

## KRISTY MARIE AINSLIE

4211 Marsico Hall; 125 Mason Farm Rd.; Chapel Hill, NC 27599

ainsliek@email.unc.edu; www.ainslielab.com

facebook.com/UNCAinslieLab; twitter.com/AinslieLab; instagram.com/Ainslie\_Lab

### EDUCATION

2002-2005	Pennsylvania State University	PhD	Chemical Engineering
	Application of Nanobiomaterials for Biofouling Attenuation		Advisor: Michael V. Pishko
2000-2002	Pennsylvania State University	MS	Chemical Engineering
	Effect of Shear Stress on the Contraction of Smooth Muscle Cells		Advisor: John M. Tarbell
1995-1999	Michigan State University	BS	Chemical Engineering

### PROFESSIONAL EXPERIENCE

Jun 2014-Pres	Associate Professor, University of North Carolina School of Pharmacy, Division of Molecular Pharmaceutics	
Jul 2009-Jun 2014	Assistant Professor, The Ohio State University College of Pharmacy, Division of Pharmaceutics	
Aug 2006-Jul 2009	Post Doctoral Fellow, University of California, San Francisco	Advisor: Tejal A. Desai
	<ul style="list-style-type: none"><li>• Application of polymeric microdevices for cancer therapy.</li><li>• Characterization of immunological responses to nanomaterials.</li><li>• Development of materials including polymeric microdevices, hydrogels, and nanowires.</li></ul>	
Mar-Aug 2006	Contractor, Naval Research Laboratory	Advisor: Lloyd J. Whitman
	<ul style="list-style-type: none"><li>• Performed DNA based biotoxin assays.</li><li>• Developed T-cell based biosensor for HIV/AIDS monitoring.</li><li>• Aided in the optimization of surface chemistry on a silicon nitride surface.</li></ul>	
2005-2006	Post Doctoral Researcher, Protiveris	Advisor: Robert Cain
	<ul style="list-style-type: none"><li>• Optimized surface chemistry on nanostructured material surface.</li><li>• Performed biochemical assays on nanomechanical cantilever array system.</li><li>• The investors reduced the funding for the start-up in January of 2006.</li></ul>	
2003-2005	Graduate Assistant PhD, Pennsylvania State University	Advisor: Michael M. Pishko
	<ul style="list-style-type: none"><li>• Characterized cell and protein attachment to nanomaterials.</li><li>• Applied basic surface chemistry knowledge.</li><li>• Gained experience in biosensor technology.</li></ul>	
2000-2002	Graduate Assistant MS, Pennsylvania State University	Advisor: John M. Tarbell
	<ul style="list-style-type: none"><li>• Examined calcium ion dependent cellular pathways in vascular smooth muscle cells.</li><li>• Imaged calcium ions in real time and cell surface proteins through fluorescent and pharmacological methods.</li><li>• Explored topics in fluid flow dynamics as they relate to shear stress.</li></ul>	
1999– 2000	Staff Engineer, Malcolm Pirnie, East Lansing, MI	
	<ul style="list-style-type: none"><li>• Lansing office Information Technology leader.</li><li>• Collected environmental soil and water samples.</li></ul>	

### HONORS

2012	OSU Council of Graduate Students James M. Siddens Distinguished Faculty Advising Award
2009	Controlled Release Society Outstanding Oral Drug Delivery Award
2007	Controlled Release Society-Capsugel Post-Doc Award for Innovative Aspects of Oral Drug Delivery & Absorption
2005	Walter R. and Aura Lee Supina Graduate Fellowship in Chemical Engineering

## **BIBLIOGRAPHY AND PRODUCTS OF SCHOLARSHIP**

### **BOOKS & CHAPTERS**

1. Peine, KJ; Chen, N; Bachelder EM; Ainslie KM. Handbook of Research on Novel Approaches for Drug Delivery (Chapter: Drug Delivery Strategies for Tolerogenic Therapy for Autoimmune Diseases in an Antigen-Specific Manner) IGI Global, New York (2017).
2. Ainslie, KM; Desai, TA. Long Acting Injections and Implants (Chapter: Micro-electric technologies) Springer, New York, New York (2012).
3. Ayala, P; Bernards, DA; Thakar, RT; Ainslie, KM; Desai, TA. *The Handbook of Enabling Technologies for Regenerative Medicine* (Chapter: Fabrication of cell microintegrated tissues) CRC/Taylor and Francis, New York (2010).
4. Ainslie, KM; Thakar, RT; Bernards, DA; Desai, TA. *Nanotechnology in Tissue Engineering and Regenerative Medicine* (Chapter: Inflammation Response to Implanted Nanostructured Materials) CRC/Taylor and Francis, New York (2010).
5. Ainslie, KM; Thakar, RT; Bernards, DA; Desai, TA. *Biological Interactions on Materials Surfaces: Understanding and Controlling Protein, Cell and Tissue Responses* (Chapter: Inflammation Response to Implanted Nanostructured Materials) Elsevier, New York (2009).

