SILVIYA PETROVA ZUSTIAK

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EDUCATION

2004 - 2009	**Ph.D.,** Department of Chemical and Biochemical Engineering, University of Maryland Baltimore County (UMBC), Baltimore, MD
1997 - 2002	**BS/MS**, Department of Electrical Engineering, Technical University, Sofia, Bulgaria

POSITIONS AND AFFILIATIONS

2019 – Present	**Member,** Institute of Clinical and Translational Sciences, Washington University in St. Louis, MO
2018 – Present	**Executive Leadership Committee Member,** Center for Neuroscience, Saint Louis University, St. Louis, MO
2018 – Present	**Member,** Siteman Cancer Center, Washington University in St. Louis, MO
2018 – Present	**Co-director,** Big Idea Initiative: Institute for Drug and Biotherapeutic Innovation, SLU
2018 – Present	**Associate Professor,** Biomedical Engineering, St. Louis University, St. Louis, MO
2017 – Present	**Member**, Musculoskeletal Research Center, Washington University in St Louis, MO
2017 – Present	**Ad-hoc Graduate Faculty**, Department of Chemical Engineering, Michigan Technological University, Houghton, MI
2014 – Present	**Adjunct Assistant Professor,** Department of Chemical and Biological Engineering**,** Missouri University of Science and Technology - Rolla, MO
2013 – 2018	**Assistant Professor,** Department of Biomedical Engineering, St. Louis University, St. Louis, MO
2010 – 2012	**Post-doctoral Fellow,** Laboratory of Integrative and Medical Biophysics, NICHD/NIH, Bethesda, MD
2005 - 2010	**Research Assistant,** Department of Chemical & Biochemical Engineering, UMBC, Baltimore, MD
2001 - 2002	**Research Assistant,** Department of Electrical Engineering, Technical University, Sofia, Bulgaria

PROFESSIONAL ORGANIZATIONS

Sigma Xi, The Scientific Research Honor Society	2019-present
American Institute of Chemical Engineers (AIChE)	2007-2018
Biomedical Engineering Society (BMES)	2014-present
Biophysical Society (BPS)	2011-2015
Society for Biomaterials (SfB)	2009, 2014, 2019
Materials Research Society (MRS)	2008

HONORS AND AWARDS

2019	**Keynote speaker**, "Directed and enhanced neurite outgrowth following exogenous electrical stimulation on carbon nanotube-hydrogel composites", Annual Technical Meeting of the Society of Engineering Science, St Louis, MO

2018 **Department of Athletics Straight A Luncheon Faculty Honoree**, invited by student athlete Allyson Stanley
2018 **Saint Louis University Scholarly Works Award** for a junior faculty member (1 awarded per year)
2017 Nomination: **Outstanding Faculty**, Association of Parks College Students, SLU, St Louis, MO
2016 Nomination: **Outstanding Faculty**, Association of Parks College Students, SLU, St Louis, MO
2015 **Editor's Choice:** Manuscript published in JOMJ
2015 **Most Impactful Person (MIP)** certification of recognition by a graduating senior, SLU, St Louis, MO
2015 Nomination: **Outstanding Faculty**, Association of Parks College Students, SLU, St Louis, MO
2015 **Outstanding Parks Graduate Faculty Award**, SLU, St Louis, MO
2014 **Department of Athletics Straight A Luncheon Faculty Honoree**, invited by student athlete Colleen Cole
2014-15 **KEEN Faculty**, KEEN – Kern Entrepreneurial Education Network
2013 **Feature Article:** manuscript in Tissue Engineering, Part B
2014 **Top-Read Article:** manuscript in Tissue Engineering, Part B
2013 **Best Poster Award**, Functional Analysis and Screening Technologies (FAST) Conference: Engineering Functional 3D Tissue Models, Boston, MA
2011 **Travel Grant:** AIChE Women's Initiative Committee
2011 **Fellows Award for Research Excellence** (FARE), NIH
2011 Abstract selected for an **oral presentation** at the NICHD Annual Retreat (6 out of 75 fellows)
2009 Abstract selected for **Mini-talk Oral Presentation** session at the Gordon Research Conference: Biomaterials: Biocompatibility/Tissue Engineering
2007 **First prize poster award** by mentee Robert Reeves at the Undergraduate Research Consortium in the Chemical and Biological Sciences, UMBC
1998-01 **Stipend for academic excellence** from Technical University, Sofia, Bulgaria

HONORS AND AWARDS TO RESEARCH MENTEES

2019 **Student Paper Award, Bronze Level** awarded to MS students Allison Clancy for her poster presentation at the annual SES meeting, St. Louis, MO, October 13-16
2019 **Donald & Nora Manahan Scholarship & Research Fund** awarded to PhD student Saahil Sheth
2019 **Parks College Graduate Fellowship** awarded to MS student Brannan Hutchinson
2019 **Parks College Graduate Assistantship** awarded to PhD student Samuel Stealey
2019 **Outstanding PhD Graduate Student Award** from Parks College of Engineering, Aviation and Technology to Saahil Sheth
2019 **Honorable Mention, NSF Graduate Research Fellowship Program** to PhD student Samuel Stealey
2019 **Best Poster Award, Engineering Cells and Their Microenvironments SIG, Society for Biomaterials Annual Conference** to graduate student Sana Syed
2018 **Award for Excellence in Research** to STARS student Arko Chatterjee
2018 **Best Poster Award, Third Place** to PhD student Lindsay Hill, Biological Sciences Category, Graduate Research Symposium, SLU, St Louis, MO
2017 **Abstract selected for an oral presentation at the Graduate Student Award Session**, AIChE Annual Meeting, Minneapolis, MN; presenter – PhD student Mozhdeh Imaninezhad
2017 **Parks College Graduate Scholarship Award** to PhD student Saahil Sheth
2017 **Outstanding Innovative Research Award** to undergraduate researcher Alexandra Blanco, STLAURS, St Louis, MO (a single award for the whole symposium)
2017 **Best Poster Award, Second Place** to undergraduate researcher Dzhuliya Vasileva, Biomedical Engineering category, STLAURS, St Louis, MO

2017 **Dissertation Fellowship** to PhD student Mozhdeh Imaninezhad by Saint Louis University
2016 **Partnership of Research Institution's Award for Excellence in Research** to STARS student Rohit Lalit Chouhan
2016 **Parks College Graduate Scholarship Award** to PhD student Saahil Sheth
2016 **Parks College Graduate Scholarship Award** to PhD student Mozhdeh Imaninezhad
2016 **Grand Challenge Scholar** award to undergraduate researcher Erin Canning
2016 **Oliver L. Parks Award** to undergraduate lab alumna Colleen Cole
2016 **Honorable Mention, Barry Goldwater Scholarship** to undergraduate researcher Dzhuliya Vasileva
2015 **Outstanding BME Senior Award** to undergraduate researcher Kristin Kalinowski
2015 **Saint Louis University Leadership Honoraria** to Master's student Sana Syed
2015 **Nora Manahan Scholarship** to undergraduate researcher Anirudh Guduru
2015 **BMES Annual Conference Travel Award** to PhD student Mozhdeh Imaninezhad
2015 Membership for **Alpha Sigma Nu, the Jesuit Honor Society** for PhD student Lindsay Hill
2015 **Barta Graduate Scholarship** to PhD student Mozhdeh Imaninezhad by Parks College, SLU, St Louis, MO
2015 **Best Poster Award, Second Place** to undergraduate researcher Dzhuliya Vasileva, Undergraduate Physical Sciences Category, Annual Sigma Xi Research Symposium, SLU, St Louis, MO
2015 **SLU Graduate Diversity Fellowship** to graduate student Lindsay Hill (4 out of 15)
2013 **Challenge Travel Grant** by SLU Women's Commission to undergraduate researcher Kristin Kalinowski

PEER-REVIEWED PUBLICATIONS

(Current as of October 23, 2019; h-index – 15, i10-index - 20)
"*" – designates corresponding author
"#" – designates research mentee as an author

Published or in press

1. #E. Jain, #A. Blanco, N. Chinzei, L.J. Sandell, N. Case, S.A. Sell, *M.F. Rai, ***S.P. Zustiak**, "Sustained-released platelet-rich plasma from polyethylene glycol hydrogels exerts beneficial effects on chondrocytes", accepted, Journal of Orthopaedic Research, 2019, In Press (IF: 3.414)
2. #M. Imaninezhad, #L. Hill, G. Kolar, #K. Vogt, ***S. P. Zustiak**, "Templated hydrogels for spheroid and aggregate cell culture", Bioconjugate Chemistry, 2019, 30, 34-46 (IF: 4.818)
3. #M. Imaninezhad, J. Schober, D. Griggs, P. Ruminski, I. Kuljanishvili, ***S. P. Zustiak**,"Cell attachment and spreading on carbon nanotubes is mediated by integrin binding", Frontiers in Bioengineering and Biotechnology, 2018, 6, 129 (IF: 5.122)
4. N. Ziemkiewicz, M. Talovic, J. Madsen, #L. Hill, R. Scheidt, A. Patel, G. Haas, M. Marcinczyk, **S. P. Zustiak**, K. Garg, "Laminin-111 functionalized polyethylene glycol hydrogels support myogenic activity in vitro", Biomedical Materials, 2018, 13(6), 065007 (IF: 2.897)
5. #M. Imaninezhad, K Pemberton, F. Xu, #K. Kalinowski, #R. Berra, ***S. P. Zustiak**, "Directed and enhanced neurite outgrowth following exogenous electrical stimulation on carbon nanotube-hydrogel composites", Journal of Neural Engineering, 2018, 15(5), 056034 (IF: 3.415)
6. #J. Bruns, S. McBride-Gagyi ***S. P. Zustiak**, "Injectable cell-adhesive polyethylene glycol cryogel scaffolds: independent control of cryogel microstructure and composition", Macromolecular Materials and Engineering, 2018, 303 (10), 1800298 (IF: 3.038)
7. H. Huang, #S. Sheth, X. Jiang, #E. Jain, ***S. P. Zustiak**, *L. Yang, "A whispering gallery mode resonator sensor for in situ measurements of hydrogel gelation", Optics Express, 2018, 26(1), 51-62; (IF: 3.356)

8. M. Reimer, E. Denby, **S. P. Zustiak**, *J. Schober, "Ras GAP-related C-terminal domain-dependent localization and tumorigenic activities of IQGAP1 in melanoma cells", Plos One, 2017, 12(12), e0189589; (IF: 2.766)
9. #S. Syed, J. Schober, #A. Blanco, ***S. P. Zustiak**, "Morphological adaptations in breast cancer cells as a function of prolonged passaging on compliant substrates", Plos One, 2017, 12(11), e0187853; (IF: 2.766)
10. M. Reimer, **S. P. Zustiak**, #S. Sheth *J. M. Schober, "Intrinsic response towards physiologic stiffness is cell-type dependent", Cell Biochemistry and Biophysics, 2017, 76(1-2), 197-208 (IF: 2.380)
11. #E. Jain, #S. Sheth, A. Dunn, ***S. P. Zustiak**, *S. Sell, "Sustained release of multicomponent platelet-rich plasma proteins from hydrolytically degradable PEG hydrogels", Journal of Biomedical Materials Research: Part A, 2017, 105(12), 3304-3314; (IF: 3.231)
12. #S. Sheth, #E. Jain, K. Polito, *S. Sell, ***S. P. Zustiak,** "Storage stability of biodegradable polyethylene glycol microspheres", Materials Research Express, 2017, 4(10), 105403; (IF: 1.151)
13. #S Sheth, #E. Jain, #A. Karadaghy, #S. Syed #H. Stevenson, ***S. P. Zustiak**, "UV dose governs UV-polymerized polyacrylamide hydrogel modulus", International Journal of Polymer Science, 2017 (IF: 1.718)

    INVITED – Special Edition on "The Frontier of Biobased Polymers: Synthesis, Characterization, Application and Sustainability Assessment"
14. T. Knobeloch, S. E. M. Abadi, #J. Bruns, **S. P. Zustiak**, *G. Kwon, "Development of an injectable hydrogel for encapsulation of islets to treat streptozotocin-induced diabetes in mice", Biomedical Physics & Engineering Express, 2017, 3(3); (IF: new journal)
15. #A. S. Qayyum, #E. Jain, G. Kolar, Y. Kim, S. Sell, ***S. P. Zustiak**, "Design of electrohydrodynamic sprayed polyethylene glycol hydrogel miscrospheres for cell encapsulation", Biofabrication, 2017, 9(2), 025019; (IF: 6.838)
16. Y. Wang, #D. Vasileva, ***S. P. Zustiak**, *I. Kuljanishvili, "Raman spectroscopy enabled investigation of carbon nanotube quality upon dispersion in aqueous environments", Biointerphases, 2017, 12(1), 011004; (IF: 2.677)
17. #E. Jain, #L. Hill, #E. Canning, *S. Sell, ***S. P. Zustiak**, "Control of gelation, degradation and physical properties of polyethylene glycol hydrogels through the chemical and physical identity of the crosslinker", Journal of Materials Chemistry B, 2017, 5, 2679-2691; (IF: 4.776)

    Manuscript featured in Advances in Engineering, Ottawa, Canada
18. #F. Ordikhani, #S. Sheth, ***S. P. Zustiak**, "Polymeric particle-mediated therapies to treat spinal cord injury", International Journal of Pharmaceutics, 2017, 516(1-2), 71-81; (IF: 3.649)
19. #M. Imaninezhad, *I. Kuljanishvili, ***S. P. Zustiak**, "A two-step method for transferring single-walled carbon nanotubes onto a hydrogel substrate", Macromolecular Bioscience, 2017, 11(3), 1600261; (IF: 3.850)
20. #Y. Chehreghanianzabi, ***S. P. Zustiak**, "Fluorophore-polymer complexation studied by fluorescence correlation spectroscopy", Macromolecular Research, 2016, 24(11), 995-1002; (IF: 1.767)
21. #N. Ahmed, J. Schober, #L. Hill, ***S. P. Zustiak**, "Custom multiwell plate design for rapid assembly of photo-patterned hydrogels", Tissue Engineering Part C, 2016, 22(6), 543-551; (IF: 2.638)
22. #F. Ordikhani, ***S. P. Zustiak**, *A. Simchi, "Surface modifications of titanium implants by multilayer bioactive coatings with drug delivery potential: antimicrobial, biological, and drug release studies", Journal of the Minerals, Metals, and Materials Society (JOMJ), 2016, 68(4), 1100-1108; (IF: 2.145)

    INVITED – Special Edition on "Biomaterials for Healthcare"
23. P. Donovan, #Y. Chehreghanianzabi, *M. Rathinam, ***S. P. Zustiak**, "Homogenization theory for the prediction of obstructed solute diffusivity in polymer solutions", PlosOne, 2016, 11(1), e0146093; (IF: 2.766)

24. **S. P. Zustiak**, C. Medina, S. Dadhwal, S. Steczina, #Y. Chehreghanianzabi, #A. Ashraf, P. Asuri, "Three-dimensional matrix stiffness and adhesive ligands affect cancer cell response to toxins", Biotechnology & Bioengineering, 2016, 113(2), 443-452; (IF: 4.481)
25. #F. Ordikhani, *Y. Kim, ***S. P. Zustiak**, "The role of biomaterials in cancer stem cells enrichment and behavior", Journal of the Minerals, Metals, and Materials Society (JOMJ), 2015, 67 (11), 2543-2549; (IF: 2.145)

    INVITED – Special Edition on "Biomaterials: Surfaces and Biointerfaces: Part II"
    Editor's choice for November 2015
26. #K. Shah, #D. Vasileva, #A. Karadaghy, ***S. P. Zustiak**, "Development and characterization of polyethylene glycol-carbon nanotube hydrogel composite", Journal of Materials Chemistry B, 2015, 3, 7950-7962; (IF: 4.776)

    INVITED - Special Edition on "Bio-inspired and Natural Materials"
27. #E. Jain, K. Scott, ***S. P. Zustiak,** *S. Sell, "Fabrication of polyethylene glycol-based hydrogel microspheres through electrospraying", Macromolecular Materials and Engineering, 2015, 300(8), 823-835; (IF: 3.038)
28. M. A. Rezaienia, A. Rahideh, B. A. Hamedani, D. E. M. Bosak, **S. P. Zustiak**, *T. Korakianitis, "Numerical and in vitro investigation of a novel mechanical circulatory support device installed in the descending aorta", Artificial Organs, 2015, 39(6), 502-513; (IF: 2.403)
29. ***S. P. Zustiak**, "The role of matrix compliance on cell responses to drugs and toxins: towards predictive drug screening platforms", Macromolecular Bioscience, 2015, 15(5), 589-599; (IF: 3.850)

