

RESUME – Delphine M.D. Dean

PERSONAL DATA

Current Rank: Professor

Address: Department of Bioengineering
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EDUCATION

Ph.D., Massachusetts Institute of Technology, 2005, Electrical Engineering and Computer Science

M. Eng., Massachusetts Institute of Technology, 2001, Electrical Engineering and Computer Science

S.B., Massachusetts Institute of Technology, 2001, Electrical Engineering and Computer Science

PROFESSIONAL EXPERIENCE

Clemson University, 2020- , Ron and Jane Lindsay Family Innovation Professor of Bioengineering

Clemson University, 2019- , Professor of Bioengineering

Clemson University, 2014-2019, Gregg-Graniteville Associate Professor of Bioengineering

Clemson University, 2013- 2014, Associate Professor of Bioengineering

Clemson University, 2007-2013, Assistant Professor of Bioengineering

Clemson University, 2005-2006, Postdoctoral Fellow in Bioengineering

Massachusetts Institute of Technology, 2005, Postdoctoral Associate in Bioengineering

MEMBERSHIPS

American Chemical Society, ACS (2002-)

American Physical Society, APS (2002-)

Materials Research Society, MRS (2004-)

Biomedical Engineering Society, BMES (2005-)

Society for Biomaterials, SFB (2007-)

American Society for Engineering Education, ASEE (2008-)

Orthopaedics Research Society, ORS (2012-)

PUBLICATIONS

Books and Monographs

- J. G. Goldsmith, H. L'Ecuyer, D. Dean, E.C. Goldsmith, *Application of Gold Nanorods in Cardiovascular Science* Chapter in *Anisotropic and Shape-Selective Nanomaterials*, 1st Edition, H. Murph, S.E. Larsen, G.K. Coopersmith (eds), (2017), Springer, Cham, Switzerland. (pg 427-442), ISBN-13: 978-3319596617
- J. I. Rodriguez-Devora, C. Moody, A. Desai, D. Dean, *Chapter 6: 3D Cancer Spheroid Biofabrication Using Thermal Inkjet-Based Bioprinting for Rapid Screening*, Chapter in *Engineering 3D Tissue Test Systems* (2017), K.J.L. Burg, D. Dréau, T. Burg (eds), CRC Press, Boca Raton, FL, USA. (pg 91-104) ISBN 9781138745674

Refereed Journal Publications

1. Sengupta, B., Medlin, D. Sprunk, M., Napolitano, J., D'Avanzo, J., Zheng, X.R., Dean, D., Takacs, E., "X-ray cabinet to deliver highly characterized low-dose soft x-ray radiation to biological samples", *Review of Scientific Instruments*, 91: 034104, 2020.
2. Hefter G, Warner M, Kwartowitz D, Dean D, "Ultrasound Elastography Probe Design for Diagnosing Rotator Cuff Pathology", *IEEE Potentials*, 39(2): 22-27, 2020.
3. Erickson H, Hargett Z, Batista J, DesJardins J, Dean D, "Designing a Respiratory-Rate Monitor for Developing Countries", *IEEE Potentials*, 39(2): 15-21, 2020.
4. McCullough M, Msafiri N, Richardson W, Harman M, DesJardins J, Dean D, "Development of a global design education experience in bioengineering through international partnerships." *ASME Journal of Biomechanical Engineering*, 141(12): 124503, 2019.
5. Navarro-Lozoya M., Kennedy M.S., Dean D, Rodriguez-Devora J., "Development of Phantom Material that Resembles Compression Properties of Human Brain Tissue for Training Models", *Materialia*, 8:100438, (2019)
6. H. Cash, D. Dean, "The effects of low-dose radiation on articular cartilage: a review", *Journal of Biological Engineering*, 13:1, (2019).
7. A. Desai, S. Geraghty, D. Dean, "Effects of blocking integrin $\beta 1$ and N-cadherin cellular interactions on mechanical properties of vascular smooth muscle cells", *Journal of Biomechanics*, 82:337-345, (2019).
8. L. Datko Williams, A. Farley, M. Cupelli, S. Alapati, M.S. Kennedy, D. Dean, "Effects of substrate stiffness on dental pulp stromal cells in culture", *Journal of Biomedical Materials Research A*, 106(7):1789-97, (2018).

9. B. D. Fellows, N. Ghobrial, E. Mappus, A. Hargett, M. Bolding, D. Dean, O. T. Mefford, "In vitro studies of heparin-coated magnetic nanoparticles for use in the treatment of neointimal hyperplasia", *Nanomedicine*, 14(4):1191-1200, (2018)
10. K. Truong, S. Bradley, B. Baginski, J.R Wilson, D. Medlin, L. Zheng, R.K. Wilson, M. Rusin, E. Takacs, D. Dean, "The effect of well-characterized, very low-dose x-ray radiation on fibroblasts". *PLoS One*. 13(1):e0190330, (2018).
11. R. Chen, D. Dean, "Mechanical properties of stem cells from different sources during vascular smooth muscle cell differentiation", *Molecular and Cellular Biomechanics*, 14(3):153-169, (2017).
12. K. Hafner, D. Montag, H. Maeser, C. Peng, W.R. Marcotte Jr, D. Dean, M.S. Kennedy. Evaluating adhesion and alignment of dental pulp stem cells to a spider silk substrate for tissue engineering applications. *Materials Science and Engineering C*. 1;81:104-112, (2017).
13. D. Dean, K. Hafner, X. Chen, B. Kirkland, T. Hafner, M.S. Kennedy. The Influence of Cellular Debris on Cell Guidance and Implications for Incorporating Silicon Based Micropatterns. *MRS advances*. 2017 June 15; 2(57):3537-3546.
14. A.N. Chowdhury, H.T. Vo, S. Olang, E. Mappus, B. Peterson, N. Hlavac, T. Harvey, D. Dean, "A customizable chamber for measuring cell migration" *Journal of Visualized Experimentation*, 12(121), (2017).
15. TA Lyda, EL Wagner, AX Bourg, C Peng, GN Tomaraei, D Dean, MS Kennedy, WR Marcotte Jr. "A Leishmania secretion system for the expression of major amputate spidroin mimics". *PLoS One*. 12(5):e0178201, (2017).
16. D. Dean, J. DesJardins, M. McCullough, C. Brewer, I. DeMass, K. Guion, C. Young, "Designing medical devices for developing countries", *Medical Design Technology*, [Sep/Oct 2016](#): 8-9, (2016)
17. S.M. Kawano, D.R. Economy, M.S. Kennedy, D. Dean, R.W. Blob, "Comparative limb bone loading in the humerus and femur of the tiger salamander: testing the 'mixed-chain' hypothesis for skeletal safety factors", *Journal of Experimental Biology*, 219(Pt 3): 341-53, (2016)
18. Lance, C.-C. Yang, M. Swamydas, D. Dean, S. Deitch, K. Burg, D. Dreau, "Increased extracellular matrix density decreases MCF10A breast cell acinus formation in 3D culture conditions", *Journal of Tissue Engineering and Regenerative Medicine*, 10(1):71-80, 2016
19. K. Gainey, P. T. Ovington, D. Dean, "A Low-Cost Ink-Jet Printed Glucose Test Strip System for Resource-Poor Settings", *Journal of Diabetes Science and Technology*, 9(6):1275-81, (2015)
20. D Medlin, W Heffron, A Siegel, K Wilson, A Klingenger, A Gall, M Rusin, D Dean, E Takacs, "Development of an x-ray irradiation port for biomedical applications at the CUEBIT facility", *Journal of Physics: Conference Series*, 583(1): 12048-52, (2015)