### **REFEREED ARTICLES (H-INDEX 18)**

1. Bachelder EM, Pino EN, Ainslie KM. Acetalated Dextran: A Tunable and Acid-Labile Biopolymer with Facile Synthesis and a Range of Applications. Chem Rev. Online 2016 Dec 29.
2. Duong AD, Collier MA, Bachelder EM, Wyslouzil BE, Ainslie KM "One Step Encapsulation of Small Molecule Drugs in Liposomes via Electrospray-Remote Loading. Mol Pharm. 2016 Jan 4;13(1):92-9.
3. Gallovic MD, Montjoy DG, Collier MA, Do C, Wyslouzil BE, Bachelder EM, Ainslie KM. "Chemically modified inulin microparticles serving dual function as a protein antigen delivery vehicle and immunostimulatory adjuvant." Biomater Sci. 2016 Jan 11.
4. Collier MA, Peine KJ, Gautam S, Oghumu S, Varikuti S, Borteh H, Papenfuss TL, Sataoskar AR, Bachelder EM, Ainslie KM. "Host-mediated *Leishmania donovani* treatment using AR-12 encapsulated in acetalated dextran microparticles." Int J Pharm. 2016 Jan 5;499(1-2):186-194.
5. Hoang KV, Curry H, Collier MA, Borteh H, Bachelder EM, Schlesinger LS, Gunn JS, Ainslie KM. "Needle-free Delivery of Acetalated Dextran-Encapsulated AR-12 Protects Mice from *Francisella tularensis* Lethal Challenge." Antimicrob Agents Chemother. 2016 Jan 19.
6. Collier MA, Gallovic MD, Bachelder EM, Sykes CD, Kashuba A, Ainslie KM. "Saquinavir Loaded Acetalated Dextran Microconfetti - a Long Acting Protease Inhibitor Injectable." Pharm Res. 2016 Aug;33(8):1998-2009.
7. Chen N, Collier MA, Gallovic MD, Collins GC, Sanchez CC, Fernandes EQ, Bachelder EM, Ainslie KM. "Degradation of acetalated dextran can be broadly tuned based on cyclic acetal coverage and molecular weight." Int J Pharm. 2016 Oct 15;512(1):147-57.
8. Gallovic MD, Schully KL, Bell MG, Elberson MA, Palmer JR, Darko CA, Bachelder EM, Wyslouzil BE, Keane-Myers AM, Ainslie KM. Acetalated Dextran Microparticulate Vaccine Formulated via Coaxial Electrospray Preserves Toxin Neutralization and Enhances Murine Survival Following Inhalational Bacillus Anthracis Exposure. Adv Healthc Mater. 2016 Oct;5(20):2617-2627.
9. Collier MA, Bachelder EM, Ainslie KM. Electrospayed Myocet-like Liposomes: An Alternative to Traditional Liposome Production. Pharm Res. 2016 Nov 28.
10. Chen N, Peine K, Bachelder E, Ainslie K. Micro- and Nano-Particulate Strategies for Antigen Specific Immune Tolerance to Treat Autoimmune Diseases. Pharmaceutical Nanotechnology. 2015;3(2):85-100.
11. Gupta G, Peine KJ, Abdelhamid D, Snider H, Shelton AB, Rao L, Kotha SR, Huntsman AC, Varikuti S, Oghumu S, Naman CB, Pan L, Parinandi NL, Papenfuss TL, Kinghorn AD, Bachelder EM, Ainslie KM, Fuchs JR, Sataoskar AR. A Novel Sterol Isolated from a Plant Used by Mayan Traditional Healers Is Effective in Treatment of Visceral Leishmaniasis Caused by *Leishmania donovani*. ACS Infectious Diseases. 2015;1(10):497-506.
12. Schully KL, Bell MG, Prouty AM, Gallovic MD, Gautam S, Peine KJ, Sharma S, Bachelder EM, Pesce JT, Elberson MA, Ainslie KM, Keane-Myers A. Evaluation of a Biodegradable Microparticulate Polymer as a Carrier for *Burkholderia pseudomallei* Subunit Vaccines in a Mouse Model of Melioidosis. International Journal of Pharmaceutics. 2015;495(2):849-61.

13. Peine KJ, Guerau-de-Arellano M, Lee P, Kanthamneni N, Severin M, Probst GD, Peng HY, Yang YH, Vangundy Z, Papenfuss TL, Lovett-Racke AE, Bachelder EM, Ainslie KM. Treatment of Experimental Autoimmune Encephalomyelitis by Codelivery of Disease Associated Peptide and Dexamethasone in Acetalated Dextran Microparticles. *Molecular Pharmaceutics*. 2014;11(3):828-35.
14. Hoang KV, Borteh HM, Rajaram MVS, Peine KJ, Curry H, Collier MA, Homsy ML, Bachelder EM, Gunn JS, Schlesinger LS, Ainslie KM. Acetalated Dextran Encapsulated Ar-12 as a Host-Directed Therapy to Control Salmonella Infection. *International Journal of Pharmaceutics*. 2014;477(1-2):334-43.
15. Peine KJ, Gupta G, Brackman DJ, Papenfuss TL, Ainslie KM, Satoskar AR, Bachelder EM. Liposomal Resiquimod for the Treatment of *Leishmania donovani* Infection. *J Antimicrob Chemother*. 2014;69(1):168-75.
16. Peine KJ, Bachelder EM, Vangundy Z, Papenfuss T, Brackman DJ, Gallovic MD, Schully K, Pesce J, Keane-Myers A, Ainslie KM. Efficient Delivery of the Toll-Like Receptor Agonists Polyinosinic:Polycytidylic Acid and Cpg to Macrophages by Acetalated Dextran Microparticles. *Molecular Pharmaceutics*. 2013;10(8):2849-57.
17. Borteh HM, Gallovic MD, Sharma S, Peine KJ, Miao SM, Brackman DJ, Gregg K, Xu YY, Guo XL, Guan JJ, Bachelder EM, Ainslie KM. Electrospun Acetalated Dextran Scaffolds for Temporal Release of Therapeutics. *Langmuir*. 2013;29(25):7957-65.
18. Collier MA, Gallovic MD, Peine KJ, Duong AD, Bachelder EM, Gunn JS, Schlesinger LS, Ainslie KM. Delivery of Host Cell-Directed Therapeutics for Intracellular Pathogen Clearance. *Expert Review of Anti-Infective Therapy*. 2013;11(11):1225-35.
19. Duong AD, Sharma S, Peine KJ, Gupta G, Satoskar AR, Bachelder EM, Wyslouzil BE, Ainslie KM. Electro spray Encapsulation of Toll-Like Receptor Agonist Resiquimod in Polymer Microparticles for the Treatment of Visceral Leishmaniasis. *Mol Pharm*. 2013;10(3):1045-55.
20. Schully KL, Sharma S, Peine KJ, Pesce J, Elberson MA, Fonseca ME, Prouty AM, Bell MG, Borteh H, Gallovic M, Bachelder EM, Keane-Myers A, Ainslie KM. Rapid Vaccination Using an Acetalated Dextran Microparticulate Subunit Vaccine Confers Protection against Triplicate Challenge by *Bacillus anthracis*. *Pharmaceutical Research*. 2013;30(5):1349-61.
21. Meenach SA, Kim YJ, Kauffman KJ, Kanthamneni N, Bachelder EM, Ainslie KM. Synthesis, Optimization, and Characterization of Camptothecin-Loaded Acetalated Dextran Porous Microparticles for Pulmonary Delivery. *Mol Pharm*. 2012;9(2):290-8.
22. Kauffman KJ, Kanthamneni N, Meenach SA, Pierson BC, Bachelder EM, Ainslie KM. Optimization of Rapamycin-Loaded Acetalated Dextran Microparticles for Immunosuppression. *International Journal of Pharmaceutics*. 2012;422(1-2):356-63.
23. Kauffman KJ, Do C, Sharma S, Gallovic MD, Bachelder EM, Ainslie KM. Synthesis and Characterization of Acetalated Dextran Polymer and Microparticles with Ethanol as a Degradation Product. *ACS Appl Mater Interfaces*. 2012;4(8):4149-55.
24. Kanthamneni N, Sharma S, Meenach SA, Billet B, Zhao JC, Bachelder EM, Ainslie KM. Enhanced Stability of Horseradish Peroxidase Encapsulated in Acetalated Dextran Microparticles Stored Outside Cold Chain Conditions. *International Journal of Pharmaceutics*. 2012;431(1-2):101-10.
25. Saldanha KJ, Doan RP, Ainslie KM, Desai TA, Majumdar S. Micrometer-Sized Iron Oxide Particle Labeling of Mesenchymal Stem Cells for Magnetic Resonance Imaging-Based Monitoring of Cartilage Tissue Engineering. *Magn Reson Imaging*. 2011;29(1):40-9.
26. Bachelder EM, Beaudette TT, Broaders KE, Frechet JMJ, Albrecht MT, Mateczun AJ, Ainslie KM, Pesce JT, Keane-Myers AM. In Vitro Analysis of Acetalated Dextran Microparticles as a Potent Delivery Platform for Vaccine Adjuvants. *Molecular Pharmaceutics*. 2010;7(3):826-35.
27. Ainslie KM, Tao SL, Popat KC, Daniels H, Hardev V, Grimes CA, Desai TA. In Vitro Inflammatory Response of Nanostructured Titania, Silicon Oxide, and Polycaprolactone. *J Biomed Mater Res A*. 2009;91(3):647-55.
28. Ainslie KM, Lowe RD, Beaudette TT, Petty L, Bachelder EM, Desai TA. Microfabricated Devices for Enhanced Bioadhesive Drug Delivery: Attachment to and Small-Molecule Release through a Cell Monolayer under Flow. *Small*. 2009;5(24):2857-63.
29. Ainslie KM, Tao SL, Popat KC, Desai TA. In Vitro Immunogenicity of Silicon-Based Micro- and Nanostructured Surfaces. *ACS Nano*. 2008;2(5):1076-84.
30. Ainslie KM; Bachelder, EM; Sharma, G; Grimes, C; Pishko, MV. Macrophage Cell Adhesion and Inflammation Cytokines on Magnetostrictive Nanowires. *Nanotoxicology* 2007 1 (4):279 - 290.
31. Ainslie KM, Kraning CM, Desai TA. Microfabrication of an Asymmetric, Multi-Layered Microdevice for Controlled Release of Orally Delivered Therapeutics. *Lab Chip*. 2008;8(7):1042-7.