    INVITED Review Article
30. #S. Syed, #A. Karadaghy, ***S. P. Zustiak**, "Development of polyacrylamide-based multiwell stiffness assay", Journal of Visualized Experiments (JoVE), 2015, 97, e52643; (IF: 1.325)

    INVITED Methods Article
31. ***S. P. Zustiak**, R. Nossal, D. Sackett, "Multiwell stiffness assay for the study of cell responsiveness to cytotoxic drugs", Biotechnology & Bioengineering, 2014, 111(2), 396-403; (IF:4.481)
32. **S. P. Zustiak**, S. Pubill, A. Ribeiro, *J. B. Leach, "Hydrolytically degradable poly(ethylene glycol) hydrogel scaffolds as a cell delivery vehicle: characterization of PC12 cell response", Biotechnology Progress, 2013, 29(5), 1255-1264; (IF: 1.947)
33. **S. P. Zustiak**, Y. Wei, *J. B. Leach, "Protein-hydrogel interactions in tissue engineering: mechanisms and applications", Tissue Engineering Part B: Reviews, 2013, 19(2), 160-171; (IF: 6.512)

    Feature Article in Tissue Engineering Part B: Reviews April 2013 Issue.
    Top-read Article in Tissue Engineering, April 2014
34. ***S. P. Zustiak**, J. Riley, H. Boukari, H. A. Gandjbakhche, R. Nossal, "Effects of Multiple Scattering on Fluorescence Correlation Spectroscopy Measurements of Particles Moving within Optically Dense Media", Journal of Biomedical Optics, 2012, 17(12), 125004-125004; (IF: 2.859)
35. **S. P. Zustiak**, R. Nossal, *D. Sackett, "Hindered Diffusion in Polymeric Solutions Studied by Fluorescence Correlation Spectroscopy", Biophysical Journal, 2011, 101, 255-264; (IF: 3.632)
36. **S. P. Zustiak**, *J. B. Leach, "Characterization of Protein Release from Hydrolytically Degradable Poly(ethylene glycol) Hydrogels", Biotechnology & Bioengineering, 2011, 108, 197-206; (IF: 4.481)
37. **S. P. Zustiak**, *J. B. Leach, "Hydrolytically Degradable Poly(ethylene glycol) Hydrogel Scaffolds with Tunable Degradation and Mechanical Properties", Biomacromolecules, 2010, 11, 1348-1357**;** (IF: 5.246)
38. **S. P. Zustiak**, H. Boukari, *J. B. Leach, "Solute Diffusion and Interactions in Cross-linked Poly(ethylene glycol) Hydrogels Studied by Fluorescence Correlation Spectroscopy", Soft Matter, 2010, 6, 3609-3618; (IF: 3.889)
39. **S. P. Zustiak**, R. Durbal, *J. B. Leach, "Influence of Cell-adhesive Peptide Ligands on Poly(ethylene glycol) Hydrogel Physical, Mechanical and Transport Properties", Acta Biomaterialia, 2010, 6, 3404-3414; (IF: 6.319)

40. **S. Petrova**, Y. Kostov, K. Jeffris, *G. Rao, "Optical Ratiometric Sensor for Alcohol Measurements", Analytical Letters, 2007, 40(3), 715-727; (IF: 1.200)
41. A. Pandelova, **S. Petrova**, *A. Neykov, "Experimental Research of a Hybrid Biosensor for Ecological Purposes", Biotechnology & Biotechnological Equipment, 2003, 17(1), 187-193

Book Chapters

1. *__S. P. Zustiak__, #S. Sheth, #M. Imaninezhad, "Chapter 12: Pharmacological therapies and factors delivery for spinal cord injury (SCI) regeneration", Spinal Cord Injury Repair Strategies: A Window on Regenerative Medicine Multidisciplinary Approaches, Editor-in-chief Profs. Giuseppe Perale and Filippo Rossi, Woodhead Publishers - Elsevier, New Jersey, 2019
2. #M. Imaninezhad, #E. Jain, ***S. P. Zustiak**, "Cell microencapsulation in polyethylene glycol hydrogel microspheres using electrohydrodynamic spraying", Organoids: Stem Cells, Structure and Function, Springer: Methods in Molecular Biology, Editor-in-chief: Kursan Turksen, 2017
3. ***S. P. Zustiak,** "Chapter 7. Tailoring Hydrogel Adhesiveness to Cells, Proteins, and Bacteria", Volume 1: Fundamentals of Hydrogels, World Scientific Publishing Company, Editor-in-chief Profs. Ali Khademhosseini and Utkan Demirci, World Scientific Publishing Co., New Jersey, 2016
4. ***S. P. Zustiak**, "17. Hydrolytically degradable polyethylene glycol (PEG) hydrogel: synthesis, gel formation, and characterization", Neuromethods: Extracellular Matrix, Humana Press, Editor-in-chief Prof. Jennie B Leach and M Elizabeth Powell, Springer Science and Business Media, New York, 2015

Under review

1. J. Peters, L. Vest, M. Schuelke, **S. P. Zustiak**, A. Hall, *S. McBride-Gagyi, "MicroCT Vascular Network Analysis Program: Development, Validation and Comparison to Manufacturer Software", in revision
2. #S. Sheth, E. Barnard, M. Rathinam, *__S. P. Zustiak__, "Fluorescence Correlation Spectroscopy for the Measurement and Prediction of Drug Release from Degradable Hydrogels", in revision
3. #E. Jain, #S. Sheth, #Y. Chereghananziabi, M. Flanagan, *A. Montano, ***S. P. Zustiak**, "PEG hydrogels for controlled delivery of GALNS enzyme", in revision
4. S. Kroger, L. Hill, A. Stock, E. Jain, ***S. P. Zustiak**, "Design of Biocompatible Crosslinkers for Tuning Hydrolytic Degradation of Polyethylene Glycol Hydrogels", in revision

Conference proceedings

1. #E. Jain, #S. Sheth, S. Patel, M. Flanagan, Q. Gan, S. A. Sell, A. M. Montano, ***S. P. Zustiak**, "Injectable microgels development for sustained GALNS enzyme replacement therapy for Morquio syndrome type A", Molecular Genetics and Metabolism, 2017, 120(1-2), S70; (IF: 3.769)
2. #M. Imaninezhad, *I. Kuljanishvili, *__S. P. Zustiak__, "A novel method for transferring aligned single-walled carbon nanotubes on a hydrogel for nerve regeneration applications", *(full paper),* AIChE Symposia Proceedings, Annual Fall Meeting, Salt Lake City, UT, November 2015
3. P. Donovan, #Y. Chehreghanianzabi, *M. Rathinam, ***S. P. Zustiak**, "Experimental and Theoretical Approaches to the Study of Probe Diffusion in Macromolecular Solutions", Biophysical Journal, 2015, 108(2), 159a; (IF: 3.972)
4. K. Ramamoorthi, #Y. Chehreghanianzabi, *__S. P. Zustiak__, *P. Asuri, "Role of 3D matrix stiffness and matrix adhesions in regulating the response of human cancer cells to cytotoxic compounds", AIChE Symposia Proceedings, *(full paper),* Annual Fall Meeting, Atlanta, GA, October 2014
5. ***S. P. Zustiak**, #D. Ferguson, R. Nossal, D. Sackett, "High-throughput stiffness assay for the study of cancer cell susceptibility to anti-cancer drugs", AIChE Symposia Proceedings, *(full paper),* 2012 Annual Fall Meeting, Pittsburg, PA, October 2012
6. **S. P. Zustiak**, R. Nossal, *D. Sackett, "Diffusion and binding of RNase A in dextran polymeric solutions studied by fluorescence correlation spectroscopy", Biophysical Journal, 2011, 100(3), 309a; (IF: 3.972)
7. **S. Petrova**, *J. B. Leach, "Development of a novel hydrolytically degradable PEG hydrogel with tunable degradability and protein release", MRS Symposia Proceedings, 2008 Annual Fall Meeting, Boston, MA, December 2008

INTELLECTUAL PROPERTY FILINGS

1. Patent: E. Jain, K. Scott, S. Sheth, ***S. P. Zustiak**, *S. A. Sell "Fabrication of hydrogel microsphere delivery vehicles through electrospraying and timed gelation", Number: 20160271064
2. Provisional patent: A. Montano, E. Jain, **S. P. Zustiak**, "Delivering enzyme using an injectable hydrogel depot", U.S. Patent Application Serial No. 62/580,699; SLU Ref No: 17-008, November 2017
3. Provisional patent: ***S. P. Zustiak**, M. Imaninezhad, I. Kuljanishvili, "A novel method of transferring single-walled carbon nanotubes on a hydrogel", U.S. Patent Application Serial No. 62/281,468; SLU Ref No: 15-032, January 2016
4. Patent: N. Ahmed, ***S. P. Zustiak**, "Custom multiwell plate design for rapid assembly of photo-patterned hydrogels", U.S. Patent Application Serial No. 15/757,237; SLU Ref No: 15-012, March 2, 2018
5. Provisional patent: Y. Kostov, **S. Petrova**, G Rao, "Optical Alcohol Sensor", Provisional Application 60/720, 444. UMBC Ref. No. 2482YK, September 2005

INVITED SEMINARS / GUEST LECTURES / WORKSHOP INSTRUCTOR

1. **SP Zustiak,** "Hydrogels for drug screening and protein delivery applications: focus on glioblastoma", Seminar, Neurosurgery Grand Rounds, Saint Louis University School of Medicine, St Louis, MO, November 6, 2019
2. **SP Zustiak,** "Hydrogels for drug screening and protein delivery applications", Seminar, Michael Holtzman's Research Group, Department of Medicine, Washington University, St Louis, MO, May 7, 2019
3. **SP Zustiak,** "Hydrogels for drug screening and protein delivery applications", Seminar, Department of Chemical and Petroleum Engineering, University of Kansas, Lawrence, KS, April 8, 2019
4. **SP Zustiak,** "Hydrogels for drug screening and protein delivery applications", Seminar, Department of Biomedical Engineering, the Institute for Materials Science and Engineering, and the NSF Center for Engineering MechanoBiology at Washington University in St Louis, MO, March 18, 2019
5. **SP Zustiak**, "Hydrogel cell scaffolds as in vitro models for drug screening applications", Seminar, Department of Biochemistry and Molecular Biology, SLU, St Louis, MO, December 3, 2018
6. **SP Zustiak**, "Biomaterial-based in vitro models for drug screening applications", Seminar, Department of Chemical and Biochemical Engineering, UMBC, Baltimore, MD, March 12, 2018
7. **SP Zustiak**, "Hydrogels for tissue engineering and drug screening applications", Seminar, Department of Biomedical Engineering, University of Miami, Miami, FL, December 13, 2017
8. **SP Zustiak**, "Hydrogels for tissue engineering and drug screening applications", Seminar, Department of Bioengineering, University of Illinois at Urbana-Champaign, Urbana, IL, September 12, 2017
9. **SP Zustiak**, "Hydrolytically degradable PEG hydrogels for biologics delivery", Seminar, Department of Chemistry, Saint Louis University, St Louis, MO, September 8, 2017
10. **SP Zustiak**, "Hydrogels for tissue engineering and drug screening applications", Seminar, Lori Setton's Research Group, Department of Biomedical Engineering, Washington University, St Louis, MO, June 6, 2017
11. **SP Zustiak,** "In-vitro hydrogel-based multicellular spheroid models", Seminar, Summer BME Seminar Series, Department of Biomedical Engineering, St. Louis University, St. Louis, MO, June 23, 2016
12. **SP Zustiak**, "Principles of Fluorescence Correlation Spectroscopy, Fluorescence Cross-Correlation Spectroscopy, and Photon Counting Histogram", Workshop Instructor, "Principles of Fluorescence Techniques Workshop", Urbana-Champaign, IL, April 4-7, 2016
13. **SP Zustiak**, "Hydrogel Biomaterials for Soft Tissue Engineering Applications", Seminar, Center for World Health and Medicine, Edward A. Doisy Research Center, Saint Louis University, St Louis, MO, March 10, 2016

14. **SP Zustiak,** "Hydrogels for drug screening and drug delivery applications", Seminar, Department of Chemical Engineering, Howard University, Washington DC, June 24, 2015
15. **SP Zustiak,** "Hydrogels for drug screening and drug delivery applications", Seminar, Sigma Aldrich, St Louis, MO, May 12, 2015
16. **SP Zustiak,** "Fluorescence Correlation Spectroscopy for the study of diffusion in hydrogel solutions and networks: implications in drug discovery and drug delivery", Seminar, Department of Chemistry, SLU, St Louis, MO, October 31, 2014
17. **SP Zustiak,** "Hydrogels for drug screening and drug delivery applications", Seminar, Department of Chemical and Biochemical Engineering, MST, Rolla, MO, October 8, 2014
18. **SP Zustiak,** "The role of cell-matrix interactions on drug screening: towards building predictive drug screening platforms", Seminar, Department of Pharmaceutical Sciences, SIUE, Edwardsville, IL, February 2014
19. **SP Zustiak**, "Diffusion in complex environments studied by Fluorescence Correlation Spectroscopy", Seminar, invited by Elliot Elson, Department of Biochemistry and Molecular Biophysics, Washington University, School of Medicine, St Louis, MO, February 2013
20. **SP Zustiak**, "Hydrogels", Guest Lecture for "Animal and Human Tissue Culture" Bio-Trac course, FAES, NIH, Bethesda, MD, May 2012
21. **SP Zustiak,** "Poly(ethylene glycol) Hydrogel as a Tunable Scaffold for Neural Tissue Engineering", Soft Matter Seminar, Department of Physics, Georgetown University, Washington, DC, April 2011
22. **SP Zustiak**, JB Leach, "Hydrolytically Degradable Poly(ethylene glycol) Hydrogel as a Tunable Scaffold for Neural Tissue Engineering", Program in Physical Biology Seminar Series, NIH, Bethesda, MD, December 2010
23. **S Petrova**, "Why chemical engineering", National Society of Black Engineers Meeting, UMBC, December 2005

Annual guest lecture: SP Zustiak, "Hydrogel biomaterials for tissue engineering and drug screening applications", Guest Lecture, BME 1000: Introduction to Biomedical Engineering class, Department of Biomedical Engineering, SLU, St. Louis, MO, October, 2013-18

PRESENTATIONS AT SCIENTIFIC MEETINGS
#Designates presenting author
****Designates corresponding author***

Oral Presentations from SLU

1. #PU Joshi, M Schroder, B Jones, S Kroger, S Kriz, M Weiss, G Escalante-Corbin, **SP Zustiak**, *CL Heldt, "Optimization Opportunities of Virus Purification in Different Modes of Aqueous Two-Phase System", (Oral), American Institute of Chemical Engineers (AIChE) Annual Meeting, Orlando, FL, November 2019
2. #,***SP Zustiak**, M Imaninezhad, K Pemberton, F Xu, K Kalinowski, "Directed and enhanced neurite outgrowth following exogenous electrical stimulation on carbon nanotube-hydrogel composites", (Oral), Annual Technical Meeting of the Society of Engineering Science (SES), St Louis, MO, October 13-15, 2019

   KEYNOTE speaker
3. #J Bruns, S McBride-Gagyi, ***SP Zustiak**, "Injectable Cell-Adhesive Polyethylene Glycol Cryogel Scaffolds", (Oral), Annual Technical Meeting of the Society of Engineering Science (SES), St Louis, MO, October 13-15, 2019