21. J. Klingenberg, M. Schott, T. Kimmel, D. Medlin, A. Gall, M. Rusin, D. Dean, E. Takacs, "Modeling low energy x-ray interactions with biological material at the CUEBIT", *Journal of Physics: Conference Series*, 583(1): 12046, (2015)
22. H. Liu, R. Chen, H. Yang, W. Qin, T.K. Borg, D. Dean, M. Xu, B.Z. Gao, "Enzyme-etching technique to fabricate micropatterns of aligned collagen fibrils", *Biotechnology Letters*, 36(6): 1245-52, (2014)
23. F.P. Rojas, M.A. Batista, C.A. Lindburg, D. Dean, A.J. Grodzinsky, C. Ortiz, L. Han, "Molecular adhesion between cartilage extracellular matrix macromolecules", *Biomacromolecules*, 15(3): 772-780, (2014)
24. B. Faugas, M. Ellison, D. Dean, M. Kennedy, "Surface Characterization of As-spun and Supercontracted Nephila clavipes Dragline Silk", *Journal of Surface Engineered Materials and Advanced Technology*, 3(3A):18-26, (2013)
25. C.A. Lindburg, J. Willey, D. Dean, "Effects of Low Dose X-Ray Irradiation on Porcine Articular Cartilage Explants", *Journal of Orthopedic Research*, 31(11): 1780-5, (2013)
26. H. Tang, S. Biechler, L. Junor, M. J. Yost, D. Dean, J. Li, J. D. Potts, "Fluid flow forces and rhoA regulate fibrous development of the atrioventricular", *Developmental Biology*, 374(2):345-56, (2013)
27. S.T. Wood, B.C. Dean, D. Dean, "A Linear Programming Approach to Reconstructing Subcellular Structures from Confocal Images for Automated Generation of Representative 3D Cellular Models", *Medical Image Analysis*, 17(3): 337-47, (2013)
28. S.T. Wood, B.C. Dean, D. Dean, "A Computational Approach to Understand Phenotypic Structure and Constitutive Mechanics Relationships of Single Cells", *Annals of Biomedical Engineering*, 41(3):630-44, (2013) (*selected as cover)
29. E.A. Trent, L. Bailey, F. N. Mefleh, V. P. Raikar, E. Shanley, C. A. Thigpen, D. Dean, D. Kwartowitz, "Assessment and characterization of in situ rotator cuff biomechanics", *Proceedings of SPIE: Medical Imaging 2013*, 8672:86721M, (2013)
30. D. Dean, J.D. DesJardins, M. Halsey, K. Harfmann, A. Dicks. T. Youngman "Inside a Porcupine Quill", *NAUKA iz pervykh ruk (SCIENCE First Hand, in Russian)*, 6 (48): 130-131, (2012).
31. S. Deitch, B.Z. Gao, D. Dean, "Effect of Matrix on Cardiomyocyte Viscoelastic Properties in 2D Culture", *Molecular and Cellular Biomechanics*, 205(1):1-24, (2012)
32. G. V. White, P. Kerscher, J. Morella, R. Brown, W. McAllister, D. Dean, K.L. Kitchens, "Green Synthesis of Robust, Biocompatible Silver Nanoparticles using Garlic Extract" *Journal of Nanomaterials*, 2012: 730746, 2012.
33. Owczarczak, S. Shuford, S. T. Wood, S. Deitch, D. Dean, "Transient Cell Membrane Pores Using a Standard Inkjet Printer" *Journal of Visualized Experimentation*, 61:e3681, 2012 (*2nd most downloaded JoVE article in 2013)