32. Saldanha KJ, Piper SL, Ainslie KM, Kim HT, Majumdar S. Magnetic Resonance Imaging of Iron Oxide Labelled Stem Cells: Applications to Tissue Engineering Based Regeneration of the Intervertebral Disc. *Eur Cell Mater.* 2008;16:17-25.
33. Ainslie KM, Bachelder EM, Sharma G, Grimes C, Pishko MV. Macrophage Cell Adhesion and Inflammation Cytokines on Magnetostrictive Nanowires. *Nanotoxicology.* 2007;1(4):279 – 90.
34. Ainslie KM, Bachelder EM, Borkar S, Zahr AS, Sen A, Badding JV, Pishko MV. Cell Adhesion on Nanofibrous Polytetrafluoroethylene (nPTFE). *Langmuir.* 2007;23(2):747-54.
35. Dyer MA, Ainslie KM, Pishko MV. Protein Adhesion on Silicon-Supported Hyperbranched Poly(Ethylene Glycol) and Poly(Allylamine) Thin Films. *Langmuir.* 2007;23(13):7018-23.
36. Stine R, Cole CL, Ainslie KM, Mulvaney SP, Whitman LJ. Formation of Primary Amines on Silicon Nitride Surfaces: A Direct, Plasma-Based Pathway to Functionalization. *Langmuir.* 2007;23(8):4400-4.
37. Bachelder EM, Ainslie KM, Pishko MV. Utilizing a Quartz Crystal Microbalance for Quantifying Cd4(+) T Cell Counts. *Sensor Letters.* 2005;3(3):211-5.
38. Ainslie KM, Sharma G, Dyer MA, Grimes CA, Pishko MV. Attenuation of Protein Adsorption on Static and Oscillating Magnetostrictive Nanowires. *Nano Lett.* 2005;5(9):1852-6.
39. Ainslie KM, Garanich JS, Dull RO, Tarbell JM. Vascular Smooth Muscle Cell Glycocalyx Influences Shear Stress-Mediated Contractile Response. *J Appl Physiol.* 2005;98(1):242-9.
40. Ainslie K, Shi ZD, Garanich JS, Tarbell JM. Rat Aortic Smooth Muscle Cells Contract in Response to Serum and Its Components in a Calcium Independent Manner. *Annals of Biomedical Engineering.* 2004;32(12):1667-75.
41. Florian JA, Kosky JR, Ainslie K, Pang Z, Dull RO, Tarbell JM. Heparan Sulfate Proteoglycan Is a Mechanosensor on Endothelial Cells. *Circ Res.* 2003;93(10):e136-42.
42. Civelek M, Ainslie K, Garanich JS, Tarbell JM. Smooth Muscle Cells Contract in Response to Fluid Flow Via a Ca<sup>2+</sup>-Independent Signaling Mechanism. *J Appl Physiol.* 2002;93(6):1907-17.
43. Sharma R, Yellowley CE, Civelek M, Ainslie K, Hodgson L, Tarbell JM, Donahue HJ. Intracellular Calcium Changes in Rat Aortic Smooth Muscle Cells in Response to Fluid Flow. *Ann Biomed Eng.* 2002;30(3):371-8.