4. [#]L Hill, M Imaninezhad, G Kolar, K Vogt, ***SP Zustiak**, "Hydrogel-based in vitro Glioblastoma Spheroid Models", (Oral), Annual Technical Meeting of the Society of Engineering Science (SES), St Louis, MO, October 13-15, 2019
5. S Syed, A Blanco, [#]J Schober, ***SP Zustiak**, "Morphological Adaptations in Breast Cancer Cells as a Function of Prolonged Passaging on Compliant Substrates", (Oral), Annual Technical Meeting of the Society of Engineering Science (SES), St Louis, MO, October 13-15, 2019
6. [#]L Hill, M Imaninezhad, J Ortlund, J Conley, ***SP Zustiak**, "Hydrogel-based in vitro Glioblastoma Spheroid Models", (Oral), Society for Biomaterials (SfB) Annual Meeting, Seattle, WA, April 2019
7. L Aryan, [#]K Vogt, *A Hall, ***SP Zustiak**, "Resorbable Radiopaque Microspheres for Catheter Embolization using Microfluidics", (Oral), Institute for Biological Engineering (IBE), Annual Meeting, St Louis, MO, April 2019
8. [#]S Stealey, C Wall, S Sheth, N Pozzi, ***SP Zustiak**, *N Case, "Exploration of extracellular macromolecular crowding effects on protein diffusion and interactions via Fluorescence Correlation Spectroscopy", (Oral), Institute for Biological Engineering (IBE), Annual Meeting, St Louis, MO, April 2019
9. [#]K Vogt, M Imaninezhad, D Vasileva, M McQuilling, ***SP Zustiak**, "A Simple Microfluidic Device for the Production of Monodisperse Hydrogel Microspheres", (Oral), Institute for Biological Engineering (IBE), Annual Meeting, St Louis, MO, April 2019
10. [#]M Choi, A Blanco, X Duan, N Case, S Sell, M Farooq Rai, ***SP Zustiak**, "Fabrication and characterizations of hydrogel microspheres for sustained delivery of platelet-rich plasma for the treatment of osteoarthritis", (Oral), Institute for Biological Engineering (IBE), Annual Meeting, St Louis, MO, April 2019
11. M Imaninezhad, L Hill, [#]J Conley, J Ortlund, ***SP Zustiak**, "Templated Macroporous Polyethylene Glycol Hydrogels for Spheroid and Aggregate Cell Culture", (Oral), Institute for Biological Engineering (IBE), Annual Meeting, St Louis, MO, April 2019
12. [#]N Schaper, B Hutchinson, ***SP Zustiak**, *I Kuljanishvili, "Designing new nano-bio-composite materials using CNTs and ZnO hybrid interfaces and hydrogel environments for biomedical applications", (Oral), Institute for Biological Engineering (IBE), Annual Meeting, St Louis, MO, April 2019
13. [#]B Hutchinson, M Imaninezhad, F Xu, I Kuljanishvili, ***SP Zustiak**, "Carbon-nanotube-polyethylene glycol nanocomposite biomaterials as neural substrates", (Oral), Institute for Biological Engineering (IBE), Annual Meeting, St Louis, MO, April 2019
14. [#,*]S McBride-Gagyi, J Peters, **SP Zustiak**, A Hall, "MicroCT Vascular Network Analysis Program: Validation and Comparison to Manufacturer Software", (Oral), Orthopaedic Research Society Annual Meeting, Austin, TX, February 2019
15. [#]M Choi, A Blanco, E Jain, S Sheth, S Sell, ***SP Zustiak**, "Injectable Microspheres for Sustained Release of Platelet-Rich Plasma to Treat Osteoarthritis", (Oral), Biomedical Engineering Society (BMES) Annual Meeting, Atlanta, GA, October 2018
16. [#]N Ziemkiewicz, M Talovic, L Hill, R Scheidt, J Madsen, A Patel, G Haas, M Marcinczyk, **SP Zustiak**, *K. Garg, "PEGylated laminin hydrogels for skeletal muscle regeneration", (Oral), Biomedical Engineering Society (BMES) Annual Meeting, Atlanta, GA, October 2018
17. [#]A Blanco, E Jain, N Chinzei, N Case, S Sell, MF Rai, ***SP Zustiak**, "Sustained-Release Platelet-Rich Plasma from Polyethylene Glycol Hydrogels Exerts Beneficial Effects on Chondrocytes", (Oral) , Wound Healing Symposium, St Louis, MO, May 2018
18. [#]S Sheth, SH Huang, E Jain, X Jiang, *L Yang, ***SP Zustiak**, "Whispering Gallery Mode Resonator Sensor for in situ Measurements of Hydrogel Gelation", (Oral), Graduate Student Association Research Symposium, St Louis, MO, April 27, 2018

19. [#]M Imaninezhad, G Kolar, ***SP Zustiak**, "Fabrication of Polyethylene Glycol-Based Templated Macroporous Hydrogels for Cell Encapsulation", (Oral), American Institute of Chemical Engineers (AIChE) Annual Meeting, Minneapolis, MN, October 2017
20. E Jain, S Sheth, N Chinzei, N Case, LJ Sandell, SA Scott, MF Rai, [#,]***SP Zustiak**, "PEG Hydrogels with Tunable Biodegradation Rate for Sustained Delivery of Platelet-Rich Plasma for Treatment of Osteoarthritis", (Oral), American Institute of Chemical Engineers (AIChE) Annual Meeting, Minneapolis, MN, October 2017
21. AS Qayyum, E Jain, G Kolar, SA Sell, [#,]***SP Zustiak**, "Design of electrohydrodynamic sprayed polyethylene glycol hydrogel microspheres for cell encapsulation", (Oral), American Institute of Chemical Engineers (AIChE) Annual Meeting, Minneapolis, MN, October 2017
22. [#]M Imaninezhad, I Kuljanishvili, ***SP Zustiak**, "A Two-Step Method for Transferring Single Wall Carbon Nanotubes Onto a Hydrogel Substrate", (Oral), American Institute of Chemical Engineers (AIChE) Annual Meeting, Minneapolis, MN, October 2017

    Abstract selected for an oral presentation at the Graduate Student Award Session
23. AS Qayyum, E Jain, G Kolar, SA Sell, [#,]***SP Zustiak**, "Design of electrohydrodynamic sprayed polyethylene glycol hydrogel microspheres for cell encapsulation", (Oral), Biomedical Engineering Society (BMES) Annual Meeting, Phoenix, AZ, October 2017
24. E Jain, S Sheth, N Chinzei, N Case, LJ Sandell, SA Scott, MF Rai, [#,]***SP Zustiak**, "PEG Hydrogels with Tunable Biodegradation Rate for Sustained Delivery of Platelet-Rich Plasma for Treatment of Osteoarthritis", (Oral), Biomedical Engineering Society (BMES) Annual Meeting, Phoenix, AZ, October 2017
25. [#]M Imaninezhad, G Kolar, ***SP Zustiak**, "Fabrication of Polyethylene Glycol-Based Templated Macroporous Hydrogels for Cell Encapsulation", (Oral), Biomedical Engineering Society (BMES) Annual Meeting, Phoenix, AZ, October 2017
26. [#]M Imaninezhad, K Kalinowski, R Bera, ***SP Zustiak**, "A custom device for electrical stimulation of hydrogel-encapsulated nerve cells: effect of hydrogel stiffness and conductivity", (Oral), Biomedical Engineering Society (BMES) Annual Meeting, Phoenix, AZ, October 2017
27. [#]E Jain, Y Chehreghanianzabi, S Patel, M Flanagan, Qi Gan, S Sell, A Montano, ***SP Zustiak**, "Development of GALNS enzyme replacement therapy based on injectable microgels", (Oral), American Institute of Chemical Engineers (AIChE) Annual Meeting, San Francisco, CA, November, 2016
28. [#]E Jain, S Sheth, K Polito, A Dunn, S Sell, ***SP Zustiak**, "Temporally Controlled Release of Platelet-Rich Plasma from PEG Microgels with Tunable Biodegradation", (Oral), American Institute of Chemical Engineers (AIChE) Annual Meeting, San Francisco, CA, November, 2016
29. [#,]*JG Bledsoe, **SP Zustiak**, "Encouraging curiosity, connections and the creation of value in a materials/biomaterials sequence: part 1: Materials Science", (Oral), Biomedical Engineering Society (BMES) Annual Meeting, Minneapolis, MN, October 2016
30. [#]E Jain, S Sheth, K Polito, E Canning, K Scott, S Sell, ***SP Zustiak**, "Temporally Controlled Release of Platelet-Rich Plasma from Biodegradable PEG Microgels", (Oral), Biomedical Engineering Society (BMES) Annual Meeting, Minneapolis, MN, October 2016
31. [#]M Imaninezhad, I Kuljanishvili, ***SP Zustiak**, "Stamping aligned single-walled carbon nanotubes on a PEG hydrogel for neural regeneration", (Oral), Graduate Student Association Symposium, SLU, St Louis, MO, April 2016
32. [#,]M Imaninezhad, I Kuljanishvili, ***SP Zustiak**, "Stamping aligned single-walled carbon nanotubes on a PEG hydrogel for neural regeneration", (Oral), Midwest Regenerative Medicine Meeting, Monticello, IL, April 2016
33. [#,]***SP Zustiak**, SEM Abadi, G Kwon, "An injectable hydrogel for islet encapsulation to treat streptozotocin-induced diabetes in mice", (Oral), Midwest Regenerative Medicine Meeting, Monticello, IL, April 2016

Invited oral presentation

34. [#]E Jain, Y Chehreghanianzabi, M Flanagan, S Sell, A Montano, ***SP Zustiak**, "Development of GALNS enzyme replacement therapy based on injectable microgels", (Oral), Midwest Regenerative Medicine Meeting, Monticello, IL, April 2016
35. [#]E Jain, S Sheth, K Polito, KM Scott, E Canning, SA Sell, ***SP Zustiak**, "Injectable Polyethylene Glycol Microgels for Platelet Rich Plasma Delivery for Treatment of Knee Osteoarthritis", (Oral), American Institute of Chemical Engineers (AIChE) Annual Meeting**,** Salt Lake City, UT, November, 2015
36. [#]M Imaninezhad, I Kuljanishvili, ***SP Zustiak**, "A Novel Method of Transferring Aligned Single-Walled Carbon Nanotubes on a Hydrogel for Nerve Regeneration Applications", (Oral), American Institute of Chemical Engineers (AIChE) Annual Meeting**,** Salt Lake City, UT, November, 2015
37. A Ashraf, S Tilson, A Branyi, Y Kim, [#,]***SP Zustiak**, "In-Vitro Hydrogel-based Multicellular Cancer Spheroid Models", (Oral), American Institute of Chemical Engineers (AIChE) Annual Meeting**,** Salt Lake City, UT, November, 2015
38. Y Chehreghanianzabi, P Donovan, M Rathinam, [#,]***SP Zustiak**, "Homogenization Theory For The Prediction Of Solute Diffusion In Macromolecular Solutions", (Oral), American Institute of Chemical Engineers (AIChE) Annual Meeting**,** Salt Lake City, UT, November, 2015
39. [#]E Jain, K Scott, S Sheth, S Sell, ***SP Zustiak**, "Injectable and hydrophilic nanoporous microgels with tunable degradation and controlled delivery of platelet derived growth factors", (Oral), St. Louis Institute of Nanoscience and Nanomedicine (SLINN), St Louis, MO, November 2014
40. K Ramamoorthi, W Clifton, [#,]***SP Zustiak**, P Asuri, "Role of matrix stiffness in regulating response of human cancer cells to cytotoxic compounds", (Oral), American Institute of Chemical Engineers (AIChE) Annual Meeting, Atlanta, GA, November, 2014
41. [#,]***SP Zustiak,** K Kalinowski, J Schober, K Ramamoorthi, P Asuri, "Substrate Stiffness Affects Cell Responsiveness to Cytotoxic Compounds", (Oral), Society for Biomaterials (SfB) Annual Meeting, Denver, CO, April 2014
42. [#,]***SP Zustiak**, "Substrate stiffness affects cancer cell responsiveness to cytotoxic drugs", (Oral), American Institute of Chemical Engineers (AIChE) Annual Meeting**,** San Francisco, CA, November, 2013

Poster Presentations from SLU

1. [#]S Stealey, ***SP Zustiak**, "Sustained Protein Release from Laponite Nanocomposite Hydrogels", Henry and Amelia Nasrallah Center for Neuroscience Research Symposium, St Louis, MO, November 1, 2019
2. [#]B Hutchinson, M Imaninezhad, N Schaper, F Xu, I Kuljanishvili, ***SP Zustiak**, "Carbon nanotube-polyethylene glycol nanocomposite biomaterials as neural substrates", Henry and Amelia Nasrallah Center for Neuroscience Research Symposium, St Louis, MO, November 1, 2019
3. [#]A Clancy, D Chen, L Hill, *A Timperman, ***SP Zustiak**, "Biomaterial-based microfluidic platform as in vitro drug screening platforms", Henry and Amelia Nasrallah Center for Neuroscience Research Symposium, St Louis, MO, November 1, 2019
4. S Kroger, [#]L Hill, E Jain, P Bracher, ***SP Zustiak**, "Design of Biocompatible Crosslinkers for Tuning the Degradation of Poly(ethylene Glycol) Hydrogels", (Poster), Annual Technical Meeting of the Society of Engineering Science (SES), St Louis, MO, October 13-15, 2019
5. [#]A Clancy, L Hill, D Chen, N Xia, A Timperman, ***SP Zustiak**, "Biomaterial-based microfluidic platform for drug screening applications", (Poster), Annual Technical Meeting of the Society of Engineering Science (SES), St Louis, MO, October 13-15, 2019
6. S Sheth, E Barnard, Ben Hyatt, M Rathinam, [#,]***SP Zustiak**, "Predicting Drug Release from Degradable Hydrogels Using Fluorescence Correlation Spectroscopy", (Poster), Biomedical Engineering Society BMES) Annual Meeting, Philadelphia, PA, October 16-19, 2019

7. S Kroger, L Hill, E Jain, P Bracher, [#,]***SP Zustiak**, "Design of Biocompatible Crosslinkers for Tuning Hydrolytic Degradation of Polyethylene Glycol Hydrogels", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Philadelphia, PA, October 16-19, 2019
8. M Imaninezhad, L Hill, K Vogt, J Conley, J Ortlund, [#,]***SP Zustiak**, "Hydrogel-based In Vitro Glioblastoma Spheroid Models", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Philadelphia, PA, October 16-19, 2019
9. [#]K Vogt, L Aryan, R Ray, AF Hall, ***SP Zustiak**, "Fabrication of Radiopaque Resorbable Hydrogel Beads via Microfluidics for Catheter Embolization Applications", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Philadelphia, PA, October 16-19, 2019
10. [#]J Bruns, S McBride-Gagyi, ***SP Zustiak**, "Injectable and Cell-Adhesive Polyethylene Glycol Cryogel Scaffolds: Independent Control of Cryogel Microstructure and Composition, (Poster), Sigma Xi Research Symposium, St. Louis, MO, May 7, 2019
11. [#]A Clancy, [#]L Hill, A Timperman, ***SP Zustiak**, "Biomaterial-based microfluidic platform as an in vitro glioblastoma disease model for drug screening applications", (Poster), Sigma Xi Research Symposium, St. Louis, MO, May 7, 2019
12. [#]B Hutchinson, [#]M Imaninezhad, F Xu, I Kuljanishvili, ***SP Zustiak**, "Carbon-nanotube-polyethylene glycol nanocomposite biomaterials as neural substrates", (Poster), Sigma Xi Research Symposium, St. Louis, MO, May 7th, 2019
13. [#]B Hutchinson, [#]M Imaninezhad, F Xu, I Kuljanishvili, ***SP Zustiak**, "Carbon-nanotube-polyethylene glycol nanocomposite biomaterials as neural substrates", (Poster), Graduate Student Association Research Symposium, St Louis, MO, April 27, 2019
14. [#]S Kroger, [#]L Hill, [#]E Jain, ***SP Zustiak,** "Modulating the Chemical Structure of Crosslinkers to Control Degradation of Poly(ethylene Glycol) Hydrogels", (Poster), Graduate Student Association Research Symposium, St Louis, MO, April 27, 2019
15. [#]A Blanco, [#]E Jain, N Chinzei, N Case, SA Sell, MF Rai, ***SP Zustiak**, "Sustained-released platelet-rich plasma from polyethylene glycol hydrogels exerts beneficial effects on chondrocytes", (Poster), Society for Biomaterials (SfB) Annual Meeting, Seattle, WA, April 2019
16. [#]S Kroger, [#]L Hill, ***SP Zustiak**, "Design of Biocompatible Crosslinkers for Tuning Hydrolytic Degradation of Polyethylene Glycol Hydrogels", (Poster), Society for Biomaterials (SfB) Annual Meeting, Seattle, WA, April 2019
    Selected for a Rapid Fire Oral Presentation
17. [#]S Sheth, E Barnard, M Rathinam, ***SP Zustiak**, "Fluorescence Correlation Spectroscopy for the Measurement and Prediction of Drug Release from Degradable Hydrogels", (Poster), Society for Biomaterials (SfB) Annual Meeting, Seattle, WA, April 2019
18. [#]S Syed, [#]A Blanco, J Schober, ***SP Zustiak**, "Morphological Adaptations in Breast Cancer Cells as a Function of Prolonged Passaging on Compliant Substrates", (Poster), Society for Biomaterials (SfB) Annual Meeting, Seattle, WA, April 2019
    Engineering Cells and Their Microenvironments (ECTM) SIG poster award
19. [#]M Choi, [#]A Blanco, X Duan, N Case, S Sell, M Farooq Rai, ***SP Zustiak**, "Fabrication and characterizations of hydrogel microspheres for sustained delivery of platelet-rich plasma for the treatment of osteoarthritis", (Poster), Musculoskeletal Research Center Winter Symposium, St Louis, MO, February 2019
20. L Vest, J Peters, **SP Zustiak**, A Hall, S McBride-Gagyi, "MicroCT Vascular Network Analysis Program: Validation and Comparison to Manufacturer Software", (Poster), Musculoskeletal Research Center Winter Symposium, St Louis, MO, February 2019
21. [#]S Sheth, [#]E Jain, K Polito, *S Sell, ***SP Zustiak**, "Storage Stability of Biodegradable Polyethylene Glycol Microspheres", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Atlanta, GA, October 2018