34. Zimmerman, J. Chow, B. Abbott, M. Ellison, M. Kennedy, D. Dean, "Variation of Surface Charge Along the Surface of Wool Fibers Assessed by High-Resolution Force Spectroscopy", *Journal of Engineered Fibers and Fabrics*, 6(2): 61-66, (2011)
35. Dean, J. Hemmer, A. Vertegel, M. LaBerge, "Frictional Behavior of Individual Vascular Smooth Muscle Cells Assessed By Lateral Force Microscopy", *Materials*, 3(9): 4668-4680 (2010).
36. X. Cui, D. Dean, Z. M. Ruggeri, T. Boland, "Cell Damage Evaluation of Thermal Inkjet Printed Chinese Hamster Ovary Cells", *Biotechnology and Bioengineering*, 106(6): 963-9, (2010).
37. B. Zimmerman, L. Datko, S. Alapati, D. Dean, M. Kennedy, "Alteration of Dentin-Enamel Mechanical Properties Due to Dental Whitening", *Journal of the Mechanical Behavior of Biomedical Materials* 3: 339-346, (2010).
38. J. D. Hemmer, J. Nagatomi, S. T. Wood, A. A. Vertegel, D. Dean, M. LaBerge, "Role of Cytoskeletal Components in Stress Relaxation Behavior of Adherent Vascular Smooth Muscle Cells", *ASME Journal of Biomechanical Engineering* 131(4):041001 (2009).
39. L. Han, D. Dean, L. A. Daher, A. J. Grodzinsky, C. Ortiz, "Cartilage Aggrecan Can Undergo Self-Adhesion" *Biophysical Journal* (10):4862-4870, (2008)
40. J. D. Hemmer, D. Dean, A. Vertegel, E. Langan, M. LaBerge, "Effects of serum deprivation on the mechanical properties of adherent vascular smooth muscle cells." *Proceedings of the IMechE Part H: Journal of Engineering in Medicine* 222(H5): 761-772, (2008)
41. S. Deitch, C. Kunkle, X. Cui, T. Boland, D. Dean, "Collagen Matrix Alignment Using Inkjet Printer Technology." *Mater. Res. Soc. Symp. Proc.* 1094: DD07-16, (2008).
42. Han, L., Dean, D., Mao, P., Ortiz, C., Grodzinsky, A. J., "Nanoscale Shear Deformation Mechanisms of Opposing Cartilage Aggrecan Macromolecules" *Biophysical Journal*, 2007 93(5):L23-25, 2007.
43. Han, L., Dean, D., Ortiz, C., Grodzinsky, A. J., "Lateral Nanomechanics of Cartilage Aggrecan Macromolecules", *Biophysical Journal* 92:1384-1398 (2007)
44. Pirlo, R. K., Dean, D., Knapp, D. R., Gao, B. Z., "Cell Deposition System Based on Laser Guidance", *Biotechnology Journal* 1(9):1007-13 (2006)
45. Dean, D., Han, L., Grodzinsky, A. J., and Ortiz, C., "Compressive Nanomechanics of Opposing Aggrecan Macromolecules," *Journal of Biomechanics* 39(14): 2555-2565 (2006)
46. Vandiver, J., Dean, D., Patel, N., Botelho, C., Best, S., Santos, J., Lopes, M., Bonfield, W., and Ortiz, C., "Silicon addition to hydroxyapatite increases nanoscale electrostatic, van der Waals, and adhesive interactions," *Journal of Biomedical Materials Research A* 78A(2):352-363 (2006).

47. Dean, D., Han, L., Ortiz, C., and Grodzinsky, A. J., "Nanoscale Conformation and Compressibility of Cartilage Aggrecan using Microcontact Printing and Atomic Force Microscopy," *Macromolecules* 38(10): 4047-4049 (2005)
48. Seog, J., Dean, D., Rolaufts, B., Wu, T., Genzer, J., Plaas, A.H.K., Grodzinsky, A. J., and Ortiz, C. "Nanomechanics of Opposing Glycosaminoglycan Macromolecules," *Journal of Biomechanics*.38(9); 1789-1797 (2005)
49. Vandiver, J., Dean, D., Patel, N., Bonfield, W., and Ortiz, C., "Nanoscale Variation in Surface Charge of Synthetic Hydroxyapatite Detected by Chemically and Spatially Specific High Resolution Force Spectroscopy," *Biomaterials*, 26(3): 271-283 (2005)
50. Fitzgerald, J., Jin, M., Dean, D., Wood, D., Zheng, M., Grodzinsky, A. "Mechanical Compression of Cartilage Explants Induces Multiple Time-Dependent Gene Expression Patterns and Involves Intracellular Calcium and Cyclic AMP," *Journal of Biological Chemistry*, 279(19): 19502 (2004).
51. Seog, J., Dean, D., Frank, E., Ortiz, C., Grodzinsky, A. "Preparation of End-Grafted Polyelectrolytes On Nanoscale Probe Tips Using An Electric Field," *Macromolecules* 37(3) 1156-1158 (2004)
52. Rixman, M. A., Dean, D., and Ortiz, C. "Nanoscale Intermolecular Interactions between Human Serum Albumin and Low Grafting Density Surfaces of Poly(ethylene oxide)" *Langmuir* 19 (22); 9357-9372 (2003)
53. Dean, D., Seog, J., Ortiz, C., and Grodzinsky, A. "Molecular Level Theoretical Model for Electrostatic Interactions Within Polyelectrolyte Brushes Using Glycosaminoglycans as a Model System" *Langmuir*, 19(13): 5526-5539 (2003)
54. Rixman, M. A., Dean, D., Mathias, C. E., Ortiz, C. "Nanoscale Intermolecular Interactions between Human Serum Albumin and Alkanethiol Self-Assembled Monolayers," *Langmuir*, 19(15) 6202-6218 (2003)
55. Seog, J., Dean, D., Plaas, A, Wong-Palms, S., Grodzinsky, A., and Ortiz, C., "Direct Measurement of Glycosaminoglycan Intermolecular Interactions via High-Resolution Force Spectroscopy," *Macromolecules*, 35(14):5601-5615 (2002)

Conference Proceedings (Reviewed)

1. A. Jamison, T. Lee, M. McCullough, J. DesJardins, D. Dean, "Detection of Antiretroviral Drugs in Urine (The Kugunda)", Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
2. D. McLeod, R. Fratus, S. Ward, H. Peer, M. Hatchett, I. M. Issa, M. J. Dome, H. Manga, M. McCullough, N. Msafiri, J. DesJardins, M. Harman, D. Dean, "Fabrication of Upper Limb Prostheses in Low Resource Settings", Biomedical Engineering Society, Philadelphia, PA, Oct. 2019.
3. A. Harrison, M. Elpers, M. Downing, C. Martin, M. Hartsell, M. McCullough, O. T. Mefford, J. Gilmore, J. DesJardins, D. Dean, "Kifua Pampu: A Novel Filter to Inactivate HIV in Breast Milk", Biomedical Engineering Society, Philadelphia, PA, Oct. 2019