## REFEREED UNPUBLISHED ORAL PRESENTATIONS AND/OR ABSTRACTS

### Oral presentations

1. Ainslie KM. "Chemically modified inulin microparticles serving dual function as a protein antigen delivery vehicle and immunostimulatory adjuvant." AICHE, San Francisco 2016.
2. Ainslie KM. "Acetalated Dextran: A Spoonful of Sugar Helps the Medicine (and Vaccine) go down". The 3rd NCSU:Seqirus Technical Symposium. Raleigh, NC 2015.
3. Ainslie KM. "Acetalated Dextran: A Spoonful of Sugar Helps the Medicine (and Vaccine) go down" Fusion Conference: Bridging the Gap Between Basic Science and Unmet Medical Needs. Tuscon, AZ. 2015
4. Ainslie KM. "Acetalated Dextran: A Spoonful of Sugar Helps the Medicine (and Vaccine) Go Down". NCSU Department of Chemical Engineering. Raleigh, NC, 2015.
5. Ainslie KM. "Acetalated Dextran: A Spoonful of Sugar Helps the Medicine (and Vaccine) Go Down". UNC Molecular Pharmaceutics Division, Chapel Hill, NC, 2014.
6. Ainslie KM. "Acetalated Dextran: A Spoonful of Sugar Helps the Medicine (and Vaccine) Go Down". University of Buffalo, Pharmaceutical Science, Buffalo, NY, 2014.
7. Ainslie KM. "Novel Polymeric Carriers for Immune Modulation and Drug Delivery." Virginia Tech Biomedical Engineering Department, Blacksburg, VA, 2012.
8. Ainslie KM. "Acetalated Dextran: A spoonful of sugar helps the medicine (and vaccines) go down" Center for Microbial Interface Biology, Columbus, OH, 2012
9. Schully KL, Sharma S, Peine KJ, Pesce J, Elberson MA, Fonseca ME, Prouty AM, Bell MG, Bachelder EM, Keane-Myers A, Ainslie KM. "Rapid Vaccination using an Acetalated Dextran Microparticulate Subunit Vaccine Confers Protection Against Triplicate Challenge by Bacillus anthracis." Vaccine OMICS Group, Chicago, IL, 2012.
10. Ainslie KM. "Novel Polymeric Carriers for Immune Modulation and Drug Delivery." OSU Biomedical Engineering Seminar, Columbus, OH, 2012.
11. Ainslie KM. "Novel Polymeric Carriers for Immune Modulation and Drug Delivery." OSU Biophysics Seminar. Columbus, OH, 2011.
12. Ainslie KM. "Novel Biopolymer Acetalated Dextran for Therapeutics and Immune Applications." Batelle Women in Science and Engineering (WISE) Conference, Columbus, OH, 2011.
13. Ainslie KM. "Acetalated dextran microparticles are a potent delivery platform for vaccine adjuvants in vitro." Controlled Release Society. Portland, OR, 2010. [www.controlledrelease.org/](http://www.controlledrelease.org/)

14. Ainslie KM. "Translational Therapies for Drug Delivery and Immune Modulation." Davis Heart and Lung Research Institute: Work in Progress. Columbus, OH, 2010.
15. Ainslie KM. "Translational Therapies for Drug Delivery and Immune Modulation." OSU Division of Medicinal Chemistry & Pharmacognosy, Columbus, OH, 2010.
16. Ainslie KM. "Novel Polymeric Carriers for Immune Modulation and Drug Delivery." OSU Comprehensive Cancer Center - Innate Immunity. Columbus, OH, 2010.
17. Ainslie KM. "Novel Polymeric Carriers for Immune Modulation and Drug Delivery." OSU Chemical Engineering Seminar, Columbus, OH, 2010.
18. Ainslie KM, Desai TA. "Attachment of Hydrogel Filled Micro-engineered Particles for Oral Delivery of Chemotherapeutic Agents." Controlled Release Society, Copenhagen, Denmark, 2009.
19. Ainslie KM, Kraning CM, Desai TA. "Microfabricated Oral Delivery Vehicle." American Institute of Chemical Engineers, Philadelphia, PA, 2008.
20. Ainslie KM, Desai TA. "Microfabricated Oral Delivery Vehicle." Gordon Research Conference: Drug Carriers in Medicine, Big Sky, MT, 2008.
21. Ainslie KM, Tao SL, Kraning CM, Desai TA. "Chemotherapeutic Release From Hydrogel Filled Micro-Engineered Particles For Oral Delivery." Biomedical Engineering Society, Los Angeles, CA, 2007 and Controlled Release Society, Long Beach, CA, 2007.
22. Ainslie KM, Sharma G, Grimes CA, Pishko MV. "Attenuation of Protein Adsorption on Static and Vibrating Magnetic Nanowires." Materials Research Society, San Francisco, CA, 2004.

### Poster Presentations

1. Gallovic MD, Schully KL, Bell MG, Elberson MA, Palmer JR, Darko CA, Bachelder EM, Wyslouzil BE, Keane-Myers AM, Ainslie KM. "Acetalated Dextran Microparticulate Vaccine Formulated via Coaxial Electrospray Preserves Toxin Neutralization and Enhances Murine Survival Following Inhalational Bacillus Anthracis Exposure." GRC, Waterville Valley, NH 2016.
2. Hoang KV, Borteh HM, Rajaram MVS, Peine KJ, Curry H, Collier MA, Homsy ML, Bachelder EM, Gunn JS, Schlesinger LS, Ainslie KM. "Acetalated dextran encapsulated AR-12 as a host-directed therapy to control Salmonella and Francisella infection" GRC, Waterville Valley, NH 2014.
3. Sharma S, Schully K, Pesce JT, Bachelder EM, Keane-Myers A, Ainslie KM. "Microparticulate Carrier for Rapid Vaccination Against Anthrax" AAPS, Washington, DC 2011.
4. Kanthamneni N, Guerau M, Huss D, Smith A, Lovett-Racke AE, Bachelder EM, Ainslie KM. "Novel Microparticulate Treatment of Multiple Sclerosis with Dexamethasone and Myelin Oligodendrocyte Glycoprotein Loaded Acetalated Dextran" AAPS, Washington, DC 2011.
5. Ainslie KM. "Vaccine applications of pH sensitive co-axial electrosprayed microparticles." Institute for Materials Research Facility Grant Presentation. Columbus, OH, 2011.
6. Ainslie KM. "Translational Drug Delivery Methods to Modulate PK/PD." OSU Center for Clinical and Translational Science Workshop. Columbus, OH, 2011.
7. Ainslie KM "Adjuvants Encapsulated in Ac-DEX Nanoparticles for Passive Targeting of Dendritic Cells and Enhanced Vaccination." Great Lakes Regional Center of Excellence, Chicago, IL, 2010. [www.glrce.org/](http://www.glrce.org/)
8. Ainslie KM, "Novel Polymeric Carriers for Drug Delivery and Immune Modulation." College of Pharmacy Research Day, Columbus, OH, 2010.
9. Bachelder EM, Albrecht MT, Mateczun AJ, Ainslie KM, Pesce JT, Keane-Myers AM. "In Vitro Analysis of Acetalated Dextran Microparticles as a Potent Delivery Platform for Vaccine Adjuvants." Controlled Release Society, Portland, OR, 2009.
10. Ainslie KM, Tao SL, Kraning CM, Desai TA. "Chemotherapeutic Release From Hydrogel Filled Micro-Engineered Particles For Oral Delivery." Presented at Controlled Release Society, Santa Barbara, CA, 2007.
11. Ainslie KM, Tao SL, Kraning CM, Desai TA. "Chemotherapeutic Release From Hydrogel Filled Micro- Engineered Particles For Oral Delivery." Biomedical Engineering Society, Los Angeles, CA, 2007.
12. Ainslie KM, Tao SL, Popat KC, Desai TA. "Immunogenicity and Toxicity of Non-particulate Nanomaterials." Biomedical Engineering Society, Los Angeles, CA, 2007.
13. Ainslie KM, Tao SL, Desai TA "Chemotherapeutic Release From Hydrogel Filled Micro-Engineered Particles For Oral Delivery", University of California System Wide Bioengineering Conference, San Francisco, CA, 2007.
14. Ainslie KM, Sharma G, Dyer MA, Grimes CA, Pishko MV. "Attenuation of Protein Adsorption on Static and Vibrating Magnetic Nanowires." American Chemical Society, Philadelphia, PA, 2004.