22. #S Sheth, SH Huang, #E Jain, X Jiang, *L Yang, ***SP Zustiak**, "Whispering gallery mode resonator sensor for in situ measurements of hydrogel gelation", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Atlanta, GA, October 2018
23. #L Hill, #S Syed #J Ortlund, ***SP Zustiak**, "Hydrogel-based in vitro Glioblastoma Spheroid Models", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Atlanta, GA, October 2018
24. #S Kroger, #L Hill, #A Stock #E Jain, ***SP Zustiak**, "Design of Biocompatible Crosslinkers for Tuning Hydrolytic Degradation of Polyethylene Glycol Hydrogels", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Atlanta, GA, October 2018
25. #A Blanco, #E Jain, N Chinzei, N Case, S Sell, MF Rai, ***SP Zustiak**, "Sustained-Release Platelet-Rich Plasma from Polyethylene Glycol Hydrogels Exerts Beneficial Effects on Chondrocytes", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Atlanta, GA, October 2018
26. #K Vogt, #M Imaninezhad, #D Vasileva, M McQuilling, ***SP Zustiak**, "A Simple Microfluidic Device for Production of Monodisperse Hydrogel Microspheres", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Atlanta, GA, October 2018
27. #M Imaninezhad, G Kolar, ***SP Zustiak**, "Templated Polyethylene Glycol Hydrogels for Spheroid Cell Culture", (Poster), Gordon Research Conference: STEEM, Andover, NH, July 2018
28. #M Choi, #A Blanco, #E Jain, #S Sheth, S Sell, ***SP Zustiak**, "Injectable Microspheres for Sustained Release of Platelet-Rich Plasma to Treat Osteoarthritis", (Poster), Wound Healing Symposium, St Louis, MO, May 2018
29. #L Hill, #A Qayyum, ***SP Zustiak**, "Hydrogel-based in vitro Glioblastoma Spheroid Models", (Poster), Graduate Student Association Research Symposium, St Louis, MO, April 27, 2018
    Best Poster Award, Third Place
30. #H Choi, #A Blanco, #K Vogt, ***SP Zustiak**, "Microgel fabrication device for delivery of platelet-rich-plasma to treat knee post-traumatic osteoarthritis", (Poster), Graduate Student Association Research Symposium, St Louis, MO, April 27, 2018
31. #M Imaninezhad, K Kalinowski, R Bera, ***SP Zustiak**, "A custom device for electrical stimulation of hydrogel-encapsulated nerve cells: effect of hydrogel stiffness and conductivity", (Poster), American Institute of Chemical Engineers (AIChE) Annual Meeting, Minneapolis, MN, October 2017
32. #,***SP Zustiak**, S Sell, G Gaudette, "A Template for Multi-Disciplinary Team-Based Problem Solving, Design, and Assessment: Application in Biomedical Engineering", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Phoenix, AZ, October 2017
33. #M Imaninezhad, I Kuljanishvili, ***SP Zustiak**, "A Two-Step Method for Transferring Single Wall Carbon Nanotubes Onto a Hydrogel Substrate", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Phoenix, AZ, October 2017
34. #S Sheth, E Jain, SA Sell, ***SP Zustiak**, "Tunable and biodegradable microgels for temporarily controlled delivery of platelet-rich plasma", (Poster), ORS Midwest Musculoskeletal Workshop, St Louis, MO, July 2017
35. A Blanco, E Jain, N. Chinzei, N Case, LJ Sandell, SA Sell, MF Rai, #,***SP Zustiak**, "Sustained-released platelet-rich plasma from polyethylene glycol hydrogels exerts beneficial effects on chondrocytes", (Poster), ORS Midwest Musculoskeletal Workshop, St Louis, MO, July 2017
36. #S Sheth, E Jain, SA Sell, ***SP Zustiak**, "Tunable and biodegradable microgels for temporarily controlled delivery of platelet-rich plasma", (Poster), Musculoskeletal Regenerative Medicine and Biology Meeting, St Louis, MO, May 2017
37. #A Blanco, E Jain, N. Chinzei, N Case, LJ Sandell, SA Sell, MF Rai, ***SP Zustiak**, "Sustained-released platelet-rich plasma from polyethylene glycol hydrogels exerts beneficial effects on chondrocytes", (Poster), Musculoskeletal Regenerative Medicine and Biology Meeting, St Louis, MO, May 2017
38. #M Imaninezhad, G Kolar, ***SP Zustiak**, "Fabrication of polyethylene glycol-based template macroporous hydrogels for cell encapsulation", (Poster), Sigma Xi Symposium, SLU, St Louis, MO, April 2017

39. [#]E Buckles, [#]C Gloss, [#]K Vogt, D Vasileva, M Imaninezhad, ***SP Zustiak**, "A microfluidic device for the production of small and uniform microspheres", (Poster), Sigma Xi Symposium, SLU, St Louis, MO, April 2017
40. [#]D Vasileva, K Shah, ***SP Zustiak**, "Development of carbon nanotube hydrogel composites", (Poster), Sigma Xi Symposium, SLU, St Louis, MO, April 2017
41. [#]A Blanco, E Jain, N Case, MF Rai, SA Sell, ***SP Zustiak**, "Effect of sustained-release platelet-rich plasma from polyethylene glycol hydrogels on chondrocytes", (Poster), St Louis Area Undergraduate Research Symposium (STLAURS), St Louis, MO, April 2017
    Outstanding Innovative Research Award
42. [#]S Kroger, L Hill, E Jain, A Stock, ***SP Zustiak**, "Design of biocompatible crosslinkers for tuning the degradation if polyethylene glycol hydrogels", (Poster), St Louis Area Undergraduate Research Symposium (STLAURS), St Louis, MO, April 2017
43. [#]D Vasileva, K Shah, ***SP Zustiak**, "Development of carbon nanotube hydrogel composites", (Poster), St Louis Area Undergraduate Research Symposium (STLAURS), St Louis, MO, April 2017
    Best Poster Award, Second Place
44. [#]E Buckles, [#]C Gloss, [#]K Vogt, D Vasileva, M Imaninezhad, ***SP Zustiak**, "A microfluidic device for the production of small and uniform microspheres", (Poster), St Louis Area Undergraduate Research Symposium (STLAURS), St Louis, MO, April 2017
45. [#]J Bruns, ***SP Zustiak**, "Injectable Cell-Adhesive Polyethylene Glycol Cryogel Scaffolds", (Poster), Society for Biomaterials, Minneapolis, MN, April, 2017
46. [#]S Sheth, E Jain, S Sell, ***SP Zustiak**, "Tunable and Biodegradable PEG Microgels for Temporarily Controlled Delivery of Platelet-Rich Plasma", (Poster), Society for Biomaterials, Minneapolis, MN, April, 2017
47. [#]S Syed, J Schober, ***SP Zustiak**, "Conditioning Cells to the Compliance of the Soft Underlying Substrate", (Poster), Society for Biomaterials, Minneapolis, MN, April, 2017
48. [#]M Imaninezhad, G Kolar, ***SP Zustiak**, "Fabrication of Polyethylene Glycol-Based Templated Macroporous Hydrogels", Society for Biomaterials, Minneapolis, MN, April 2017
49. [#]M Imaninezhad, ***SP Zustiak**, "Carbon Nanotubes-Hydrogel Composites for Neural Tissue Engineering Applications", (Poster), Society for Biomaterials, Minneapolis, MN, April, 2017
50. [#]L Hill, [#]A Qayyum, ***SP Zusitak**, "Hydrogel-Based *in vitro* Glioblastoma Spheroid Model", (Poster), Society for Biomaterials, Minneapolis, MN, April, 2017
51. E Jain, S Sheth, S Patel, M Flanagan, Q Gan, SA Sell, [#,*]AM Montano, ***SP Zustiak**, "Injectable microgels development for sustained GALNS enzyme replacement therapy for Morquio syndrome type A", 13th Annual WORLD Symposium, San Diego, CA, February 2017
52. [#]E Jain, S Sheth, SA Sell, ***SP Zustiak**, "Temporally Controlled Release of Platelet-Rich Plasma from PEG Microgels with Tunable Biodegradation Rate and Size", (Poster, Faculty candidate), American Institute of Chemical Engineers (AIChE) Annual Meeting, San Francisco, CA, Nov 13-18, 2016
53. [#]M Imaninezhad, I Kuljanishvili, ***SP Zustiak**, "A one-step method for transferring single wall carbon nanotubes onto a hydrogel substrate for biomedical applications", (Poster), American Institute of Chemical Engineers (AIChE) Annual Meeting, San Francisco, CA, November, 2016
54. [#]M Imaninezhad**,** I Kuljanishvili, ***SP Zustiak**, "Carbon Nanotubes-Hydrogel Composites for Neural Tissue Engineering Applications", (Poster), Midwest BME Regional Conference, Urbana-Champaign, IL, November 4, 2016
55. [#]S Syed, J Schober, ***SP Zustiak**, "Conditioning of MDA-MB-231 Cells to Micro-Environmental Cues on Soft Polyacrylamide Gels", (Poster), Midwest BMES Regional Conference, Urbana-Champaign, IL, November 2016

56. #S Sheth, E Jain, K Polito, S Sell, ***SP Zustiak**, "Storage Stability of Biodegradable Polyethylene Glycol Microspheres", (Poster), Midwest Regional Biomedical Engineering Conference, University of Illinois, Urbana-Champaign, IL, November, 2016
57. #M Imaninezhad, I Kuljanishvili, ***SP Zustiak**, "Carbon Nanotubes-Hydrogel Composites for Neural Tissue Engineering Applications", (Poster), Neuroscience Research Symposium, St. Louis, MO, November 4, 2016
58. #M Imaninezhad**,** I Kuljanishvili, ***SP Zustiak**, "Carbon Nanotubes-Hydrogel Composites for Neural Tissue Engineering Applications", (Poster), St. Louis Regional Materials Network Meeting, St. Louis, MO, October 2016
59. #S Syed, J Schober, ***SP Zustiak**, "Conditioning Cancer Cells to the Compliance of the Underlying Substrate", (Poster), St. Louis Regional Materials Network Meeting, St. Louis, MO, October 2016
60. #E Jain, S Sheth, SA Sell, ***SP Zustiak**, "Temporally Controlled Release of Platelet-Rich Plasma from Biodegradable PEG Microgels". (Poster: Meet the Faculty Candidate) Biomedical Engineering Society (BMES) Annual Meeting, Minneapolis, MN, Oct 5-8, 2016
61. #S Kroger, A Stock, L Hill, E Jain, ***SP Zustiak**, "Design of Biocompatible Chemical Crosslinkers for Tuning the Degradation in Polyethylene Glycol Hydrogels", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Minneapolis, MN, October 2016
62. #,***SP Zustiak**, JG Bledsoe, "Encouraging curiosity, connections and the creation of value in a materials/biomaterials sequence: part II: Biomaterials", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Minneapolis, MN, October 2016
63. #S Sheth, E Jain, K Polito, SA Sell, ***SP Zustiak**, "Influence of storage conditions on the physical properties and protein release of polyethylene glycol hydrogel microspheres", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Minneapolis, MN, October 2016
64. #L Hill, A Ashraf, ***SP Zustiak**, "Hydrogel-based in vitro glioblastoma spheroid models", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Minneapolis, MN, October 2016
65. #,***SP Zustiak**, A Ashraf, L Hill, "In-vitro hydrogel-based multicellular cancer spheroid models", (Poster), GRC: Signal Transduction by Engineered Extracellular Matrices, Biddeford, ME, June 2016
66. #P Donovan, Y Chehreghanianzabi, *M Rathinam, ***SP Zustiak**, "Homogenization theory for the prediction of obstructed diffusivity in macromolecular solutions", (Poster), SIAM Conference on Mathematical Aspects of Materials Science, Philadelphia, PA, May 2016
67. #E Jain, Y Chehreghanianzabi, M Flanagan, S Sell, A Montano, ***SP Zustiak**, "Development of injectable microgels for GALNS enzyme replacement therapy", (Poster), Pediatric Science Day, SLU, St. Louis, MO, April 2016
68. #Y Wang, D Vasileva, ***SP Zustiak**, *I Kuljanishvili, "Raman spectroscopy based quality control of carbon nanotubes-polymer composites for biomedical applications", (Poster), St. Louis Area Undergraduate Research Symposium, St Louis, MO, April, 2016
69. #D Vasileva, K Shah, ***SP Zustiak**, "Development and characterization of polyethylene glycol-carbon nanotube hydrogel composite", (Poster), St. Louis Area Undergraduate Research Symposium, St Louis, MO, April 23, 2016
70. #S Syed, J Schober, ***SP Zustiak**, "Conditioning cancer cells to the compliance of the underlying substrate", (Poster), Sigma Xi Symposium, Saint Louis University, St Louis, MO, April, 2016
71. #D Vasileva, K Shah, ***SP Zustiak**, "Development and characterization of polyethylene glycol-carbon nanotube hydrogel composite", (Poster), Sigma Xi Symposium, Saint Louis University, St Louis, MO, April, 2016
72. #L Hill, N Ahmed, J Schober, ***SP Zustiak**, "Custom multiwell plate design for rapid assembly of photo-patterened hydrogels", (Poster), Sigma Xi Symposium, Saint Louis University, St Louis, MO, April, 2016