4. R. Moen, C. Hummel, B. Banaszak, M. McCullough, J. DesJardins, D. Dean, "Portable Infant Insulating Monitoring Device for Rural Areas", Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
5. D. Nigao, S. Mandilwar, A. Nukovic, S. Tan, M. McCullough, W. Richardson, J. DesJardins, D. Dean, "Save Your Breath! A Low-Cost Oxygen Sensor for Oxygen Concentrators", Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
6. R. Falconer, A. Nukovic, N. Meilinger, A. LeMatty, Z. Hargett, M. Gutierrez, M. Marcanikova, M. McCullough, D. Dean, J. DesJardins, M. Harman, "Elephant Dentures Outreach: A STEM Education Module", Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
7. M. McCullough, D. Dean, "The Bionic Arm Creative Inquiry: Teaching Engineers to be Multidisciplinary Leaders", Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
8. M. McCullough, D. Dean, "To Pee or Not to Pee: Using U-Bent Fiber Optic Biosensors in Urinalysis to Detect Early Stage Chronic Kidney Disease", Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
9. N. Ghobrial, O. T. Mefford, D. Dean, "Studying the Effect of Heparin-Coated Magnetic Nanoparticles on Human Vascular Cells", Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
10. M. Judge, O. Newkirk, R. Lee, K. Schindler, D. Dean, "Tendon Stretching Device for Investigation into Effect of Cyclic Loading on Soft Tissue", Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
11. T. Ryan, A. Tedeschi, Z. Hargett, M. McCullough, J. DesJardins, D. Dean, M. Harman, "Assessment of Using Alcohol Wipes in Electrosurgical Pencil Reprocessing" Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
12. J. Napolitano, A. Chowdhury, B. Sengupta, K. Aduma, P. Carrouth, R. Garvey, M. Hill, R. Keller, C. Petty, A. Rifkin, R. Stepp, E. Takacs, D. Dean, "Effects of Low Dose X-Ray on Vascular Smooth Muscle Cells", Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
13. O. Newkirk, K. Lindsey, B. Sengupta, D. Dean, "Tendon Response to Low-Dose X-ray Irradiation", Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
14. O. Newkirk, K. Lindsey, M. Judge, A. Seilkop, A. Santore, C. Bednarek, D. Dean, "Tendon Mechanical Properties Changes in Response to Stretch Environments" Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
15. K. Cannon, M. Livingstone, J. Shaffer, J. DesJardins, D. Dean, "Swallowing In Poise (S.I.P.)" Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
16. D. Rahgoshay, E. Takacs, D. Dean, "Effects of Low-Dose Ionizing Radiation on Porcine Aortic Endothelial Cells" Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
17. A. Garver, D. McLeod, M. McCullough, D. Dean, "A Prototype Capacitance-Based Position Sensor with Active Shielding" Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
18. A. LeMatty, E. Houk, Z. Hargett, M. Fadhili, I. Asmin, M. Kalleku, G. Harris, A. Msoka, I. Tweve, N. Msafiri, D. Dean, M. Harman, "Assessing Medical Device Reprocessing and Reuse in the Tiered Healthcare System of Tanzania", Biomedical Engineering Society, Philadelphia, PA, Oct. 2019

19. Q. Le, A. Chowdhury, M. McCullough, D. Dean, "Detection of Cyanobacteria Contaminated Water via U-bent Fiber Optics" Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
20. M. Livingstone, A. Hines, S. Zemitis, Z. Hargett, D. Dean, J. DesJardins, D. Neyens, M. Harman, "Evaluating the Safety of Reusable Medical Devices Using Human Factors Engineering" Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
21. M Elpers, A. LeMatty, A. Harrison, M. Downing, J. DesJardins, D. Dean, "Assessment of Diagnostics and Management of Non-Communicable Disease (NCDs) and HIV: Kisarawe, Tanzania", Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
22. M. Blankenship, C. Fusca, A. Kersey, W. McClain, T. Motlong, D. Dean, "Calf Muscle Activity in Dancers on Pointe and on Flat", Biomedical Engineering Society, Philadelphia, PA, Oct. 2019
23. O. Newkirk, M. Maggio, M. Judge, A. Seilkop, K. Lindsey, A. Santore, M. Hermanns, E. Caruso, D. Dean, "Investigation into Soft Tissue Micro-Tearing and Repair Mechanisms as it Relates to Sports Injuries", Society for Biomaterials, Seattle, WA, April 2019.
24. N. Ghobrial, B. Fellow, O. Mefford, D. Dean, "Effect of Heparin-Coated Magnetic Nanoparticles on Human Vascular Cells", Society for Biomaterials, Seattle, WA, April 2019.
25. P. Clark, N. Ghobrial, D. Dean, "Assessing the Effect Heparin-Coated Magnetic Nanoparticles on Human Endothelial Cells", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.
26. D. Nigao, S. Mandilwar, R. Fenner, M. McCullough, J. DesJardins, W. Richardson, D. Dean, "Demonstrating the Viability of Using Zinc-Air Batteries in Oxygen Sensors for Low-Resource Settings", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.
27. E. Fast, T. Harvey, D. Dean, "Understanding the Role of the Glycocalyx in Whole Cell Mechanics Measurements", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.
28. N. Patterson, N. Ghobrial, D. Dean, "Modeling the Effects of Stent Strut Geometry on the Capture Efficiency of a Magnetizable Stent", Biomedical Engineering Society, Atlanta, GA, Oct. 2018
29. O. Newkirk, M. Maggio, M. Judge, T. Harvey, D. Dean, "Device for Arm Motion Analysis to Investigate Soft Tissue Tearing in Sports Injuries", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.
30. N. Ghobrial, B. Fellows, O. T. Mefford, D. Dean, "In-vitro Assessment of Heparin-Coated Magnetic Nanoparticles", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.
31. T. Harvey, D. Dean, "CellSpark: A Simulation Tool to Spark Discovery Learning of Electrophysiology", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.
32. N. Guion, I. DeMass, R. Gilbert, C. Brewer, K. Guion, J. DesJardins, D. Dean, "HojaHealth: Portable Patient Monitoring", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.
33. S. McKain, P. Tharp, M. McCullough, D. Dean, "Dynamic Pressure Sensing Shoe Accessory", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.