15. Ainslie KM, Sharma G, Grimes CA, Pishko, MV. "Attenuation of Protein Adsorption on Static and Vibrating Magnetic Nanowires." American Institute of Chemical Engineers, Austin, TX, 2004.
16. Ainslie KM, Civelek M, Garanich J, Tarbell JM. "Smooth Muscle Cells Contract in Response to Fluid Flow via a Ca<sup>2+</sup>-Independent Signaling Mechanism." Biomedical Engineering Society (BMES), Houston, TX, 2002.

#### PATENTS

1. Ting JPY, Junkins R, Johnson B, Ainslie KM, Bachelder EM, Gallovic MD, Collier MA, Chen N. Methods And Compositions For Inducing An Immune Response. November 2016.
2. Ainslie KM, Bachelder EM, Gautam S, Peine K, Satoskar A. Compositions and Methods for Inhibiting Leishmania, #20160120844, May 2016.
3. Ainslie KM, Bachelder EM, Gallovic MD, Keane-Myers A, Schully K, Wyslouzil BE. Immunogenic Compositions and Methods for Development Of An Anthrax Vaccine. Provisional, September 2015.

#### MEDIA FEATURES

- Dec 2016 Carolina Scientific *The Macrophage's Bouncer*  
 May 2010 Medical News Today et al.: *Effects of Vaccines for HIV and Other Disease Could be Boosted by Prescription Drug*  
 May 2010 Pharmaceutical Formulation & Quality: *Delivery Platform Could Improve Vaccines*  
 Jun 2008 Chemical Technology: *Hydrogel helps the medicine go down*  
 May 2008 Technology Research News: *This chip is a pill*

#### TEACHING ACTIVITIES

Year	Course name	Course Number	Lectures Taught	Enrollment	Course type	Overall Evaluation
2016 AU	Advances in Drug Delivery	MOPH 868	6	6	Graduate	4.6/5
2016 AU	Nanomedicine	MOPH 738	4	7	Graduate	4.6/5
2016 SP	Pharmaceutics 8	PHCY 512	4	125/25	Professional	4.25/5 4.27/5
2016 SP	Advanced Pharmaceutics	MOPH 862	3	8	Graduate	NA
2016 SP	Seminar	PHRS 899.004	14	30	Graduate	NA
2015 AU	Advances in Drug Delivery	MOPH 864	3	15	Graduate	3.8/5
2015 AU	Seminar	PHRS 899.004	14	30	Graduate	NA
2015 SP	Pharmaceutics II	PHCY 411	3	132	Professional	3.75/5
2014 AU	Nanomedicine	MOPH 738	1	18	Graduate	NA
2014 SP	Drug Delivery II	PHARM 6220	23	121	Professional	4.8/5
2014 SP	Pharmaceutics	PHARM 4250	5	~70	Undergraduate	NA
2013 SP	Drug Delivery II	PHARM 6220	23	126	Professional	4.4/5
2013 SP	Pharmaceutics	PHARM 4250	4	~70	Undergraduate	NA
2013 SP	Seminar	PHARM 8500	15	19	Graduate	NA
2012 AU	Drug Transport	PHARM 8040	12	9	/Undergraduate /Professional	NA
2012 AU	Seminar	PHARM 8500	15	20	Graduate	NA
2012 SP	Drug Delivery II	PHARM 622	29	124	Professional	3.5/5
2012 SP	Pharmaceutics	PHARM 425	4	91	Undergraduate	4.1/5
2012 SP	Seminar	PHARM 850	15	17	Graduate	NA
2011 AU	Seminar	PHARM 850	15	22	Graduate	NA
2011 SP	Drug Delivery II	PHARM 622	29	142	Professional	2.9/5
2011 SP	Seminar	PHARM 850	15	23	Graduate	NA
2011 SP	Pharmaceutics	PHARM 425	4	71	Undergraduate	3.6/5
2010 AU	Drug Transport	PHARM 804	26	10	Graduate	4.2/5

<b>Year</b>	<b>Course name</b>	<b>Course Number</b>	<b>Lectures Taught</b>	<b>Enrollment</b>	<b>Course type</b>	<b>Overall Evaluation</b>
2010 AU	Intro to Pharm Science	PHARM 852	1	23	Graduate	NA
2010 AU	Seminar	PHARM 850	15	22	Graduate	4.4/5
2010 SP	Drug Delivery II	PHARM 622	14	128	Professional	2.3/5
2009 AU	Intro to Pharm Science	PHARM 850	1	~20	Graduate	NA

- 2002 Teaching Assistant, Pennsylvania State University; Instructor: Michael V. Pishko
- Taught eight lectures focused on fundamental mass transfer topics.
  - Developed and taught curriculum for a lecture based on components of mass transfer constitutive equation.
  - Graded quizzes and examinations.
- 2001 Teaching Assistant, The Pennsylvania State University; Instructor: Alfred Carlson
- Created lectures based around professor supplied sample questions.
  - Taught fifteen recitations sections.
  - Developed and lectured from PowerPoint presentations on weekly topics and problem sets.