73. [#]M Imaninezhad, I Kuljanishvili, *__SP Zustiak__, "Aligned single-walled carbon nanotubes on a PEG hydrogel fabricated by stamping for neural regeneration", (Poster), Sigma Xi Symposium, Saint Louis University, St Louis, MO, April, 2016
74. [#]S Sheth, E Jain, K Polito, E Canning, K Scott, S Sell, *__SP Zustiak__, "Injectable nanoporous microspheres with tunable degradation rates for protein drug delivery", (Poster), Sigma Xi Symposium, Saint Louis University, St Louis, MO, April, 2016
75. [#]S Syed, A Martin, J Schober, N Case, *__SP Zustiak__, "The effect of long term conditioning on the adaptive properties of MDA-MB-231 cells on soft polyacrylamide gels", (Poster), Graduate Student Association Symposium, SLU, St Louis, MO, April 2016
76. [#]S Syed, A Martin, J Schober, N Case, *__SP Zustiak__, "The effect of long term conditioning on the adaptive properties of MDA-MB-231 cells on soft polyacrylamide gels", (Poster), Midwest Regenerative Medicine Meeting, Monticello, IL, April 2016
77. [#]L Hill, N Ahmed, J Schober, *__SP Zustiak__, "Custom multiwell design for rapid assembly of photo-patterned hydrogels", (Poster), Midwest Regenerative Medicine Meeting, Monticello, IL, April 2016
78. [#]M Imaninezhad, I Kuljanishvili, *__SP Zustiak__, "Stamping aligned single-walled carbon nanotubes on a PEG hydrogel for neural regeneration", (Poster), Midwest Regenerative Medicine Meeting, Monticello, IL, April 2016
    Selected for a 3 min poster teaser oral presentation
79. [#]S Sheth, E Jain, K Polito, E Canning, K Scott, S Sell, *__SP Zustiak__, "Injectable nanoporous microspheres with tunable degradation rates for protein drug delivery", (Poster), Midwest Regenerative Medicine Meeting, Monticello, IL, April 2016
80. [#]E Jain, Y Chehreghanianzabi, M Flanagan, S Sell, A Montano, *__SP Zustiak__, "Development of GALNS enzyme replacement therapy based on injectable microgels", (Poster), Midwest Regenerative Medicine Meeting, Monticello, IL, April 2016
    Selected for an oral presentation
81. [#]F Ordikhani, A Simchi, *__SP Zustiak__, "Surface modifications of titanium implants by multilayer bioactive coatings with drug delivery potential: antimicrobial, biological, and drug release studies", (Poster), St. Louis Institute of Nanoscience and Nanomedicine (SLINN), St Louis, MO, December 2015
82. [#]E Jain, S Sheth, K Polito, E Canning, K Scott, S Sell, *__SP Zustiak__, "Injectable nanoporous microgels with tunable degradation rates for protein drug delivery", (Poster), St. Louis Institute of Nanoscience and Nanomedicine (SLINN), St Louis, MO, December 2015
83. [#]D Vasileva, K Shah, *__SP Zustiak__, "Development and characterization of polyethylene glycol-carbon nanotube hydrogel composite", (Poster), St. Louis Institute of Nanoscience and Nanomedicine (SLINN), St Louis, MO, December 2015
84. [#]M Imaninezhad, I Kuljanishvili, *__SP Zustiak__, "Aligning carbon nanotubes onto a hydrogel substrate for neural tissue engineering applications", (Poster), St. Louis Institute of Nanoscience and Nanomedicine (SLINN), St Louis, MO, December 2015
85. [#]Y Chehreghanianzabi, *__SP Zustiak__, "Study of polyethylene-glycol-Atto complex formation by fluorescence correlation spectroscopy", (Poster), St. Louis Institute of Nanoscience and Nanomedicine (SLINN), St Louis, MO, December 2015
86. M Reimer, **SP Zustiak**, [#],*J Schober, "A mouse melanoma cell line maintains inherit response towards physiologic stiffness", (Poster), American Society for Cell Biology (ASCB) Annual Meeting, San Diego, CA, December 2015
87. [#]J Bruns, SEM Abadi, *__SP Zustiak__, *G Kwon, "Development of an injectable hydrogel for encapsulation of islets to treat streptozotocin-induced diabetes in mice", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Tampa, FL, October 2015

88. [#,]***SP Zustiak**, S Sell, G Gaudette, "A Template for Multi-Disciplinary Team-Based Problem Solving, Design, and Assessment: Application in Biomedical Engineering", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Tampa, FL, October 2015
89. [#,]***SP Zustiak**, G Bledsoe, "Encouraging Curiosity, Connections and the Creation of Value in a Materials/Biomaterials Sequence: Part II Biomaterials", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Tampa, FL, October 2015
90. [#,]*G Bledsoe, **SP Zustiak**, "Encouraging Curiosity, Connections and the Creation of Value in a Materials/Biomaterials Sequence: Part I Materials Science", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Tampa, FL, October 2015
91. A Ashraf, S Tilson, A Branyi, Y Kim, [#,]***SP Zustiak**, "Hydrogel-based Multicellular Cancer Spheroid Models for Drug Screening Applications", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Tampa, FL, October 2015
92. [#]M Imaninezhad, I Kuljanishvili, ***SP Zustiak**, "A Novel Method of Transferring Aligned Single-Walled Carbon Nanotubes on a Hydrogel for Nerve Regeneration Applications", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Tampa, FL, October 2015
    Graduate Travel Award Winner
93. [#]S Syed, R Bera, N Case, ***SP Zustiak**, "Conditioning MDA-MB-231 Cells to Microenvironmental Cues", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Tampa, FL, October 2015
94. [#]Y Chehreghanianzabi, P Donovan, M Rathinam, ***SP Zustiak**, "Homogenization Theory For The Prediction Of Solute Diffusion In Macromolecular Solutions", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Tampa, FL, October 2015
95. [#]D Vasileva, ***SP Zustiak**, "Development of carbon nanotube hydrogel composites", (Poster) Sigma Xi Symposium, Saint Louis University, St Louis, MO, April, 2015.
    Best Poster Award
96. [#]S Syed, ***SP Zustiak**, "Conditioning cells to microenvironmental cues", (Poster) Sigma Xi Symposium, Saint Louis University, St Louis, MO, April, 2015.
97. [#]M Imaninezhad, ***SP Zustiak**, "A Novel Development of a Droplet Generator Set-up for the Fabrication of Monodisperse Poly(ethylene glycol) Microspheres", (Poster) Sigma Xi Symposium, Saint Louis University, St Louis, MO, April, 2015.
98. [#]M Imaninezhad, I Kuljanishvili, ***SP Zustiak**, "A Novel Method of Transferring Aligned Single-Walled Carbon Nanotubes on a Hydrogel for Biomedical Applications", (Poster) IMSE Facilities & Materials Research showcase, Washington University, St. Louis, MO, May, 2015.
99. [#]K Shah, D Vasileva, ***SP Zustiak**, "Carbon nanotube/polyethylene glycol hydrogel composite as an in vitro model for neural tissue engineering", (Poster), Graduate Student Association Symposium, SLU, St Louis, MO, April 2015
100. [#]N Ahmed, A Karadaghy, H Stevenson, ***SP Zustiak**, "Design of a custom multiwell platform for the simple and rapid preparation of polyacrylamide stiffness assay", (Poster), Graduate Student Association Symposium, SLU, St Louis, MO, April 2015
101. [#]M Imaninezhad, I Kuljanishvili, ***SP Zustiak**, "A novel method for transferring aligned single walled carbon nanotubes on a hydrogel for biomedical applications", (Poster), Graduate Student Association Symposium, SLU, St Louis, MO, April 2015
102. [#]Y Chehreghanianzabi, P Donovan, M Rathinam, ***SP Zustiak**, "Experimental and theoretical approaches to the study of probe diffusion in macromolecular solutions", (Poster), Graduate Student Association Symposium, SLU, St Louis, MO, April 2015
103. [#]P Donovan, Y Chehreghanianzabi, *M Rathinam, ***SP Zustiak**, "Experimental and theoretical approaches to the study of probe diffusion in macromolecular solutions", (Poster), Biophysical Society 59th Annual Meeting, Baltimore, MD, February 2015

104. #Y Chehreghanianzabi, ***SP Zustiak**, "Study of single molecule diffusion in complex media by fluorescence correlation spectroscopy", (Poster), St. Louis Institute of Nanoscience and Nanomedicine (SLINN), St Louis, MO, November 2014
105. #K Shah, R Wang, I Kuljanishvili, ***SP Zustiak**, "Patterned carbon nanotube/polyethylene glycol hydrogel composites for use in neural tissue engineering applications", (Poster), St. Louis Institute of Nanoscience and Nanomedicine (SLINN), St Louis, MO, November 2014
106. #D Vasileva, K Shah, ***SP Zustiak**, "Development of carbon nanotube hydrogel composites for in-vitro model", (Poster), St. Louis Institute of Nanoscience and Nanomedicine (SLINN), St Louis, MO, November 2014
107. #D Vasileva, K Shah, ***SP Zustiak**, "Development of carbon nanotube hydrogel composites", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, San Antonio, TX, October 2014
108. #K Scott, E Jain, ***SP Zustiak**, *S Sell, "Optimization of parameters influencing polyethylene glycol microsphere fabrication using electrospraying", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, San Antonio, TX, October 2014
Undergraduate travel award winner
109. #S Sheth, E Jain, S Sell, ***SP Zustiak**, "Estimating the controlled release of PRP components encapsulated in biodegradable PEG hydrogels", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, San Antonio, TX, October 2014
110. #S Syed, ***SP Zustiak**, "Conditioning cell to microenvironmental cues", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, San Antonio, TX, October 2014
111. #A Karadaghy, H Stevenson, ***SP Zustiak**, "Comparative analysis of chemical and photochemical crosslinking of polyacrylamide gels", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, San Antonio, TX, October 2014
112. #J Redington, E Jain, S Sell, ***SP Zustiak**, "Determination of variables affecting degradation of polyethylene glycol hydrogels", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, San Antonio, TX, October 2014
113. #N Ahmed, H Stevenson, A Karadaghy, ***SP Zustiak**, "Design of a custom multiwell platform for the simple and rapid preparation of polyacrylamide stiffness assay", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, San Antonio, TX, October 2014
114. #K Shah, D Vasileva, ***SP Zustiak**, "Carbon nanotube/polyethylene glycol hydrogel composite as an *in vitro* model for neural tissue engineering", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, San Antonio, TX, October 2014
115. #E Jain, K Scott, S Sheth, ***SP Zustiak**, *S Sell, "Electrosprayed polyethylene glycol hydrogel microspheres for platelet rich plasma delivery in knee osteoarthritis", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, San Antonio, TX, October 2014
116. #,***SP Zustiak**, A Ashraf, A Branyi, Y Kim, "Hydrogel-based multicellular cancer spheroid models for drug screening applications", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, San Antonio, TX, October 2014
117. #K Shah, ***SP Zustiak**, "Carbon Nanotube/Hydrogel Composites as Neural Cell Scaffolds", (Poster), Graduate Student Association Symposium, SLU, St Louis, MO, April 2014
118. #,***SP Zustiak,** K Kalinowski, N Ahmed, C Cole, "Effect of stiffness and dimensionality on cancer cell responsiveness to cytotoxic drugs", (Poster), Functional Analysis and Screening Technologies, Boston, MA, October 2013
Best Poster Award
119. #K Kalinowski, ***SP Zustiak**, "The role of dimensionality on cancer cell response to cytotoxic drugs", (Poster), Biomedical Engineering Society (BMES) Annual Meeting, Seattle, WA, September 2013

120. [#,]***SP Zustiak**, K Kalinowski, N Ahmed, C Cole, "Substrate stiffness affects cancer cell responsiveness to cytotoxic drugs", (Poster), Gordon Research Conference: Biomaterials & Tissue Engineering, Holderness, NH, July 2013

Presentations from NIH

1. [#]D Ferguson, **SP Zustiak**, R Nossal, D Sackett, "Development of a Polyacrylamide-Based Stiffness Assay for "High-Throughput" Drug Testing", (Poster), Annual Biomedical Research Conference for Minority Students (ABRCMS), San Jose, CA, November 2012
2. [#]**SP Zustiak**, R Nossal, D Sackett, "High-throughput stiffness assay for the study of cancer cell susceptibility to anti-cancer drugs", (Oral), American Institute of Chemical Engineers (AIChE) Annual Meeting, Pittsburg, PA, October 2012
3. [#]D Ferguson, **SP Zustiak**, R Nossal, D Sackett, "Development of a Polyacrylamide-Based Stiffness Assay for "High-Throughput" Drug Testing", (Poster), National Institute of Health (NIH) Summer Research Program Poster Day, Bethesda, MD, August 2012
4. [#]**SP Zustiak**, R Nossal, "Effects of Scattering on Fluorescence Correlation Spectroscopy Measurements of Diffusion in Complex Media", (Poster), Predictive Functional Tissue Models, Boston, MA, November, 2011
5. [#]**SP Zustiak**, R Nossal, D Sackett, "Hindered Diffusion in Polymeric Solutions Studied by Fluorescence Correlation Spectroscopy", (Poster), NIH Research Festival, Bethesda, MD, October 2011
6. [#]**SP Zustiak**, R Nossal, D Sackett, "A Fluorescence Correlation Spectroscopy Study of Hindered Probe Diffusion in Complex Media", (Oral), American Institute of Chemical Engineers (AIChE) Annual Meeting, Minneapolis, MN, October 2011
7. [#]J Taylor, **SP Zustiak**, R Nossal, D Sackett, "Development of Poly(ethylene Glycol)-Collagen 3D Scaffolds", (Poster), 14th Annual Undergraduate Research Symposium in the Chemical and Biological Sciences at UMBC, Baltimore, MD, October 2011
8. [#]J Taylor, R Nossal, D Sackett, **SP Zustiak**, "Development of Poly(ethylene Glycol)-Collagen 3D Scaffolds", (Poster), National Institute of Health (NIH) Summer Research Program Poster Day, Bethesda, MD, August 2011
9. [#]**SP Zustiak**, R Nossal, D Sackett, "Hindered Diffusion in Polymeric Solutions Studied by Fluorescence Correlation Spectroscopy", (Oral), National Institute of Child and Human Development (NICHD) Annual Retreat, Airlie Center, VA, May 2011
10. [#]**SP Zustiak**, R Nossal, D Sackett, "Hindered Diffusion in Polymeric Solutions Studied by Fluorescence Correlation Spectroscopy", (Poster), Biophysical Society Annual Meeting, Baltimore, MD, March 2011

Presentations from UMBC

11. [#]A Ribeiro, D Hughes, H Gaifem, **SP Zustiak**, JB Leach, "Hydrolytically Degradable Poly(Ethylene Glycol)-Laminin Hydrogel Scaffolds for Neural Progenitor Cell Delivery", (Poster), Society for Biomaterials (SfB) Annual Meeting, Orlando, FL, April 2011
12. [#]**SP Zustiak**, JB Leach, "Hydrolytically Degradable Poly(ethylene glycol) Hydrogel as a Tunable Scaffold for Neural Tissue Engineering", (Oral), American Institute of Chemical Engineers (AIChE) Annual Meeting, Salt Lake City, UT, November 2010
13. [#]**SP Zustiak**, R Nossal, D Sackett, "Diffusion and Binding of RNase A in Dextran Polymeric Solutions Studied by Fluorescence Correlation Spectroscopy", (Oral), AIChE Annual Meeting, Salt Lake City, UT, November 2010
14. [#]**SP Zustiak**, R Nossal, D Sackett, "Diffusion and Binding of RNase A in Dextran Polymeric Solutions Studied by Fluorescence Correlation Spectroscopy", (Poster), NIH Research Festival, Bethesda, MD, Ocotber 2010