34. M. McCullough, V. Fonner, M. Sweat, D. Dean, "To Pee or Not To Pee: Device Development for Early Stage Chronic Kidney Disease Monitoring", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.
35. J. Boulos, E. Gaston, M. Grahne, H. Nguyen, M. McCullough, W. Richardson, J. DesJardins, D. Dean, "Development of Mobility Device for the Visually Impaired in Developing Countries", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.
36. B. Banaszak, M. Cattell, J. Hadley, R. Moen, Z. Hargett, M. McCullough, W. Richardson, J. DesJardins, D. Dean, "Low Cost Neonatal Infant Insulating and Monitoring system for Remote Rural Areas", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.
37. H. Cash, J. Willey, D. Dean, "The Effects of Moderate Gamma Irradiation on Mechanical Properties of Porcine Articular Cartilage", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.
38. D. McLeod, B. C. Dean, D. Dean, "Classification of Individual Finger Movements Using a Myoelectric Armband and Machine Learning Techniques", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.
39. A. Chowdhury, T. McKeown, J. Cheser, D. Dean, "A Rapid Biosensor for Water Testing Utilizing Surface Coated Lectins for Specific Bacterial Binding", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.
40. J. Napolitano, A. Chowdhury, S. Bradley, L. Zheng, D. Medlin, E. Takacs, D. Dean, "Effects of Low-Dose X-Ray Radiation on Endothelial Cells In Vitro", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.
41. S. Slaney, M. Judge, N. Demore, D. Dean, "Surgical Detector for the Localization of Implanted Breast Tissue Markers", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.
42. M. Elpers, A. Harrison, M. Downing, O. T. Mefford, M. McCullough, J. DesJardins, W. Richardson, D. Dean, "Kifua Pampu: A Robust Breast-Pump for the Prevention of Mother to Child Transmission of HIV", Biomedical Engineering Society, Atlanta, GA, Oct. 2018.
43. Desai, A., Harvey, T., Dean, B.C., Dean, D., "Characterizing Cardiovascular Cell Mechanical Structure Function Relationships", 8th World Congress of Biomechanics, Dublin, Ireland, July 2018.
44. W. Richardson, H. Tam, H. Cash, M. Owen, J. Kohn, B. Przestrzelski, B. Booth, M. McCullough, K. Mkongwa, U. Melkior, N. Mbwambo, J. DesJardins, D. Dean, "International Academic Partnership for Diverse Bioengineering Design Education", 8th World Congress of Biomechanics, Dublin, Ireland, July 2018.
45. Cash, H., Willey, J., Dean, D., "The Effects of Moderate Gamma Irradiation on Mechanical Properties of Articular Cartilage" 64th Annual Meeting of the Orthopaedics Research Society in New Orleans, LA, March 2018
46. M.J. Been, S. Bradley, D. Medlin, D. Dean, "The Effect of Varying Doses and Sources of Radiation on Endothelial Cells", Biomedical Engineering Society, Phoenix, AZ, Oct. 2017
47. P. Tharp, S. McKain, J. Kerley, L. Schmidt, D. Dean, "Developing Pressure-Adaptive Shoes", Biomedical Engineering Society, Phoenix, AZ, Oct. 2017
48. H. Leslie, S. Flannery, M. Copeland, S. Kaul, S. Zoeller, L. Schmidt, M. McCullough, and D. Dean, "The Pressure Pointe: Assessing Forces on Young

- Dancers' Feet during Ballet", Biomedical Engineering Society, Phoenix, AZ, Oct. 2017
49. N. Ghobrial, B. Fellows, O.T. Mefford, D. Dean, "Heparin-Coated Magnetic Nanoparticles Uptake by Fibroblasts and Vascular Cells", Biomedical Engineering Society, Phoenix, AZ, Oct. 2017
 50. G. Hefter, M. Warner, D. Kwartowitz, D. Dean, "Ultrasound Elastography Probe Design for Rotator Cuff Diagnosis", Biomedical Engineering Society, Phoenix, AZ, Oct. 2017
 51. T. Harvey, B. Dean, D. Dean, "Computational Approaches to Understanding Single Cell Structure-Function Relationships", Biomedical Engineering Society, Phoenix, AZ, Oct. 2017
 52. K. Truong, S. Bradley, B. Baginski, E. Takacs, D. Dean, "Effect of Low Dose X-ray Radiation on Cells In Vitro", Biomedical Engineering Society, Phoenix, AZ, Oct. 2017
 53. H. Cash, J. Wiley, D. Dean, "The Effects of Low Dose Radiation on Porcine Articular Cartilage", Biomedical Engineering Society, Phoenix, AZ, Oct. 2017
 54. Cash, H., Willey, J., Dean, D., "The Effects of Low Dose Radiation on Porcine Articular Cartilage" 63rd Annual Meeting of the Orthopaedics Research Society in San Diego, CA, March 2017
 55. C. Young, I. DeMass, C. Brewer, R. Gilbert, K. Guion, M. McCullough, J. DesJardins, D. Dean, "Assessment of Medical Equipment in Kisarawe, Tanzania", Biomedical Engineering Society, Minneapolis, MN, Oct. 2016
 56. J. Rohde, A. Cobb, R. Gilbert, Z. Hawks, J. DesJardins, D. Dean, "Development of Low-cost Impedimetric Biosensors for Clinical Diagnostics and Water Testing", Biomedical Engineering Society, Minneapolis, MN, Oct. 2016
 57. M. Navarro, J. Rodriguez Devora, D. Dean, "3D Printed Brain Model Resembling Mechanical Properties of Brain Matter for Preoperative Planning and Practice", Biomedical Engineering Society, Minneapolis, MN, Oct. 2016
 58. K. Hafner, O. Ross, H. Maeser, J. Catoe, M.S. Kennedy, D. Dean, "Adhesion and Alignment of Stem Cells on Spider Silk Scaffolds after UV Sterilization", Biomedical Engineering Society, Minneapolis, MN, Oct. 2016
 59. N. Ghobrial, B. Fellows, O. T. Mefford, D. Dean, "Assessing Uptake of Magnetite Nanoparticles by Fibroblasts Using Transmission Electron Microscopy", Biomedical Engineering Society, Minneapolis, MN, Oct. 2016
 60. A. Desai, R. Peyronnet, P. Kohl, D. Dean, "Atomic Force Microscopy and Carbon Fibre: A Novel Technique to Assess Multidimensional Mechanics of Single Isolated Cardiomyocytes", Biomedical Engineering Society, Minneapolis, MN, Oct. 2016
 61. D. Montag, K. Hafner, M.S. Kennedy, D. Dean, "Cellular Response to Spider Silk Scaffolds", Biomedical Engineering Society, Minneapolis, MN, Oct. 2016
 62. T. Harvey, B. Dean, D. Dean, "Estimating Myofibril Distribution in Adult Cardiomyocytes: A Subcellular Min-Cost Flow Problem", Biomedical Engineering Society, Minneapolis, MN, Oct. 2016
 63. C. Jordan, J. Wilson, S. Slaney, L. Schmidt, V. Raikar, M. McCullough, N. Demore, D. Dean, "Hand-Held Device for the Location of Sentinel Node Biopsy Markers in