**ADVISING****Current Lab Members**

<b>Name</b>	<b>Previous Degree</b>	<b>Position</b>	<b>Year Started</b>	<b>Topic</b>	<b>Awards</b>
<b>Post Doc</b>					
Monica Johnson	Pharm Sci, University of Colorado	Post Doc	2017	Host directed therapies	
Md. Shamim Hasan Zahid	PhD Animal Science, Japan	Post Doc	2016	Host directed therapies towards pathogens	
Archana Kovi	PhD Chemistry, Northwestern	Post Doc	2016	Chemical ligation of Ac-DEX	
Matthew Gallovic	PhD Chemical Engineering, Ohio State	Post Doc	2016	Scalable production of vaccines	
Elizabeth Gurysh	PhD Biomedical Engineering, Wake	Post Doc	2015	Acetalated Dextran Scaffolds	PhRMA Post Doc Fellowship
<b>Graduate</b>					
Michael Collier	BS Biomedical Engineering, Clemson	Graduate Student, Pharmaceutical Sciences	2011	Immune modulating therapies	GSK Fellowship award, Fusion conference poster award, GPEN Conference travel award
Naihan Chen	BS Biochemistry, Smith College	Graduate Student, Pharmaceutical Sciences	2014	Antigen specific autoimmune therapies	
Kathryn Moore	BS Biology, Georgia State	Graduate Student, Biomedical Engineering	2015	Acetalated Dextran Scaffolds	
Erica Pino	BS Biology, MIT	Graduate Student, Pharmaceutical Sciences	2015	Formulation of Host-Directed Therapies	Honorable Mention NSF Graduate Fellowship NIH Minority Supplement
<b>Undergraduate</b>					
Rick Harrison		Undergraduate Researcher in Biology	2016	Scaffolds for stem cell delivery	
Mabel D'Souza		Undergraduate Researcher in Chemistry	2016	Meta analysis of polymers for siRNA delivery	
Graham Collins*		Undergraduate Researcher in Biomedical Engineering	2015	Acetalated Dextran Scaffolds	UNC's Taylor Summer Undergraduate Research Fellowship; BME Undergraduate Research Award

\*Undergraduate honors

**Former Lab Members**

<b>Name</b>	<b>Previous Degree</b>	<b>Position</b>	<b>Years</b>	<b>Thesis Title/Topic</b>	<b>Awards</b>	<b>Current Position</b>
<b>Post Doc</b>						
Siabal Bandyopadhyay	PhD Chemistry, University of Missouri	Post Doc	2013-2014	Ligation to Acetalated Dextran		Chief Scientific Officer, Neverwet
Anthony Duong	PhD Chemical Engineering, Ohio State	Post Doc	2013-2014	Electrospray of liposomes		Battelle Research Scientist
Shalini Guatum	PhD Microbiology, India	Post Doc	2013-2014	Host-Directed Leishmania Therapies		Post Doc, Ohio State
Hassan Borteh	PhD Biomedical Engineering, Ohio State	Post Doc	2012-2013	Acetalated dextran scaffolds		Lecturer, Columbus State University
Samantha Meenach	PhD Chemical Engineering, Kentucky	Post Doc	2009-2010	Pulmonary Delivery		Assistant Professor, University of Rhode Island
<b>Graduate</b>						
Kevin Peine	BS Biology, DePaul	Graduate Student, OSU Molecular, Cell & Developmental Biology	2010-2014	Formulation of Particulate-based Immunomodulatory Therapeutics		AAAS Fellow
Matthew Gallovic	BS Chemical Engineering, Northwestern	Graduate Student, OSU Chemical Engineering	2010-2016	Scalable production of vaccines	OSU Chemical Engineering Outstanding Graduate Award for Academic Achievement	Post Doc in lab
<b>Undergraduate</b>						
Kaylyn Pogson*		Undergraduate Researcher in Biology	2014-2015	Formulations of Resiquimod	Best Poster at UNC Celebration of Undergraduate Research; UNC's Taylor Summer Undergraduate Research Fellowship	
Quinta Fernandes		Undergraduate Researcher in Biology	2014-2015	Particle fabrication		
Deanna Brackman*	BS Pharmaceutical Science (BSPS), Ohio State	Undergraduate Researcher	2012-2014	Encapsulation of immune modulatory agents	OSU Summer Undergraduate Research Fellowship; OSU BSPS Undergraduate Research Fellowship	Graduate School, UCSF

<b>Name</b>	<b>Previous Degree</b>	<b>Position</b>	<b>Years</b>	<b>Thesis Title/Topic</b>	<b>Awards</b>	<b>Current Position</b>
Douglas Montjoy*	BS Chemical Engineering	Undergraduate Researcher	2012-2014	Acetalated Polymers	OSU Summer Undergraduate Research Fellowship	Graduate School, Michigan
Mike Homsy	BS Chemical Engineering, Ohio State	Undergraduate Researcher	2013-2014	Encapsulation of tolerogenic agents		Medical school
Erin Pesa	BS Finance, Ohio State	Undergraduate Researcher	2011	Immune activating acetalated polymers		Finance
Lauren Dellon	BS Chemical Engineering, Ohio State	Undergraduate Researcher	2011	Pulmonary Delivery		Graduate School, Northwestern
Katie Gregg	BS Chemical Engineering, Ohio State	Undergraduate Researcher	2010-2012	Immune activating acetalated polymers		Consultant at Newry Corp.
Claire Parker	BS Biomedical Engineering, Ohio State	Undergraduate Researcher	2009-2010	Pulmonary Delivery		R&D Senior Design Engineer at Ethicon
Kevin Kauffman*	BS Chemical Engineering, Ohio State	Undergraduate Researcher	2009-2012	New acetalated polymers	Pelotonia Undergraduate Research Fellowship; Chemical Engineering Research Fellowship; Honorable Mention OSU Undergraduate Research Forum Best Poster; OSU Summer Undergraduate Research Fellowship	Graduate School, MIT
Yu Jeong Kim	BS Pharmaceutical Science (BSPS), Ohio State	Undergraduate Researcher	2009-2012	Pulmonary Delivery	OSU Summer Undergraduate Research Fellowship	Graduate School, USC
Ben Pierson	BS Chemical Engineering, Ohio State	Undergraduate Researcher	2009-2010	Amphotericin B formulations		Doctor of Osteopathy School