15. #**SP Zustiak**, JB Leach, "Hydrolytically Degradable Poly(ethylene Glycol) Hydrogel as a Tunable Scaffold for Neural Tissue Engineering", (Oral), Biomedical Engineering Society (BMES) Annual Meeting, Austin, TX, October 2010
16. #RG Durbal, **SP Zustiak**, JB Leach, "Influence of Adhesive Ligand on Mechanical Properties on Polyethylene Glycol Hydroels", (Poster), Undergraduate Research and Creative Achievement Day at UMBC, Baltimore, MD, April 2010
17. #S Pubill, **SP Zustiak**, JB Leach, "Poly(ethylene glycol) Hydrogels as an *in-vitro* Model for Neural Tissue Engineering", (Poster), Undergraduate Research and Creative Achievement Day at UMBC, Baltimore, MD, April 2010
18. #**SP Zustiak**, JB Leach, "Probing Hydrogel Transport Properties and Dynamic Micro-Structure with Fluoresnce Correlation Spectroscopy", (Oral), AIChE Annual Meeting, Nashville, TN, November 2009
19. #**SP Zustiak**, JB Leach, "Hydrolytically Degradable Poly(ethylene glycol) Hydrogel as a Tunable Scaffold for Neural Tissue Engineering", (Poster), AIChE Annual Meeting, Nashville, TN, November 2009
20. #**SP Zustiak**, JB Leach, "Application of a Novel Neural Tissue Scaffold to Quantitatively Correlate the Dynamics of Polymer Structure and Neurobiological Function", (Oral), AIChE Annual Meeting, Nashville, TN, November 2009
21. #**SP Zustiak**, JB Leach, "Application of a Novel Neural Tissue Scaffold to Quantitatively Correlate the Dynamics of Polymer Structure and Neurobiological Function", (Poster), Gordon Research Conference (GRC) in Biomaterials, Plymouth, NH, July 2009
22. #**SP Zustiak**, JB Leach, "Application of a Novel Neural Tissue Scaffold to Quantitatively Correlate the Dynamics of Polymer Structure and Neurobiological Function", (Oral), GRC in Biomaterials, Plymouth, NH, July 2009
23. #**SP Zustiak**, H Boukari, JB Leach, "Probing Hydrogel Transport Properties and Micro-Structure", (Poster), SfB Annual Meeting, San Antonio, TX, April 2009
24. #**S Petrova**, JB Leach, "Development of a Hydrolytically Degradable PEG Hydrogel with Tunable Degradability and Solute Release", (Oral), Materials Research Society (MRS) Annual Meeting, Boston, MA, December 2008
25. #**S Petrova**, JB Leach, "Development of a Hydrolytically Degradable PEG Hydrogel with Tunable Degradability and Solute Release", (Oral), AIChE Annual Meeting, Philadelphia, PA, November 2008
26. #N Maharaj, **S Petrova**, JB Leach, "Protein Diffusion from Poly(Ethylene Glycol) Vinyl Sulfone Scaffolds", (Poster), Undergraduate Research Consortium in the Chemical and Biological Sciences, UMBC, April 2008
27. #**S Petrova**, JB Leach, "Star Poly(Ethylene Glycol) Vinyl Sulfone Hydrogel as a Tunable Scaffold for Tissue Engineering", (Oral), AIChE Annual Meeting, Salt Lake City, Utah, November 2007
28. #R Reeves, **S Petrova**, JB Leach, "Characterizing the Properties of Polymeric Tissue Engineering Scaffolds", (Poster), Undergraduate Research Consortium in the Chemical and Biological Sciences, UMBC, October 2007, ***First Prize Award***
29. #**S Petrova,** C Guarraia, E Voss, C Plachez, E Powell, JB Leach, "Neurite outgrowth and integrin signaling pathways in 3D systems", (Poster), GRC in Tissue Engineering, Plymouth, NH, July 2007
30. #JB Leach, **S Petrova**, JN Lakins, K Johnson, J Leight, V Weaver, "Force-Dependent Mammary Morphogenesis and Malignancy in a Tunable 3D Model System", (Poster), American Society for Cell Biology Annual Meeting, San Diego, CA, December 2006
31. #M Seck, **S Petrova**, JB Leach, "Tissue Engineering Scaffolds: Design and Physicochemical Characterization of Hydrogels as Synthetic Extracellular Matrix", (Poster), A Look Ahead Conference, UMBC, November 2006
32. #JB Leach, R Reeves, **S Petrova**, JN Lakins, V Weaver, "Engineered 3D Models to Study Force-Dependent Cell Response in Soft Tissues", (Poster), BMES Annual Meeting, Chicago, IL, October 2006

33. [#]**S Petrova**, Y Kostov, G Rao, "Optical ratiometric sensor for alcohol measurements", (Poster), Pittcon, Orlando, Florida, March 2006

FUNDING

Active Grants/Contracts

1. 1R01AR075773: "Promoting Muscle Regeneration through Adipose Signaling", $86,643, R01, NIH, Dates: 07/01/2019 – 06/30/2024, **Role – co-I** (PI: Gretchen Meyer)
2. "MRI: Acquisition of a scanning laser Doppler vibrometer", $274,850, National Science Foundation, Dates: 09/01/2019 – 08/31/2022; **Role – collaborator** (Lead PI: Jenna Gorlewicz)
3. "MRI: Acquisition of a confocal microscopy system for biology, biochemistry and engineering research and education", $648,338, National Science Foundation, Dates: 09/01/2019 – 08/31/2022; **Role – co-PI** (Lead PI: Daniel Warren)
4. "Engineering and Characterizing Novel Nanoscale Platforms with Carbon Nanotube/ZnO Nanowire Heterostructures for Biomedical Applications", $25,000, SLU PRF, Dates: 04/01/2019 – 03/30/2020, **Role – co-I** (PI: Irma Kuljanishvili)
5. "Nanotechnology and Nanomaterials through STEM and Entrepreneurship", $5,000, KEEN Program Transformation Grants, Dates: 07/01/2018 – 06/30/2019, **Role – PI** (Multiple PIs: Silviya Zustiak, Chi Hou Lei, Irma Kuljanishvili, Jeff Ma)
6. NSF CBET 1818906, "Driving forces in aqueous two-phase systems for vaccine development", $300,000, National Science Foundation, Dates: 05/01/2018 – 04/30/2021, **Role – co-I** (PI: Caryn Heldt)
7. "Toward development of a resorbable, radiopaque, drug eluting embolic agent for prostate cancer", $20,000, Interdisciplinary Health Sciences Research Grant Program, Dates: 09/01/2018 – 12/31/2019; **Role – co-PI (Lead PI: Andy Hall)**

Grant Proposals in Review

1. "Feasibility of using docetaxel chemoembolization as a neoadjuvant prostate cancer treatment", $151,500, R03, NCI/NIH, Dates: 04/01/20 – 03/31/22, **Role – non-lead PI** (Lead PI: Ratna Ray)
2. "Evaluation of Sustained rhGALNS Delivery for Morquio A Treatment", $416,625, Parent R21, National Institute of Health, Dates: 04/01/2019 – 03/31/2021; **Role – PI** (Multiple PI: Silviya Zustiak and Adriana Montano)
   Impact Score - 30

Completed Grants/Contracts

1. "rhGALNS enzyme delivery using injectable polyethylene glycol hydrogel depots", $25,000, "Fleur de Lis", Department of Pediatrics, Saint Louis University, Dates: 07/01/2017 – 06/30/2019: **Role – co-PI** (PI: Adriana Montano)
2. "Exploration of extracellular macromolecular crowding effects on procollagen and BMP-1 diffusion and interactions: towards enhancing matrix deposition by cells", $1,000, SLU, Spark Microgrant, Dates: 05/15/2018 – 08/15/2018, **Role – co-PI** (PI: Natasha Case)
3. "The role of novel topographic carbon nanotube (CNT) composites on neural growth and regeneration", $1,500, SLU, Materials in Medicine Seed Funding, Dates: 07/15/2018 – 10/15/2018, **Role –PI** (Multiple PI: Silviya P Zustiak and Fenglian Xu)
4. "Shifting the search for cancer cure: hydrogel spheroid models for glioblastoma stem cell enrichment and therapy testing", $25,000, Presidents' Research Fund, Saint Louis University, Dates: 04/01/2017 – 09/30/2018; **Role – PI**
5. "Transcriptome analysis of hydrogel-encapsulated glioblastoma multicellular spheroids", $12,300, Health Sciences Research Opportunity, Saint Louis University, Dates: 06/01/2017 – 05/31/2018; **Role – PI**

6. "Treatment of osteoarthritis via sustained delivery of PRP using microgel device", $50,000, Clinical and Translational Research Funding Program, Barnes-Jewish Hospital Foundation & WU Institute of Clinical and Translational Sciences, Dates: 07/01/2017 – 06/30/2018; **Role – co-PI** (PI: Muhammad Farooq Rai)
7. "Preparation and mechanical characterization of FocalSeal-L (PEG) microspheres: towards synovial fluid replacement", $11,397, Biopsy Sciences, Clearwater, FL, Research Contract, Dates: 07/01/2017 – 01/01/2018: **Role - PI**
8. "A study of neural growth and regeneration on topographic carbon nanotube (CNTs)-hydrogel scaffolds", new application, $1,000, Spark Microgrant, SLU, Dates: 08/15/2017 – 11/15/2017; **Role – co-PI**, (PI: Fenglian Xu)
9. "Laminin-111 functionalized hydrogel to restore regenerative capacity in aged skeletal muscle", $1,000, Spark Microgrant, Saint Louis University, Dates: 02/01/2017 – 05/01/2017; **Role – co-PI** (PI: Koyal Garg)
10. "Novel carbon nanotube-hydrogel nanocomposite scaffolds for neural growth and regeneration", $1,000, Spark Microgrant, Saint Louis University, Dates: 02/15/2017 – 05/15/2017; **Role – PI**
11. "Kern Entrepreneurial Engineering Network Institutional Grant", Kern Entrepreneurial Engineering Network (KEEN), $250,000, Dates: 07/01/15 – 08/31/2016; **Role – key personnel** (PI: Sridhar Condoor)
12. "Curricular innovations for incorporating entrepreneurial mindset", Kern Entrepreneurial Engineering Network (KEEN), $250,000, Dates: 07/01/14 – 12/31/2015; **Role – key personnel** (PI: Sridhar Condoor)
13. "A template for multi-disciplinary team-based problem solving, design, and assessment", $48,959, Kern Entrepreneurship Engineering Network (KEEN), Dates: 01/01/2015 – 08/31/2015; **Role - PI** (Multiple PIs: Scott Sell and Silviya P Zustiak)
14. "The Role of Three-Dimensional Matrix Stiffness on Cancer Cell Responsiveness to Chemotherapeutics", $10,000, Stroble Awards in the Health Sciences, Saint Louis University, Dates: 07/01/2014 – 06/30/2015; **Role – PI**
15. "Effect of matrix properties on cancer cell responsiveness to cytotoxic compounds: towards predictive drug screening platforms", $25,000, Presidents' Research Fund, Saint Louis University, Dates: 10/01/2013 – 09/30/2014; **Role – PI**

PROFESSIONAL DEVELOPMENT SYMPOSIUMS, COURSES AND WORKSHOPS

1. "Every Semester Needs a Plan", (Workshop), National Center for Faculty Development & Diversity, SLU, St. Louis, MO, April 22 2019
2. "The Path to SBIR/STTR Funding", (Panel discussion), WashU, St Louis, MO, February 19 2018
3. "Fall 2017 Intensive Grantsmanship Workshop", SLU, St. Louis, MO, October 23-24, 2017
4. "NSF CAREER Workshop", (a series of 6 workshops), SLU, St Louis, MO, March – June 2017
5. "R01/R21 Challenge", (a series of 6 workshops), SLU, St Louis, MO, March – June 2017
6. "BMES-NSF Grant Writing Special Session", (Session), Minneapolis Convention Center, Minneapolis, MN, October 7, 2016
7. "Mini Roadshow for Research", (Symposium), SLU, St Louis, September 7, 2016
8. "Finding Funding", (Workshop), SLU, St Louis, MO, August 25, 2016
9. "SBIR/STTR Road Tour", (Workshop), WashU, St Louis, MO, August 18, 2016
10. "National Science Foundation CAREER Awards Walk-Through", (Workshop), SLU, St Louis, MO, June 23, 2016
11. "NSF Career Proposal Writing" (Workshop), The Westin, St. Louis, MO, March 20-22, 2016
12. "Summer STEM Faculty Institute on Teaching" (Workshop), St Louis, MO, June 9-11, 2015
13. "A Scientific and Historical Perspective of BME" – a retirement celebration for Cecil W. Thomas, founding member of BME at SLU, St Louis, MO, April 19, 2015

14. "Cancer Research Symposium" (Symposium), Donald Danforth Plant Science Center, St Louis, MO, May 1, 2015
15. "Shaping Entrepreneurial Engineers" (Workshop), KEEN Foundation, Saint Louis University, St Louis, MO, August 18-21, 2014
16. "Integrating Curriculum with Entrepreneurial Mindset (ICE)" (Workshop), KEEN Foundation, University of New Haven, CT, June 2-6, 2014
17. "A STEM Educations Researcher's Forum: Models, Challenges, Opportunities for Collaborative Solutions", (Symposium), SIUE, Edwardsville, IL, April 1 2013
18. "Doing Real Work, Not Homework", (Teaching Workshop), NIH, Bethesda, MD, March 2012
19. "Scientists Teaching Science", (Short course), NIH, Bethesda, MD, March - May 2011
20. "Writing and Publishing a Scientific Paper", (Short course), NIH, Bethesda, MD, September - October 2010
21. "NICHD Grantsmanship", (Workshop), NIH, Bethesda, MD, July, 2010
22. "Introduction of Grant Writing I: Demystifying the NIH Grant review Process", (Workshop), NIH, Bethesda, MD, June, 2010
23. "Advances in Tissue Engineering", (Workshop), Rice University, Houston, TX, August 2006

TEACHING

Instructor, SLU, St Louis, MO

- BME 4400: Biomaterials (BME Upper Elective Course)
- BME 4320/5320: Drug Delivery (BME Upper Elective Course, new course developed)
- BME 5400: Tissue-Material Interfaces (Elective Graduate Course, new course developed)
- BME 5010: Research Analysis (Graduate Course)
- BME 5040: Technical Communication (Elective Graduate Course, new course developed)

Co-instructor, NIH, Bethesda, MD

- Foundation for Advanced Education in the Sciences (FEAS) Graduate Course on "Regenerative Medicine", Spring 2011, Fall 2011
- NICHD Post-baccalaureate course on "Becoming a Successful Scientist", Fall 2011

Teaching Assistant, Department of Chemical & Biochemical Engineering, UMBC, Baltimore MD

- Biochemical engineering laboratory – "Enzyme kinetics", Spring 2006, 2007, 2008, 2009
- Process engineering economics & design, Spring 2005
- Introductory engineering science, Fall 2004

Teaching Assistant, Department of Chemistry and Biochemistry, UMBC, Baltimore MD

- Introductory Chemistry Lab I, Spring 2008

STUDENT RESEARCH SUPERVISIONS AND MENTORSHIP

High School Students from St. Louis Area (Community Service)

Current

Alumni

1. Shibapriya (Tista) Mandal, Mary Institute and Saint Louis Country Day School, volunteer (Summer 2019)
2. Sriya Amruta Kosaraju, Marquette High School, STARS student (Summer 2019)
3. Nathan Loring Moy, Saint Francis High School, STARS student (Summer 2019)
4. Neha Bollam, Marquette Sr. High School, STARS student (Summer 2018)
5. Provo Chatterjee, Clayton High School, STARS student (Summer 2018)
6. Deepa Shukla, Parkway North High School, STARS student (Summer 2017)
7. Annie Grace Bryan, Kirkwood High School, STARS student (Summer 2017)
   Current: BS in Engineering at MIT
8. Jiyoon Lee, Missouri Academy of Science, Mathematics and Computing, STARS student (Summer 2016)
9. Rohit Lallt Chouhan, Mary Institute and Country Day School, STARS student (Summer 2016)
   Current: BS in Engineering, Rice University
10. Lana Kuziez, Parkway West High School, STARS student (Summer 2015)
    Current: Biomedical Engineering, Saint Louis University, MO
11. Julie Gauthier, Cor Jesu Academy, STARS student (Summer 2015)
    Current: Pre-med, Biochemistry, Discover Fellows Program, Mizzou, Columbia, MO
12. Ryan Domalewski, Timberland High School, Independent Science Research Project (Fall 2014)
13. Cassidy Mundwiller, Timberland High School, Independent Science Research Project (Fall 2014)
    Current: Student at Lindelwood University, MO
14. Renee Al-Lozi, Parkway North High School, Independent Science Research – AP Biology (Fall 2014)
    Current: Student at Washington University in Saint Louis, MO

Doctoral and Master's graduate students and postdoctoral fellows at SLU

Current

1. Eya Ferchichi (MS, Fall 2019 – anticipated 2021)
2. Mahmood Altaee (Non-thesis MS, Fall 2019 – anticipated 2021)
3. Joseph Bruns (PhD, Spring 2019 – anticipated 2021)
4. Jinming Liu (MS, Fall 2018 – anticipated 2020)
5. Brannan Hutchinson (MS, Fall 2018 – anticipated 2020)
6. Samuel Stealey (PhD, Fall 2018 – anticipated 2023)
7. Allison Clancy (PhD, Fall 2018 – anticipated 2023)
8. Paige Bogert (non-thesis MS, Fall 2018 – anticipated 2021)
9. Sam Reusing (PhD, Fall 2018 – anticipated 2023)
10. Kyle Vogt (MS, Summer 2017 - anticipated 2019)
11. Saahil Sheth (PhD Student, BME, Fall 2015 - anticipated Fall 2020)
12. Lindsay Hill (PhD Student, BME, Fall 2014 - anticipated 2019)