- Breast Cancer Surgery”, Biomedical Engineering Society, Minneapolis, MN, Oct. 2016
64. K. Truong, S. Bradley, M. Rusin, E. Takacs, D. Dean, “The Cell Response of 7F2 Osteoblasts to Low-Dose Radiation”, Biomedical Engineering Society, Minneapolis, MN, Oct. 2016
 65. H. Cash, J. Wiley, D. Dean, “The Effects of Low Dose Radiation on Articular Cartilage”, Biomedical Engineering Society, Minneapolis, MN, Oct. 2016
 66. H. Leslie, S. Flannery, M. Copeland, S. Kaul, L. Schmidt, M. McCullough, D. Dean, “The Pressure Point: Assessing Forces of Dancers’ Feet during Ballet”, Biomedical Engineering Society, Minneapolis, MN, Oct. 2016
 67. C. Bocklet, E. Kowal, G. Hefter, M. Marlow, M. Warner, W. Harley, D. Dean, D. Kwartowitz, “Ultrasound Elastography Probe Design for Rotator Cuff Diagnosis”, Biomedical Engineering Society, Minneapolis, MN, Oct. 2016
 68. Cash, H., Willey, J., Dean, D., “The Effects of Low Dose Radiation on Articular Cartilage”, 62th Annual Meeting of the Orthopaedics Research Society in Orlando, FL, March 2016.
 69. Desai, A., Deitch, S., Dean, D., “AFM-based mechanical characterization of cardiomyocytes”, Cardiac Mechano-Electric Coupling and Arrhythmias in Freiburg, Germany, September 2016.
 70. Harvey, T., Dean, B.C., Dean, D., “Modeling myofibril distribution in adult cardiomyocytes: A subcellular min-cost flow problem”, Cardiac Mechano-Electric Coupling and Arrhythmias in Freiburg, Germany, September 2016.
 71. K. Truong, S. Bradley, B. Baginski, C. Hellyer, J. Wilson, K. Earle, S. Flannery, M. Rusin, E. Takacs, D. Dean, “The Effect of Very Low Dose X-Ray Radiation on the Proliferation of Fibroblasts”, Biomedical Engineering Society Annual Meeting in Tampa, FL, Oct. 2015.
 72. A. Desai, R. Peyronnet, P. Kohl, D. Dean, “Characterizing Axial and Longitudinal Mechanics of Individual Cardiomyocytes”, Biomedical Engineering Society Annual Meeting in Tampa, FL, Oct. 2015.
 73. M. Rusin, E. Takacs, D. Dean, “Adipose Stem Cell Proliferation after Gamma Irradiation”, Biomedical Engineering Society Annual Meeting in Tampa FL, Oct. 2015.
 74. E. Mappus, B. Fellows, O. T. Mefford, D. Dean, “Magnetic Nanoparticles in the Prevention of Neointimal Hyperplasia”, Biomedical Engineering Society Annual Meeting in Tampa, FL, Oct. 2015.
 75. J. Rodriguez-Devora, C. Moody, A. Desai, K. Burg, D. Dean, “High-throughput 3D Spheroid Culture using Inkjet Bioprinting”, Biomedical Engineering Society Annual Meeting in Tampa, FL, Oct. 2015.
 76. W. Harley, E. Kowal, K. Showers, C. Corbett, H. Scruggs, G. Hefter, M. Marlowe, N. Matel, D. Dean, D. Kwartowitz, “Ultrasound Elastography Probe Design for Rotator

Cuff Diagnosis” Biomedical Engineering Society Annual Meeting in Tampa, FL, Oct. 2015

77. Dean, D., “Nanomechanics of Aggrecan”, World Biomechanics Congress, July 2014, Boston, MA.
78. Rusin, M., Dean, D., “Effect of X-Ray Radiation on Adult Stem Cell Differentiation”, Society for Biomaterials Annual Meeting, April 2014, Denver, CO.
79. C. Arthur, A. Stastny, C. Jones, A. Desai, J. Rodriguez-Devora, “Cell Culture on Photovaltaic Surfaces: An Alternative to Trypsinization”, Biomedical Engineering Society Annual Meeting in San Antonio, TX, (P-Sat-379), Oct. 2014
80. W. Heffron, R. Wilson, D. Medlin, A. Gall, M. Rusin, D. Dean, E. Takacs, “Development of X-ray Irradiation Port for Biological Material at CUEBIT”, Biomedical Engineering Society Annual Meeting in San Antonio, Texas, (P-Sat-297), Oct. 2014
81. B. Kirkland, K. Hafner, M.S. Kennedy, D. Dean, “Do Substrate Cleaning Methods Affect Cellular Response?”, Biomedical Engineering Society Annual Meeting in San Antonio, Texas (P-Th-545), Oct. 2014
82. J. Rodriguez-Devora, A. Desai, N. Nosoudi, D. Dean, “Effect of Methylcellulose on Breast Cancer Cellular Spheroid Biomechanics”, Biomedical Engineering Society Annual Meeting in San Antonio, Texas (P-Th-312) Oct. 2014
83. K. Gainey, P. T. Ovington, J. DesJardins, D. Dean, “GlucoseSense: Design of a Low Cost Diabetes Glucometer System”, Biomedical Engineering Society (BMES) Annual Meeting in San Antonio, Texas (Global Health Oral Presentation) Oct. 2014
84. R. Chen, D. Dean, “Vascular Smooth Muscle Cell Behavior on Patterned PDMS Substrates”, Biomedical Engineering Society Annual Meeting in San Antonio, Texas (Cell Biomechanics Oral Presentation) Oct. 2014
85. Luedicke, N., Burghardt, E., Hodge, J., Barrett, A., Thomas, R., Dean, D., Nagatomi, J., “Novel central venous catheterization simulation for medical training”, 29th IEEE Southern Biomedical Engineering Conference (2013).
86. Trent, E. A., Bailey, L., Mefleh, F. N., Raikar, V. P., Shanley, E., Thigpen, C. A., Dean, D. and Kwartowitz, D. M., "Assessment and Characterization of in Situ Rotator Cuff Biomechanics," SPIE Medical Imaging, 86721M, (2013).
87. M. Rusin, Y. Mei, D. Dean, "Adhesion of Vitronectin to Microfabricated Polymer Arrays" Society for Biomaterials, April 2013, Boston, MA.
88. R. Chen, D. Dean, "Mechanical properties of stem cells from different sources during vascular smooth muscle cell differentiation" Society for Biomaterials Annual Meeting, April 2013, Boston, MA
89. Desai, S. Deitch, D. Dean, "Effects of Blocking Cell-Cell and Cell-Matrix Interactions on Cardiac Cell Mechanical Properties" Society for Biomaterials, April 2013, Boston, MA