Name	Previous Degree	Position	Years	Thesis Title/Topic	Awards	Current Position
Kaylyn Pogson*	Pending BS in Biology	Undergraduate Researcher	2014-2015	Formulations of Resiquimod	Best Poster at UNC Celebration of Undergraduate Research; UNC's Taylor Summer Undergraduate Research Fellowship	UNC Undergrad
Quinta Fernandes	Pending BS in Biology	Undergraduate Researcher	2014-2015	Particle fabrication		UNC Undergrad
<b>Other</b>						
Michael Hegarty	BS Biochemistry, Ohio State	Technician	2013			Medical school
Duane Probst		Research Technician	2012-2013			Student
Ashley Bowden	PharmD, Ohio State	Summer Intern	2012	Tolerogenic polymers		Pharmacist
Clement Do	PharmD, Ohio State; PhD Chemistry, USC	Summer Intern	2012, 2013	New acetalated polymers		Pharmacist
Sadhana Sharma	PhD Biomedical Engineering, University of Illinois	Research Scientist	2011-2010	Vaccines against bioterrorism agents		Administrator, Ohio State

\*Undergraduate honors

## **GRANTS**

### **Current Support**

R33 AI102252 PI 7/12-6/17 0.6 mos \$989,229

#### ***“Celecoxib Derivative: Host Cell-Directed Inhibitors of Intracellular Pathogens”***

The major goal of this grant is to use AR-12 as an antibiotic against the bacteria that cause tuberculosis, rabbit fever and salmonella.

1R21AI123692-01 PI NIH 4/16 – 3/18 1.2 mos \$423,739

#### ***“Microparticle resiquimod for the treatment of visceral leishmaniasis”***

High levels of drug resistance and extended treatment regimens are a significant barrier to successful treatment of the disease. We propose the co-treatment of both resiquimod, a TLR 7/8 agonist and Amphotericin B for visceral leishmanial which will allow for the synergistic clearance of the infection.

1R01AI125147-01 Lead-PI NIH 4/16 – 4/21 3 mos \$5,961,014

#### ***“Host Targeted Therapy for Drug Resistant Salmonella and Francisella infection”***

We propose the optimization of a host targeted therapeutic for the treatment of infection due to drug resistant bacteria. We will alter the chemical structure and formulate the drug to increase the efficacy of the compound. We will perform experiments that will help enable IND FDA filling of the proposed therapy.

1R01NS097507-01 Hingtgen, PI – Role: Co-Investigator  
NIH 7/16 – 6/21 1.2 mos \$1,750,904

***“Nanofiber matrices to improve neural stem cell-mediated cancer therapy”***

This proposal seeks to define the design cues that are essential for polymeric scaffolds to improve tNSC therapy, and determine the efficacy of novel polymeric scaffolds capable of maximizing cytotoxic tNSC treatment of surgically resected GBM

NIH Minority Supplement      PI: Ainslie      10/16-9/20      \$116,151  
This is a minority supplement off 1R01AI125147 for Erica Pino.

***“Administrative Supplement: Host Targeted Therapy for Drug Resistant Salmonella and Francisella infection”***

EII      PI      5/16-4/17      0 mos      \$50,000  
***“Long acting formulations for HIV therapy”***

**Completed**

Defense Threat Reduction Agency (DTRA)      9/09-9/10      0 mos      \$96,959  
“Stimulation of broad spectrum protection via TLR 7,8&9”

OSU IMR      PI: Ainslie      4/11-3/12      0.0 mos      \$2,000  
“High throughput Production of Multi-component Multi-layered Acetalated Dextran-based Nanoparticle for Vaccination”

DARPA      PI: Ainslie      6/11-2/12      0 mos      \$3,000  
“Optimization of Resiquimod in Vaccine Microparticulate Carrier to Modify Immune Cells for Vaccine Formulation”

The major goal of this project is to fund an undergraduate researcher to work on the parent DARPA opportunity.

W911NF-10-1-0264      PI: Ainslie      9/10-6/13      2.4 mos      \$1,176,660  
7-day Biodefense: “Universal vaccine microparticulate carrier that encapsulates immune modifiers and antigens in a novel polymeric matrix to passively target dendritic cells.”  
The major goal of this support is to develop a vaccine against bioterrorism agents, known and unknown.

DTRA      PI: Keane-Myers/Ainslie      6/13-5/14      0.6 mos      \$779,517  
“Development of needle-free, multi-formulation nanoparticle vaccine”  
The major goal of this grant is to encapsulate bioterrorism agent vaccine agents and test them for needle free delivery.

R21 NS072813-01      PI:Ainslie      8/11-7/13      0.6 mos.      \$419,375  
“Encapsulated Active Vitamin D Vaccine for the Treatment of Multiple Sclerosis”  
The major goal of this project is to design a microparticle system that will induce a tolerogenic DC population which will have the potential to treat autoimmune diseases.

R21 AI095773 consultant      (PI: Pappenfus)      8/12-7/14      0 mos      \$419,375  
“Regulatory myeloid cells in inflammatory disease: Therapy and targeted generation with micro particles”

Arno Therapeutics      co-I (PI: Schlesinger)      0 mos      \$200,000  
Use to fund additional studies in the Center for Microbial Interface Biology (CMIB) at OSU.

R21 AI102252      PI      7/12-6/17      0.6 mos      \$415,113  
“Celecoxib Derivative: Host Cell-Directed Inhibitors of Intracellular Pathogens”  
The major goal of this grant is to use AR-12 as an antibiotic against the bacteria that cause tuberculosis, rabbit fever and salmonella.