Alumni

1. Hanna Choi (MS, Summer 2017 – Summer 2019)
   Thesis: Physical Properties and Degradation Kinetics of Polyethylene Glycol Hydrogel Microspheres as a Function of Platelet-Rich Plasma Loading
   Current: PhD in Bioengineering at University of Illinois, Urbana-Champaign
2. Alexandra Blanco (BS/MS, Summer 2017 - Summer 2019)
   Thesis: Assessing the Feasibility of Platelet-Rich Plasma Therapy for Knee Osteoarthritis
   Current: PhD in Bioengineering at University of Illinois, Urbana-Champaign
3. Stephanie Kroger (BS/MS, Summer 2017 - Spring 2019) - **SURE** student for summer 2016

Thesis: Design of Biocompatible Crosslinkers to Tune Degradation of Poly(ethylene glycol) Hydrogels
Current: ThermoFisher Scientific, MO

4. Mozhdeh Imani Nezhad – **PhD**, December 11th 2017
Dissertation: Development of Hydrogel-Carbon Nanotube Composites and Templated Hydrogels for Neural Tissue Engineering Applications
Current: ThermoFisher Scientific, CA
5. Joseph Bruns, **BS/MS** – May 1st, 2017
SURE student for summer 2015
Thesis: Development of injectable cell-adhesive polyethylene glycol cryogel scaffolds
Current: PhD in Biomedical Engineering, Northwestern University, Evanston, IL
6. Dr. Era Jain (Postdoctoral Fellow, BME, Fall 2013 - Spring 2017)
Current: Assistant Professor in Biomedical Engineering, Syracuse University
7. Anisa Qayyum, **BS/MS** – July 19th, 2016
Thesis: Fabrication of hydrogel glioblastoma spheroids
8. Sana Syed, **BS/MS** – July 20th, 2016
Thesis: Conditioning cancer cells to the compliance of the substrate
Current: PhD in Engineering (Civil, part time in BME), SLU, St. Louis, MO
9. Yasaman Chehreghanianzabi, **MS** – April 29th, 2016
Thesis: Study of diffusion in polymer solutions and networks by fluorescence correlation spectroscopy
Current: PhD in Biomedical Engineering, Wayne State University, Detroit, MI
10. Naveed Ahmed, **MS** – July 17th, 2015
Thesis: Novel multiwell plate for high-throughput preparation of polyacrylamide gels for drug screening applications
Current: Technology Consultant at Cerner Corporation
11. Keval Shah, **MS** – May 14th, 2015
Thesis: Carbon nanotube/polyethylene glycol hydrogel composite as an in vitro model for neural tissue engineering
Current: R&D Engineer at Boston Scientific
12. Dr. Farideh Ordikhani (Volunteer postdoc, BME, Spring 2015)
Current: Postdoctoral Fellow in the Laboratory of Nanomedicine at Harvard Medical School

Undergraduate students at SLU

Current

1. Jahnavi Nadella (BME, Summer 2019 – present)
2. Deepa Shukla (Biostatistics, Fall 2019 – present)
3. John Ortlund (BME, Spring 2018 – present)

Alumni

1. Leigh-Ann Kesper (BME, Fall 2017 – Spring 2019)
2. Jessica Conley (BME, Summer 2017 – Summer 2019)
3. Chandana Kamaraj (BME, Spring 2017 – Spring 2018)
4. Shivani Senguttuvan (BME, Spring 2018)
5. Riya Zachariah (BME, Summer 2017)
6. Kyle Vogt (BME, Fall 2016 – Summer 2017)
Current: MS student in BME, St Louis University, Advisor: Dr. Silviya Zustiak
7. Stephanie Kroger (BME, Summer 2016 – Summer 2017) – **SURE** student for summer 2016
Current: BS/MS student in BME, St Louis University, Advisor: Dr. Silviya Zustiak

8. Alexandra Blanco (BME, Spring 2016 – Summer 2017)
   Current: BS/MS student in BME, St Louis University, Advisor: Dr. Silviya Zustiak
9. Dzhuliya Vasileva (BME, Summer 2014 – Summer 2017) – **SURE** student for summer 2014
   Current: Fulbright Scholarship recipient: English Teaching Assistant at the Medical University of Warsaw, Poland
10. Aaron Stock (BME, Summer 2015 – Summer 2016)
    Current: PhD in Biomedical Engineering, University of Miami, Coral Gables, FL
11. Mark Weber (BME, Spring 2015 – Spring 2016)
    Current: Engineering Intern at Endotronix, Inc., Woodridge, IL
    Also: MS is Mechanical Engineering, UIC, IL
12. Erin Canning (BME, Fall 2014 – Spring 2016)
    Current: Youth Minister with JVC at the Dolores Mission Parish, Los Angeles, CA
13. Sana Syed (BME, Fall 2013 - Fall 2014)
    Current: Graduate Student in Engineering at SLU, St. Louis, MO
14. Kristin Kalinowski (BME, Spring 2013 – Spring 2015) – **SURE** student for summer 2013
    Current: Saint Louis University Medical School
15. Amin Karadaghy (Biology, Fall 2013-Fall 2015)
    Next step: Saint Louis University Medical School
16. Peter Iliya (BME, Spring 2013 – Fall 2013)
    Current: Analog Appl;ications Rotator, Texas Intruments
17. Anirudh Guduru (BME, Fall 2013-Spring 2015)
    Current: Saint Louis University Medical School
18. Joseph Behrens (BME, Spring 2013)
19. Colleen Cole (BME, Fall 2013 – Fall 2014)
    Current: Medtronic, Memphis, TN
20. Hunter Stevenson (BME, Fall 2013 – Spring 2014)
    Current: PhD in Biomedical Engineering at UT Dallas
21. Zachary Hawkins (BME, Summer 2013 – Spring 2014)
22. Saahil Sheth (BME, Fall 2013 - Spring 2015)
    Current: PhD in Biomedical Engineering at SLU
23. William Clifton (BME, Fall 2013 - Spring 2015)
    Current: Neurophysiologist at NuVasive
24. Jenny Redington (Chemistry, Shorter University, Rome, GA, Summer 2014)
    Current: Master's in Molecular Medicine at the University of South Florida

Graduate student guidance (SG)/qualifying exam (QE) committees (member)

Current (SG committee member)

1. Katelyn Bagwill, DS/MS student in BME (Fall 2018 – anticipated 2020)
2. Qi Chen, MS student in EE and BME (Fall 2018 – anticipated 2020)
3. Jhih Heng Wu, MS student in EE and BME (Fall 2018 – anticipated 2020)
4. Genevieve Hilliard, PhD student in BME (Fall 2018 – anticipated Fall 2023)
5. Natalia Ziemkiewicz, PhD student in BME (Fall 2018 – anticipated Fall 2023)
6. Jakeh Orr, PhD student in BME (Fall 2019 – anticipated Fall 2024)
7. Yue Dong, PhD student in BME (Fall 2017 – anticipated Fall 2020)
8. Pratik Umesh Joshi, PhD student in Chemical Engineering, MTU, MI (Fall 2017 – anticipated Spring 2019)
9. Joey Krebs, BS/MS student in BME (Fall 2017 – Fall 2019)

Current (QE committee member only)

10. Houston Linder, PhD student in BME – QE in May 2019
11. Hamed Rahimi, PhD student in BME – QE on 3/14/2107
12. Katherine Hixon, PhD student in BME – QE in 2016

Alumni (SG committee member)

1. John Peters, BS/MS student in BME (Fall 2016 – Fall 2018)
2. Guangxin Hu, MS student in BME (Fall 2017 – Summer 2018)
3. Michael Bennett (PhD in Biochemistry, Fall 2017 – Spring 2018)
4. Emily Kalaf, PhD student in BME (Fall 2013 – Spring 2017)
   Current: Postdoctoral Fellow at National University of Ireland
5. Niko Timofeew, MS student in BME (Fall 2014 – Summer 2016)
   Current: Clinical Specialist at Medtronic
6. Parin Kadakia, MS student in BME (Summer 2015 –Summer 2016)
   Current: Senior Engineer at Baxter Healthcare

Senior Design Projects at SLU

1. Simplified co-culture to maximize hydrogel-cell interactions - Alexandra Blanco, 2017/18
2. Design of biocompatible crosslinkers for tuning the degradation of polyethylene glycol hydrogels – Stephanie Kroger, 2017/18
3. Device for the production of uniform hydrogel microspheres – Catherine Gloss, Emma Buckles, Kyle Vogt, 2016/17
4. A device for providing electrical stimulation to live nerve cells, Phase II - Molly Connelly, Daniel Olert, Faiz Bogis, Duaa Alrufaihi, 2015/16
5. Development of a degradable PEG hydrogel with tunable degradation and gelation kinetics - Aaron Stock, 2015/16
6. Development of a PEG cryogel - Joseph Bruns, 2015/16
7. Design and development of cell-adhesive polyacrylamide hydrogels - Sana Syed, 2014/15
8. Design of a novel method for the preparation of hydrogel encapsulated tumor spheroids - Anisa Ashraf, 2014/15
9. Electrical stimulation of live nerve cells - Kristin Kalinowski, Reethom Bera (Co-advisor – Dr. Yan Gai), 2014/15
10. A device for providing electrical stimulation to nerve cells - Chintan Shah, Sivateja Devarakonda, Kayla Eichers, 2013/14
11. Developing a multiwell plate biomaterial-based stiffness assay for testing cell-material interactions - Naveed Ahmed, 2013/14

Student mentees at NICHD/NIH and UMBC

1. Danielle Ferguson (NICHD, 2012); Project - Development of polyacrylamide-based stiffness assay for "high-throughput" drug testing
2. James Taylor (NICHD, 2011); Project - Development of collagen-poly(ethylene glycol) co-polymers as 3D scaffolds for cell growth and drug screening
3. Momar Seck (Master's, CBE, 2006); Project - Design and physicochemical characterization of (polyethylene glycol)-peptide hydrogels as an extracellular matrix
4. Kimberly Jeffries (Master's, CBE, 2006); Project – Optimization of optical ratiometric alcohol sensor: robustness of sensor assembly
5. Rohan Durbal (CBE, 2009); Project –Influence of adhesive ligands, such as RGDS, YIGSR, and IKVAV, on the mechanical properties on poly(ethylene glycol) hydrogels
6. Stephanie Pubill (CBE, 2008 – 2009); Project - Poly(ethylene glycol) hydrogels as an *in-vitro* model for neural tissue engineering; PC12 cells response

7. Nirvana Maharaj (CBE, 2008); Project - Protein diffusion from poly(ethylene glycol) hydrogel scaffolds
8. Robert Reeves (CBE, 2006 – 2008); Project – Development of a shear deformation method for measurement of Poisson's ratio of poly(ethylene glycol) hydrogels

UNIVERSITY, COLLEGE, DEPARTAMENTAL, AND OUTREACH SERVICE

College and University Service

Spring 2019	**Member:** Oliver Parks Award Committee
Spring 2019	**Reviewer:** Parks College Scholarships
Fall 2018	**Liaison:** Faculty180 Liaison for Parks College
Fall 2018-Spr 2019	**Chair:** Aviation Faculty Search Committee
Spring 2018	**Member:** Oliver Parks Award Committee
Fall 2017-present	**Senator:** Faculty Senate
Spring 2016	**Member:** Parks College Graduate Faculty and Student Award Committee
Fall 2015-Spr 2016	**Member:** Parks College Dean Search Committee, SLU, St. Louis, MO
Fall 2015-Spr 2017	**Member:** Parks Institutional Affairs Committee
Spring 2015	**Member:** Parks College Graduate Student Award Committee
Spring 2015	**Member:** Barta Graduate Scholarship Committee, SLU, St. Louis, MO
Spring 2015	**Participant:** Admitted Student Day
Spring 2015	**Judge:** Weekly Innovation Challenge (WIC), Parks, SLU, St Louis, MO
Spring 2014	**Member:** Parks College Graduate Faculty and Student Award Committee
Fall 2013-Sum 2016	**Marshal:** Student Marshal for Parks College
Fall 2013-Spr 2015	**Member:** Parks Graduate the Research Affairs Committee
Spring 2013	**Member:** Clare Boothe Luce Graduate Fellowship Award Committee
Spring 2013	**Member:** Oliver Parks Award Committee
Fall 2013,14,15	**Participant:** Opened lab for Select Saturday recruiting event
Spr 2013-Fall 2015	**Advisor:** Society for Women Engineers (SWE) SLU chapter

Departamental Service

Summer 2018-present	**Chair:** BME Graduate Admissions Committee
Fall 2016-present	**Faculty coordinator:** organized travel for BME students to BMES Annual Meeting, Minneapolis, MN
Summer 2016	**Chair:** BME Instructor Search Committee
Summer 2016-present	**Initiator and Coordinator:** BME Summer Seminar Series
Spring 2013-present	**Student recruitement support:** one-on-one meetings with prospective and admitted students and families (~5-10 meetings per year)
Spring 2016	**Participant:** Freshmen lab tours at 'Open lab day'
Spring 2015	**Judge:** Start-up Presentations for Enterpreneurship Class, Instuctor: Dr. Andrew Hall
Spring 2015, 16	**Judge:** BME Senior Design Poster Presentations
Fall 2014-2018	**Member:** BME Graduate Admissions Committee
Fall 2014	**Organizer:** 1st Annual BME Graduate Students Welcome event
Fall 2013-present	**Faculty Mentor:** Undergraduate Student Faculty Mentor
Fall 2013-Spr 2014	**Member:** BME Faculty Search Committee
Fall 2013-Spr 2014	**Member:** BME Chair Search Committee

<u>Parks/BME Seminar series: speaker invitations and arrangements</u>

Fall 2019	Dr. Ratna Ray, Pathology, Saint Louis University School of Medicine, St Louis, MO
	Dr. Spencer Lake, Biomedical Engineering, Washington University, St Louis, MO
Sum 2019	Dr. Luis Solorio, Biomedical Engineering, Purdue, West Lafayette, IN

	Dr. Gretchen Meyer, Physical Therapy, Washington University, St Louis, MO
Spring 2019	Dr. Nathaniel Heubsch, Biomedical Engineering, WashU, St Louis, MO
	Dr. Jenny Robinson, Chemical and Biochemical Engineering, KU, Lawrence, KS
Fall 2018	Dr. Alessandro Vindigni, Biochemistry and Molecular Biology, SLU, St Louis, MO
	Dr. Amit Pathak, Mechanical Engineering & Materials Science, WashU, St Louis, MO
Sum 2018	Dr. Zheng Yan, Chemical Engineering, University of Missouri, Columbia, MO
	Dr. Chi Hou Lei, Mechanical Engineering, Saint Louis University, St Louis, MO
Spring 2018	Dr. Kyle Lampe, Chemcial Engineering, Univeristy of Virginia, Charlottesville, VA
	Dr. Tamara Kinzer-Ursem, Biomedical Engineering, Purdue University, West Lafayette, IN
	Dr. Princess Imoukhuede, Bioengineering, University of Illiois, Urbana-Champaign, IL
Fall 2017	Dr. Giovanna Guidoboni, Electrical Engineering and Computer Science, University of Missouri, Columbia, MO
	Dr. Lori Setton, Biomedical Engineering, Washington University, St Louis, MO
Spring 2017	Dr. Caryn Heldt, Chemical Engineering, Michigan Technological University, Houghton, MI
Fall 2016	Dr. Fateme Rezaei, Chemical and Biological Engineering, MST, Rolla, MO
	Dr. Feglian Xu, Biology, Saint Louis University, St Louis, MO
Sum 2016	Dr. Sara McBride-Gagyi, Orthopedic Surgery, SLU, MO
	Dr. Anna Allen, Biology, Howard University, Washington, DC
	Dr. Sahin Kaya Ozdemir, Electrical Engineering, WashU, St Louis, MO
Fall 2015	Dr. Yonghyun Kim, Chemical and Biological Engineering, UA, Tuscaloosa, AL
	Dr. Sutapa Barua, Chemical and Biological Engineering, MST, Rolla, MO
Spring 2015	Dr. Candan Tamerler, Mechanical Engineering, The Univeristy of Kansas, Lawrence, KS
Fall 2014	Dr. Adriana Montano, Pediatrics, SLU Medical School, St Louis, MO
Fall 2013	Dr. Bill Neumann, Pharmaceutical Sciences, SIUE, Edwardsville, IL
	Dr. Joseph Schober, Pharmaceutical Sciences, SIUE, Edwardsville, IL
Spring 2013	Dr. Dhara Patel, Pulmonary Medicine, WashU Medical School, St Louis, MO
	Dr. Matt Zustiak, Senior Scientist, Gallus Biopharmaceuticals, St Louis, MO

