and conferences**
  - Serving on Advisory Board for UPenn-Grenoble REACT center grant (2015- present)
  - Chairing the Excellence in Graduate Polymer Research Award (AICHE Area 08A polymers) committee 2015
  - Elected as Chair for Gordon Research Conference Macromolecular Materials 2019 (meeting cancelled by GRC council based on 2013 and 2015 low attendance)
  - Serve on Editorial Advisory Board of Macromolecules and ACS Macroletters 2015- present
  - Serve on Education Committee of APS DPOLY division 2014-present
  - Serve on Planning Committee of Symposium of Thermophysical Properties 2014-present
  - Co-chair for "Emerging Areas in polymer science" plenary at AIChE Annual Meeting 2013
  - Chair for "Condensed Matter –I" session at APS Four Corners Meeting 2013
  - Chair for "Modeling and Simulation of Polymers II" session at AIChE Annual Meeting 2012
  - Co-Chair for "Thermodynamics and Phase Behavior V" session at AIChE Annual Meeting 2012
  - Co-Chair for "Thermodynamics of Polymers" session at AIChE Annual Meeting 2011
  - Chair of Macromolecular, Supramolecular and Nanotechnology - Polymer Chemistry Symposium: Young Polymer Chemists, Session at IUPAC 2011
  - Chair of Materials session at DOE SciDAC 2011
  - Elected Liason Director for COMSEF division of AICHE (2010-2012)
  - Elected Member-Elect for Area 01a AICHE Annual meeting (2010)
  - Discussion leader at Gordon Research Conference- Macromolecular Materials January 2011
  - Invited panelist at NSF Workshop on computational energy research, Palm Desert CA April 2010
  - Chair for "Thermodynamics of Polymers" session at AIChE Annual Meeting 2009
  - Co-Chair for "Soft Materials and Complex fluids" at FOMMS 2009
  - Chair for 'The Physics of Polymer Nanocomposites: Grafting and Dispersion' session at APS March Meeting 2009
  - Chair for 'Modeling of Colloidal Assembly and Photonic Structures in Liquid Crystals' session in LC2CAM (Light-Controlled Liquid Crystal Complex Adaptive Materials) -Boulder International Workshop 2008
  - Chair for 'Theory and Simulation – I' session at APS March Meeting 2008
  - Co-chair for 'Thermodynamics of Polymers' session at AIChE Annual Meeting 2007

- **Reviewer** for
  - **Journals:** Journal of American Chemical Society (JACS), Biomacromolecules, ACS Nano, ACS Macroletters, Soft Matter, Macromolecules, Langmuir (*earned the placed as one of top 20% of reviewers in 2010),* Journal of Chemical Physics, Fluid Phase Equilibria, Journal of Physical Chemistry, Journal of Computational Chemistry, Journal of Chemical Theory and Computation, Journal of Polymer Science B: Polymer Physics, Biophysical Journal, Physica E, BMC Bioinformatics, Macromolecular Theory and Simulations
  - **Grant agencies**: National Science Foundation (NSF)-DMR, CBET, Department of Energy- Early Career Award, American Chemical Society - Petroleum Research Fund grants, GACR –Grantová

agentura České republiky - Czech Science Foundation grants, University of Houston – GEAR program, University of Colorado Innovative Seed Grants

- **Member** of
  - American Institute of Chemical Engineers, American Physical Society, American Chemical Society, Sigma Xi, International Institute of Complex Adaptive Matter
  - Member of Brazil-USA Energy Workshop: Nanotechnology for Renewable and Sustainable Energy Materials

XII. DEPARTMENT, COLLEGE, UNIVERSITY of DELAWARE SERVICE (2014-)

- **Department of Chemical and Biological Engineering (University of Delaware)**
  - Member of Graduate Admissions Committee (2014-)
  - Member of Faculty Search Committee (2015-)
  - Overseeing Fraser Russell's Enrichment Fund Undergraduate Research (2015-)
  - Member of Instructor search committee (Fall 2014)
  - Member of PhD Qualifying Exam committee (5 second year graduate students (2015))
  - Member of PhD Qualifying Exam committee (2 second year graduate students (2014)
  - Member of PhD Thesis Committee (Melody Morris (2014-current))

- **Department of Materials Science and Engineering (University of Delaware)**
  - Member of materials theory faculty search committee (2014-15)
  - Member of PhD Thesis Committee (Brian Sobieski (2015 – current)

XIII. DEPARTMENT, COLLEGE, UNIVERSITY of COLORADO SERVICE (2008-2014)

- **University of Colorado (CU) - Boulder**
  - Member of College of Engineering Diversity Action Committee (2009-2012)
  - Member of CU- Materials Science and Engineering Program Task Force (2010-2012)
  - Member of CU- Materials Science and Engineering Program Faculty Search Committee (2010-11)
  - Organizer for CU Materials Science and Engineering Program Seminar Series (01/2013-)

- **Department of Chemical and Biological Engineering (CU Boulder)**
  - Member of Graduate Committee (2012-14) – leading graduate recruiting, involved in graduate admissions, deciding Patten distinguished seminar speaker
  - Member of Faculty search committee (2011-12)
  - Member of Department Leadership Committee (2011-12) (2012-13)
  - Member of Chair Search Committee (2010-11)
  - Lead Department Visibility Committee (2009-2010, 2010-2011) organized department reception at AIChE meeting, fall town hall meeting, department faculty lunch seminars, department website and presentations
  - Lead Teaching Planning Committee (2009-2010)- headed a committee to plan for managing large laboratory classes
  - Member of Graduate Students Recruiting Committee (2008-2009)
  - Member of Doctoral thesis committee:

- Ryan Crisman (2008-09), Brett Ludwig (2008-09), Brett Voss (2008-2011), Josh McCall (2009-2012), Lauren Andrews (2009-2013) Sean Ryland (2010-2012) Peter Mitrano (2011- 2014), Aaron Murray (2011-2012), Blake Langdon (2011-2014), Jon Monserud (2011-current), Blaine Carter (2011-2014), Kyle Berger (2012- 2014)

- Undergraduate Freshman Advisor (2008-2009) Undergraduate Sophomore Advisor (2009-2010), Undergraduate Junior Advisor (2010-2011)