**PROFESSIONAL SERVICE**

**GRANT REVIEW ACTIVITIES**

2017      NIH Maximizing Investigators' Research Award for Early Stage Investigators ZRG1 CB -M (50)  
NIH F32 Infectious Disease and Microbiology Integrated Review Group  
NIH Non-HIV Microbial Vaccines ZRG1 IMM-R (12)  
2016      NIH NANO

- NIH Non-HIV Microbial Vaccines ZRG1 IMM-R (12) B  
 NIH BAA Bacterial Vaccines ZAI1 TT-M(C1)  
 NIH VMD 2016/05 ZRG1 IMM-R (90) B  
 NIH Non-HIV Microbial Vaccines ZRG1 IMM-R (12)  
 2015 Swiss National Science Foundation Fellowship Application  
 NIH Nano Study Section Ad Hoc  
 NIH SBIR Clinical Trials 2015/01 ZAI1 TT-M (J3) 1  
 NIH SBIR ZRG1 IMM-R (12)  
 NIH R15 ZRG1 OTC-N (80) A  
 2014 NIH SBIR Review Topic 028  
 USAMRMC American Institute of Biological Sciences Grant Reviewer  
 2013 NINDS/NIA EUREKA Review (ZNS1 SRB N (04))  
 Drug Target Development and Validation for Antimicrobial-Resistant Pathogens (R21/R33) (ZAI-SM-M-J1)  
 OSU PHPID  
 OSU CMIB/Arno Therapeutics Grant Committee  
 2012 Deutsche Forschungsgemeinschaft (German Research Foundation) vaccine grant  
 Technology Foundation STW, The Netherlands, tolerance grant  
 Ohio State University CCTS  
 2011 NIH Partnerships in Biodefense RO1 Immunotherapeutics (ZAI1 RGK-M (J1))  
 NIH Partnerships in Biodefense RO1 Bacterial Vaccines (ZAI1 RGK-M (J3))

#### **PUBLIC SERVICE**

- 2016 NC Museum of Natural Sciences Final Friday Nanotechnology Expert – answering questions of general public  
 2016 UNC Women in Science, Panelist  
 2015 UNC Women in Science, Speed Networking, Mentor  
 2015, 2016 Mary Scroggs STEAM Workshop, “Who Broke the Cookie Jar?” and hovercraft demonstration with help recruited for division graduate students.  
 2009-2013 Judge, “Fundamentals of Engineering”, OSU  
 2008 NSF Expanding your Horizons in Science and Mathematics, San Bruno, CA.  
 Nanotechnology Program for PBS *DragonflyTV investigation*, St. Paul, MN.  
 2007 Community Resource for Science, Berkeley, CA.  
 2001 – 2005 Science Lions; K-12 Interdisciplinary Science Outreach Organization, State College, PA.  
  - Founded and resided as president for three years.
  - Enlisted funding for initial start-up and continuation: > \$15,000.
  - Developed organization structure that is used to currently maintain group without self-involvement.
 1996 – 1999 Science Theatre; K-12 Interdisciplinary Science Outreach Organization, East Lansing, MI.  
  - Developed three chemistry, engineering, and biology related presentations.
  - Created engineering department and recruited initial members and funding estimated at \$1,000.

#### **SERVICE TO PUBLICATIONS**

Journal Reviewer: Biomedical Microdevices, Langmuir, Acta Biomaterialia, ACS Nano, Advance Drug Delivery Reviews, The Journal of Biomaterials Science: Polymer Edition, Accounts of Chemical Research, Chemical Reviews, Biomaterials, Molecular Pharmaceutics, Carbohydrate Chemistry, Acta Materialia, Biochimica et Biophysica Acta, Science

#### **PODCASTS**

1. Ainslie, KM, Lecturer. "Mammalian Cell Facts for Engineers." Fundamentals of Engineering. Columbus, OH, 2011, <http://coursecast.pharmacy.ohio-state.edu/Panopto/Pages/Viewer/Default.aspx?id=9f466d67-cd99-49ca-9f45-8ffb21c48dac>

#### **SERVICE TO PROFESSIONAL ORGANIZATIONS**

- 2015- Co-organizer for Fusion Conference, “Host Directed Therapeutic Strategies to Combat Infection and Reduce Emergence of Drug Resistance Conference”  
 2011 - 2014 ISPE OSU Student Chapter Faculty Advisor

2010- 2014 AAPS OSU Student Chapter Faculty Advisor  
2009- 2011 Controlled Release Society Oral Drug Delivery Committee Leader

## **SERVICE TO ADMINISTRATIVE COMMITTEE**

### University Activities

2016 - UNC, Graduate School Administrative Board Member  
2016 - UNC, Academic Policy Committee Member  
2012 OSU, College of Pharmacy, Dean Search Committee  
2011 OSU, Consultant for CCTS Webpage Development  
2012 OSU, Summer Research Opportunities Program, Judge and Mentor  
2010 – 2014 OSU, Ohio State Information Committee Chair; Immunology Round Table

### College Activities

2016 UNC, Advanced Inquiry into Pharmacy, Curriculum Transformation Committee  
2015 UNC, Graduate Program Governance Committee  
2015 UNC, Family Day Vaccine Session co-Organizer  
2014, 2016 UNC, Candidates' Day Faculty Interviewer  
2014 UNC, Pharmaceutics Curriculum Transformation 2<sup>nd</sup> chair  
2014 - UNC, Scholastic Achievement and Progression Committee  
2011 - 2012 OSU, Web Information Committee  
2011 - 2014 OSU, Awards and Alumni Committee  
2011 - 2012 OSU, Committees on Committees, College Elected Position  
2011 OSU, Poster Judge, College of Pharmacy Research Day  
2010 - 2012 OSU, College Diversity Committee  
2009 - 2011 OSU, Technology and Education Resources Committee  
2009 - 2011 OSU, Web Page Development

### Division Activities

2016 - UNC, Graduate Curriculum Committee  
2016 UNC, Graduate Self-Study Committee  
2015 - UNC, Open Position Search Committee  
2015 - 2016 UNC, Division Chair Search Committee  
2011 - 2014 OSU, Division Webpage Developer  
2009 - 2010 OSU, Quarter to Semester: Graduate Studies  
2010 OSU, Quarter to Semester: PharmD Studies  
2010 - 2014 OSU, Graduate Recruitment Chair

## **AFFILIATIONS**

2014 - Affiliated Faculty, Comparative Medicine Institute, North Carolina State University  
2014 - Affiliated Faculty, Dept. Biomedical Engineering, University of North Carolina, CH  
2012 – 2014 Member, Center for Microbial Interface Biology, The Ohio State University  
2010 - 2014 Graduate Faculty, Dept. Biomedical Engineering, College of Eng, The Ohio State University  
2009 - 2014 Graduate Faculty, Biophysics Program, The Ohio State University  
2010 - 2014 Graduate Faculty, Molecular, Cellular and Developmental Biology, The Ohio State University  
2010 - 2014 Adjunct Member, Department of Chemical and Biomolecular Engineering, OSU  
2009 - 2010 Associate Member, Dorothy M. Davis Heart and Lung Research Institute, OSU Med Center  
2010 - 2011 Associate Member, OSU Comprehensive Cancer Center