Outreach Service

Spring 2019	**Featured Speaker:** Missouri College and Career Consultants 4th Annual Middle School STEAM Day (~500 girls), SLU, St Louis, MO, March 13, 2019
Spring 2019	**Presenter, lab demonstrations:** Introduce a Girl to Engineering Day, Park College of Engineering, SLU, St Louis, MO, February 21, 2019
Spring 2018	**Coordinator and representative:** Arranged and manned a SLU booth at the Innovation and Robotics Fair, Girl Scouts of Eastern Missouri, April 26, 2018
Spring 2018	**Presenter:** Introduce a Girl to Engineering Day, Park College of Engineering, SLU, St Louis, MO, February 20, 2018
Spring 2017	**Panelist:** Expanding Your Horizons in Mathematics and Science Conference for 7-10 grade girls, Saint Louis University, St Louis, MO, March
Spring 2016	**Presenter:** Introduce a Girl to Engineering Day, Park College of Engineering, SLU, St Louis, MO, February 23, 2016
Spring 2016	**Panelist:** Expanding Your Horizons in Mathematics and Science Conference for 7-10 grade girls, Saint Louis University, St Louis, MO, March
Spring 2015	**Panelist:** Expanding Your Horizons in Mathematics and Science Conference for 7-10 grade girls, Saint Louis University, St Louis, MO, March 10, 2015
Spring 2015	**Guest:** Introduce a Girl to Engineering Day, Park College of Engineering, Aviation and Technology, SLU, St Louis, MO, February 26, 2015

Spring 2014 **Panelist:** Expanding Your Horizons in Mathematics and Science Conference for 7-10 grade girls, Saint Louis University, St Louis, MO March 11, 2014

Spring 2014 **Panelist:** Research-Oriented Academic Career, NICHD/NIH Fellows Retreat, Bethesda, MD, April 21, 2014

Spring 2013 **Seminar speaker:** Engineering Seminar Class, St. Charles Community College, St. Peters, MO, September 18 2013

Spring 2013 **Panelist:** Expanding Your Horizons in Mathematics and Science Conference for 7-10 grade girls, St Louis Community College – Meramac, St Louis, MO March 13, 2013

PROFESSIONAL SERVICE

Reviewer for Funding Agencies

2019 Grant Review Panel: ZGM1 RCB-5 (SC) Support for Competitive Research (SCORE) review panel, **NIGMS/NIH** – October 11

2019 Ad-hoc Grant Reviewer for the Medical Research Council, United Kingdom – June 25

2019 Grant Review Panel: 2019/10 ZGM1 RCB-5 (SC) Support for Competitive Research (SCORE) review panel, **NIGMS/NIH** – June 28

2018 Ad-hoc Grant Reviewer for Biosciences for the Future, Wiltshire, United Kingdom – December 3

2018 Ad-hoc Grant Reviewer for the Beaumont Faculty Development Fund, internal **SLU** grant – August

2017 Ad-hoc Grant Reviewer for the Nexus of Animal and Human Health Research Review, Kansas City Area Life Sciences Institute (**KCALSI**), October 16

2015 Grant Review Panel: "FY16 1491 Unsolicited Biotechnology & Biochemical Engineering Panel", **NSF**, CBET Division – December 10-11

2015 Grant Review Panel: 2015/10 ZGM1 TWD-3 (SC) Support for Competitive Research (SCORE) review panel, **NIGMS/NIH** – June 26

2014 Grant Review Panel: 2014/10 ZGM1 TWD-3 (SC) Support for Competitive Research (SCORE) review panel, **NIGMS/NIH** – June 26

2014 Grant Review Panel: 2014/05 ZGM1 TWD-3 (SC) Support for Competitive Research (SCORE) review panel, **NIGMS/NIH** – February 26

2013, 14, 18 Ad-hoc Grant Reviewer for President's Research Fund, internal **SLU** grant

2011 Grant Review Panel: "Stem Cell, Tissue Engineering and Drug/Gene delivery", National Science Foundation (**NSF**), CBET Division - December

Journal Editorial/Review Boards

2014- **Review Editor:** Frontiers in Bioengineering and Biotechnology (*IF: 5.122*); Frontiers Publisher

Reviewer for Scientific Journals (55 total)

2019 ACS Applied Polymer Materials – 1 paper

2019 Oncology Reports (*IF: 2.662*) – 1 paper

2019 Polymer (*IF: 3.483*) – 1 paper

2019 RSC Advances (*IF: 2.936*) – 1 paper

2018 ACS Applied Bio Materials (new journal) – 2 papers

2018 Science Advances (*IF: 11.51*) – 2 papers

2018 Tissue Engineering Part A (*IF: 3.508*) – 1 paper

2018 Colloids and Surfaces B: Interfaces (*IF: 3.994*) – 2 papers

2018 Frontiers in Bioengineering and Biotechnology (*IF: 5.122*) – 3 papers

2018 Frontiers in Oncology (*IF: 4.416*) – 2 papers

2018 Computational and Structural Biotechnology (*IF: 4.148*) – 1 paper
2018 Journal of Microencapsulation (*IF: 1.585*) – 2 papers
2018 Cells Tissues Organs (*IF: 1.275*) – 1 paper
2018 Journal of the Mechanical Behavior of Biomedical Materials (*IF: 2.57*) – 2 papers
2018 Journal of Polymer Science, Part B (*IF: 3.830*) – 1 paper
2018 Biochemistry & Analytical Biochemistry (*IF: 2.63*) – 1 paper
2018 Advanced Materials (*IF: 19.791*) – 1 paper
2018 Small (*IF: 8.315*) – 1 paper
2017-present Cancer Letters (*IF: 6.375*) – 2 papers
2017-present Frontiers in Materials (*IF: 2.008*) – 4 papers
2017-present Biotechnology and Bioengineering (*IF: 4.481*) – 3 papers
2017 Journal of the Mechanical Behavior of Biomedical Materials (*IF: 3.110*) – 1 paper
2017 Advanced Engineering Materials (*IF: 1.758*) – 2 papers
2017 Biotechnology Progress (*IF: 2.167*) – 2 papers
2017 Chemical Engineering Journal (*IF: 5.439*) – 2 papers
2017-present ACS Biomaterials Science & Engineering (3.234) – 8 papers
2017 European Polymer Journal (*IF: 3.242*) – 1 paper
2016 Biomaterials (*IF: 8.557*) – 1 paper
2016 International Journal of Oncology (*IF:* 3.025) – 1 paper
2016 Current Nanoscience (*IF:* 0.934) – 2 papers
2016-present Biomacromolecules (*IF:* 5.750) – 4 papers
2016 Macromolecualr Chemistry and Physics (*IF:* 2.451) – 1 paper
2016 AIChE Journal (*IF:* 2.748) – 2 papers
2016 Tissue Engineering – Part B: Reviews (*IF:* 4.64) – 2 papers
2015 Macromolecular Rapid Communications (*IF:* 4.608) – 1 paper
2015 Sensors (*IF:* 2.245) – 1 paper
2015 Materials Today (*IF:* 10.85) – 1 paper
2015 ACS Chemical Neuroscience (*IF:* 4.362) – 1 paper
2015 Tissue Engineering - Part C: Methods (*IF:* 4.64) – 2 papers
2015 Biomaterials Science (*IF*: 3.831) – 2 papers
2015 Cellular and Molecular Bioengineering (*IF*: 1.318) – 2 papers
2015-2016 Annals of Biomedical Engineering (*IF:* 3.195) – 2 papers
2015-present Journal of the Minerals, Metals, and Materials Society (IF: 1.757) – 3 papers
2014-present Advanced Functional Materials (*IF:* 13.5) – 5 papers
2014-present Advanced Healthcare Materials (*IF:* 5.79) – 10 papers
2014-present Journal of Materials Chemistry B (*IF:* 4.726) – 7 papers
2014 Micromachines (*IF:* 1.286) – 1 paper
2013-present Macromolecular Bioscience (*IF:* 3.650) – 9 papers
2013 Journal of Biomaterials Science: Polymer Edition (*IF:* 1.648) – 1 paper
2013-present Acta Biomaterialia (*IF:* 6.025) – 18 papers
2013-present Journal of Viusalized Experiments (JoVE) (*IF:* 1.325) – 3 papers
2012 Soft Matter (*IF:* 4.151) – 1 paper
2012-present Journal of Biomedical Materials Research: Part A (*IF:* 3.369) – 6 papers
2011-present Journal of Controlled Release (*IF:* 7.633) – 3 papers
2011 International Journal of Molecular Sciences (*IF:* 2.339) – 1 paper
2011 Macromolecular Theory and Simulations (*IF:* 1.793) – 1 paper

Number of papers reviewed:

2019 – 21 papers

2018 – 29 papers
2017 – 25 papers
2016 – 17 papers
2015 – 22 papers
2014 – 16 papers
2013 – 7 papers
2012 – 2 papers
2011 – 4 papers

Biomedical Engineering Society (BMES)

Abstract/Extended Abstract Reviewer

2019 "Biomaterials" track, BMES Annual Meeting, Philadelphia, PA
2018 "Cancer Technologies" track, BMES Annual Meeting, Atlanta, GA
2018 "Drug Delivery and Intelligent Systems" track, BMES Annual Meeting, Atlanta, GA
2017 "Biomaterials" track, BMES Annual Meeting, Phoenix, AZ
2017 "Biomedical Education" track, BMES Annual Meeting, Phoenix, AZ
2016 "Biomaterials" track, BMES Annual Meeting, Minneapolis, MN
2015 "Biomaterials" track, BMES Annual Meeting, Tampa, FL

Session Chair/Co-Chair (Session Moderator)

2019 "Biomaterials: Hydrogels IV" Platform Session, BMES Annual Meeting, Philadelphia, PA
2018 "Drug Delivery for Implants and Responsive Drug Delivery Systems", Platform Session, BMES Annual Meeting, Atlanta, GA
2018 "Drug Delivery and Immunomodulation", Platform Session, BMES Annual Meeting, Atlanta, GA
2018 "Micro/Nano Tools in Molecular Biology", Platform Session, BMES Annual Meeting, Atlanta, GA
2017 "3D Printing and Advanced Biomaterial Manufacturing-II", Platform Session, BMES Annual Meeting, Phoenix, AZ
2017 "Drug Delivering Biomaterials", Platform Session, BMES Annual Meeting, Phoenix, AZ
2016 "Biomaterials for Immunoengineering I", Platform Session, BMES Annual Meeting, Minneapolis MN
2015 "Biomaterial Scaffolds III", Platform Session, BMES Annual Meeting, Tampa, FL

Mentor

2017 "Match-up Mentoring Program", BMES Annual Meeting, Phoenix, AZ
2016 "Rapid Resume Review and Critique Workshop", BMES Annual Meeting, Minneapolis, MN
2015 "Match-up Mentoring Program", BMES Annual Meeting, Tampa, FL

American Institute for Chemical Engineers (AIChE)

Session Chair/Co-chair (Abstracts Reviewer, Session Organizer and Moderator)

2017 "Biomaterials II: Platforms for Cell Encapsulation, Isolation and Diagnostics", Platform Session, AIChE Annual Meeting, Minneapolis, MN
2017 "Biomaterials I: Instructive and Responsive Biomaterials", Platform Session, AIChE Annual Meeting, Minneapolis, MN
2016 "Biomaterials: Graduate Student Award Session", Platform Session, AIChE Annual Meeting, San Francisco, CA
2015 "Biomaterials: Graduate Student Award Session", Platform Session, AIChE Annual Meeting, Salt Lake City, UT
2014 "Hydrogel Biomaterials I and II", Platform Session, AIChE Annual Meeting, Atlanta, GA

2014 "Biomaterial-Cell Interactions in Tissue Engineering", Platform Session, AIChE Annual Meeting, Atlanta, GA
2013 "Biobased Materials", Platform Session, AIChE Annual Meeting, San Francisco, CA
2013 "Biomaterials II", Platform Session, AIChE Annual Meeting
2013 "Biomaterials I", Platform Session, AIChE Annual Meeting, San Francisco, CA
2012 "Spatially Patterned Biomaterials", Platform Session, AIChE Annual Meeting, Pittsburg, PA
2011 "Hydrogel Biomaterials", Platform Session, AIChE Annual Meeting, Minneapolis, MN
2011 "Hybrid Biomaterials", Platform Session, AIChE Annual Meeting, Minneapolis, MN
2010 "Hybrid biomaterials", Platform Session, AIChE Annual Meeting, Salt Lake City, UT
2010 "Advances in biomaterial evaluation", Platform Session, AIChE Annual Meeting, Salt Lake City, UT
2009 "Gene delivery from tissue engineering scaffolds", Platform Session, AIChE Annual Meeting, Nashville, TN
2009 "Injectable biomaterials", Platform Session, AIChE Annual Meeting, Nashville, TN

Judge

2012 "Graduate student award session in nanomaterials", Platform Session, AIChE Annual Meeting, Pittsburg, PA
2011 "Graduate student award session in nanomaterials", Platform Session, AIChE Annual Meeting, Minneapolis, MN
2010 "Graduate student award session in nanomaterials", Platform Session, AIChE Annual Meeting, Salt Lake City, UT

Invited Panelist

2009 "Women in Engineering: Graduate Student Panel", AIChE Annual Meeting, Nashville, TN

Society for Biomaterials (SfB)

Abstract Reviewer

2019 "Synthetic Nanomaterials for Therapeutic Delivery", SfB Annual Meeting, Seattle WA
2019 "Biomaterials for Therapeutic Drug Delivery", SfB Annual Meeting, Seattle WA
2010 "Biomimetic materials for tissue engineering", SfB Annual Meeting

Society of Engineering (SES)

Symposium Organizer and Chair

2019 "Biomaterial-based in-vitro disease models in drug and toxicology screening applications A", Symposium organizer and chair, Society of Engineering Science Meeting, St Louis, MO, October 13-15
2019 "Biomaterial-based in-vitro disease models in drug and toxicology screening applications B", Symposium organizer and chair, Society of Engineering Science Meeting, St Louis, MO, October 13-15

Institute of Biological Engineering (IBE)

Session Chair/Co-Chair

2019 "Bionanotechnology" Platform Session Moderator, Institute of Biological Engineering Annual Conference, St Louis, MO, April 4-6
2019 Poster Judge, Institute of Biological Engineering Annual Conference, St Louis, MO, April

Midwest Regional Conferences, Symposiums, Workshops

Session Chair (Session Moderator)

2017 "Drug Delivery & Materials in Tissue Regeneration", Platform Session Moderator, Musculoskeletal Regenerative Medicine and Biology Meeting, St. Louis, MO
2016 "Translational Regenerative Medicine", Platform Session Moderator, Midwest Regenerative Medicine Conference, Monticello, IL

Abstract Reviewer

2017 ORS Midwest Musculoskeletal Workshop, St Louis, MO

Poster Judge

2017 ORS Midwest Musculoskeletal Workshop, St Louis, MO
2016 St. Louis Area Undergraduate Research Symposium (STLAURS), St. Louis, MO
2015 Sigma Xi Research Symposium, Saint Louis University, St Louis, MO

***Eunice Kennedy Shriver* National Institute of Child Development (NICHD)**

2012 Invited Panelist: "Discover a career at the NIH", University of Pittsburg students and faculty visit
2012 Contributing editor: VFC Fellows Newsletter
2012 Regular contributor: The NIH Catalyst: a publication about intramural research
2012 Judge: NIH FARE 2013 Travel Award Competition
2011 Member: NICHD Steering Committee
2011 Poster Judge: 2011 NIH Spring Research Festival, Bethesda, MD
2010 - 2012 Member: NICHD Fellows Committee
2010 - 2012 Regular contributor: NICHD Fellows Newsletter

UMBC Biochemical Engineering Graduate Students Organization (BioCheGS)

2008 - 2009 President
2008 - 2009 Web Master
2007 - 2008 Vice President
2006 - 2007 Historian/Secretary