90. K. Gainey, P. T. Ovington, J. Desjardins, D. Dean, "Design of Low Cost Glucometer and InkJet Printed Test Strips", Biomedical Engineering Society Annual Meeting in Seattle, WA (Oct. 2013)
91. T. Youngman, M. Kofoed, D. Martin, A. Metzger, D. Dean, J. Desjardins, "Developing a Woven Grass Neck Brace for Low Resource Implementation", Biomedical Engineering Society Annual Meeting in Seattle, WA (Oct. 2013)
92. A. Barrett, E. Burghardt, J. Hodge, N. Luedicke, R. Thomas, D. Dean, J. Nagatomi, "Novel Central Venous Catheterization Simulation for Medical Training", Biomedical Engineering Society Annual Meeting in Seattle, WA (Oct. 2013)
93. A. Grujicic, R. Yavari, J. Snipes, R. Subrahmanian, M. Grujicic, D. Dean, "A Chemical and Mechanical Model of Vascular Smooth Muscle Tissue", Biomedical Engineering Society Annual Meeting in Seattle, WA, (Oct. 2013)
94. A. Desai, S. Deitch, D. Dean, "Effects of Blocking Cell-Cell and Cell-Matrix Interactions on Mechanical Properties of Cardiomyocytes", Biomedical Engineering Society Annual Meeting in Seattle WA (Oct. 2013)
95. R. Chen, D. Dean, "Mechanical Properties of Bone Marrow and Adipose Stem Cells during Vascular Smooth Muscle Differentiation", Biomedical Engineering Society Annual Meeting in Seattle, WA (Oct. 2013)
96. T. Kieu, W. McAllister, C. Kitchen, D. Dean, "The Effects of Different Size Nanoparticles on the Mechanical Properties of Vascular Smooth Muscle Cells", Biomedical Engineering Society Annual Meeting in Seattle, WA (Oct. 2013)
97. S. R. Cole, D. Dean, C. Kitchens, "Stability and Cytotoxicity of One Step Synthesis Cationic Gold Nanoparticles", Biomedical Engineering Society Annual Meeting in Seattle, WA (Oct. 2013)
98. J. Williams, J. Wilson, K. Nugent, D. Dean, "Effect of X-Ray Dose on Porcine Articular Cartilage", Biomedical Engineering Society Annual Meeting in Seattle, WA (Oct. 2013)
99. H. Scruggs, C. Corbett, A. Cusick, K. Perry, B. Sudduth, H. Cash, K. Showers, M. Hanschke, D. Dean, D. Kwartowitz, "Force Sensor Ultrasound Probe Design for Better Rotator Cuff Injury Diagnosis", Biomedical Engineering Society Annual Meeting in Seattle WA (Oct. 2013)
100. A. Farley, K. Shores, M. Kennedy, D. Dean, "The Effects of Hydroxyapatite and Fluoroapatite on Dental Cell Differentiation", Biomedical Engineering Society Annual Meeting in Seattle WA (Oct. 2013)
101. A. Devon, K. Gainey, H. Adams, J. Desjardins, D. Dean, "Designing Neonatal Monitoring Devices for Resource-Poor Settings", Biomedical Engineering Society Annual Meeting in Seattle WA (Oct. 2013)
102. Desai, S. Deitch, D. Dean, "Effects of Substrate Stiffness on Vascular Smooth Muscle Cell Mechanical Properties" Society for Biomaterials, Oct. 2012, New Orleans, LA.

103. R. Chen, D. Dean, "Mechanical Properties of Stem Cells from Different Sources during Vascular Smooth Muscle Cell Differentiation", Society for Biomaterials, Oct. 2012, New Orleans, LA
104. M. Kennedy, G. Chen, J. Sharp, T. Bruce, D. Dean "Response of mice 7F2 osteoblast and porcine dental pulp stem cells to substrate topography" TMS 2012 Annual Meeting - Biological Materials Science Symposium in Orlando, FL, March 2012
105. Farley, L. Datko, M. Kennedy, D. Dean, "Addition of Apatite Microparticles to Cell Cultures- Effects on Differentiation" TMS 2012 Annual Meeting Biological Materials Science Student Poster Contest in Orlando, FL, March 2012 (*Winner of Best Poster Award)
106. C.A. Lindburg, J. Willey, S. Bielby, J. DesJardins, D. Dean, "Effect of X-Ray Irradiation on Porcine Articular Cartilage Using an Explant Model", 58th Annual Meeting of the Orthopaedic Research Society in San Francisco, CA, #1814, Feb. 2012
107. F. Rojas, C.A. Lindburg, D. Dean, A.J. Grodzinsky, C. Ortiz, L. Han, "Molecular Adhesion between Cartilage Extracellular Matrix Constituents", 58th Annual Meeting of the Orthopaedic Research Society in San Francisco, CA, #692, Feb. 2012.
108. L. Wiles, S. Langworthy, M. Halsey, J. DesJardins, and D. Dean, "Development of a Low-Cost Blood Glucose Monitoring System for Implementation in Resource-Poor Settings", Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
109. M. Rusin, H. Yao, S. Kirkpatrick, C. McCaa, R. Svrluga, J. Khoury, and D. Dean, "Surface Charge Characterization of GCIB-Treated PEEK Surface Using AFM", Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
110. E. A. Trent, C. Thigpen, M. K. Harman, R. Hawkins, D. Dean, and D. M. Kwartowitz, "Towards Ultrasound Elastographic Assessment and Staging of Rotator Cuff Disease", Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
111. J. M. Connolly, M. G. Byrd, A. N. Dicks, C. P. Macks, J. G. Turbeville, T. M. Veith, D. Dean, and D. M. Kwartowitz "Evaluation of the Impact of Experiential Activities on Student's Choice of Major and Submajor Concentration", Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
112. M. Kofoed, K. Keith, J. Nicholas, D. Dean, and J. DesJardins "Medical Equipment Breakdown Survey – Weil Bugando Referral Hospital, Tanzania", Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
113. T. Youngman, R. M. Halsey, M. Russell, M. Toney, J. Nicholas, J. DesJardins, and D. Dean, "Assessment of Medical Equipment Failures in Mbeya, Tanzania", Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
114. A. Desai, S. Deitch, and D. Dean, "Effects of Cell-Cell and Cell-Matrix Interactions on Vascular Smooth Muscle Cell Mechanical Properties under in vivo

- Conditions”, Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
115. A. Lindburg and D. Dean “Release of Glycosaminoglycans in Cartilage Explants Following X-Ray Radiation Exposure”, Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
 116. R. Chen, and D. Dean, “Investigating Mechanical Property Change During Vascular Smooth Muscle Cell Differentiation of Stem Cells from Different Sources”, Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
 117. S. Olang, R. Chen, and D. Dean, “Adipose Stem Cell Differentiation towards Vascular Smooth Muscle Cells”, Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
 118. A. Farley, A. Cusik, M. S. Kennedy, and D. Dean, “The Effect of Hydroxyapatite and Fluoroapatite on Dental Cell Differentiation”, Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
 119. W. Senn, S. Shuford, J. Wood, M. S. Kennedy, and D. Dean, “Effect of Fluid Flow on Dental Pulp Stem Cells in 2D and 3D Culture”, Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
 120. K. Gainey, K. Byrd, J. Wilson, L. Wiles, J. DesJardins, and D. Dean, “Design of Glucose Testing Strips Using Inkjet Printing”, Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
 121. T. Hafner, M. S. Kennedy, and D. Dean, “Response of Dental Pulp Stem Cells to Surface Micropatterning”, Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
 122. H. Scruggs, A. Cusik, K. Grove, Q. Guo, K. Perry, M. Rogers, D. Kwartowitz, and D. Dean, “Force Sensing on Ultrasound Probe Design for Better Rotator Cuff Injury Diagnosis” , Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
 123. A. Nguyen, E. Mappus, T. Harvey, B. Peterson, M. O'Kelly, E. Hammes, and D. Dean, “Fibroblasts Solving Mazes in Response to Growth Factor Concentration” , , Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
 124. M. Monterosso, M. Cupelli, M. S. Kennedy, and D. Dean, “Induced Osseous and Odontous Differentiation in Dental Pulp Stem Cells through Static Compression”, Biomedical Engineering Society Annual Meeting in Atlanta GA, (Oct. 24-27, 2012)
 125. S.T. Wood, B.C. Dean, S. Kanetkar, D. Dean, “Structural Modeling of Vascular Smooth Muscle Cell Mechanics using Marc”, MSC 2011 Users Conference Technical Papers, 11-046, 24, October 2011 (*Winner of Best University Research Technical Paper Award)
 126. L. Datko, M. Cupelli, S. Alapati, M. Kennedy, D. Dean, “Effects of substrate elasticity on human pulp cells” Journal of Dental Research, 90A 1876 , 2011

127. C.A. Lindburg, S. A. Bielby, J. S. Willey, J. D. DesJardins, D. Dean, "Effect of X-Ray Irradiation on Porcine and Murine Cartilage Modulus" Society for Biomaterials Annual Meeting, Orlando, FL, April 14, 2011
128. C-C. Yang, M. Swamydas, D. Dean, S. Deitch, D. Dréau, K. Burg, "Matrix Modulus Influences the Development of Breast Acini and Ducts in 3D Cultures", Society for Biomaterials Annual Meeting, Orlando, FL April 14, 2011.
129. W. McAllister, L. Wiles, P. Kerscher, J. Turbeville, C., Kitchens, D. Dean, "Vascular Smooth Muscle Cell Mechanics in Response to Gold Nanoparticles", Society for Biomaterials Annual Meeting, Orlando, FL, April 14, 2011
130. S. Deitch, D. Dean, "Effects of Cell-Cell and Cell-Matrix Interactions on Vascular Smooth Muscle Cell Mechanical Properties" Society for Biomaterials Annual Meeting, Orlando, FL, April 14, 2011,
131. S. T. Wood, S. Deitch, D. Dean, "Concurrent Visualization and Characterization of Single Cell Mechanical Properties", Society for Biomaterials Annual Meeting, Orlando, FL, April 14, 2011
132. S. Shuford, A. Owczarczak, S.T. Wood, D. Dean, "Incorporation of Fluorescent Actin Monomers in Living Cells using Inkjet Printing for Cellular Biomechanics Studies", Biomedical Engineering Society Annual Meeting in Hartford CT, (Oct. 12-16, 2011)
133. A. Desai, K. Wall, D. Dean, "3T3 Fibroblasts solving mazes in response to growth factor concentration", Biomedical Engineering Society Annual Meeting in Hartford CT, (Oct. 12-16, 2011)
134. T. Harvey, D. Dean, B. C. Dean, "The Effect of nonhomogeneous and anisotropic conductivity properties on the performance of ICA", Biomedical Engineering Society Annual Meeting in Hartford CT, (Oct. 12-16, 2011)
135. R. Halsey, K. Harfmann, E. Nuwass, D. Ellegala, J. Nicholas, J. DesJardins, D. Dean, "Design of an anatomical cervical orthosis testing apparatus and preliminary results", Biomedical Engineering Society Annual Meeting in Hartford CT, (Oct. 12-16, 2011)
136. T. H. Vo, L. Datko, M. Cupelli, D. Dean, "The effect of substrate stiffness without growth factors on the growth and development of rat bone marrow stem cells", Biomedical Engineering Society Annual Meeting in Hartford CT, (Oct. 12-16, 2011)
137. N. Gilreath, L. Datko, B. Glenn, D. Dean, "Absorption of citrate-coated gold nanoparticles by 3T3 fibroblast cells" Biomedical Engineering Society Annual Meeting in Hartford CT, (Oct. 12-16, 2011)
138. H. L'Ecuyer, S. Deitch, E. Goldsmith, D. Dean, "Effect of gold nanorods and sample preparation on mechanical properties of porcine heart valves", Biomedical Engineering Society Annual Meeting in Hartford CT, (Oct. 12-16, 2011)
139. R. Chen, N. Hao, D. Ntarlagiannis, S. Moysey, D. Dean, "Using AFM to assess the effect of microbial activity on soil electrical properties", Biomedical Engineering Society Annual Meeting in Hartford CT, (Oct. 12-16, 2011)

140. J. Wood, L. Datko, M.S. Kennedy, D. Dean, "Effects of three-dimensional dynamic flow on growth and differentiation of porcine dental pulp stem cells", Biomedical Engineering Society Annual Meeting in Hartford CT, (Oct. 12-16, 2011)
141. Farley, L. Datko, D. Dean, "The effect of mineral microparticles on dental cell differentiation", Biomedical Engineering Society Annual Meeting in Hartford CT, (Oct. 12-16, 2011)
142. S. Deitch, D. Dean, "Characterizing mechanical heterogeneity of vascular smooth muscle cells", Biomedical Engineering Society Annual Meeting in Hartford CT, (Oct. 12-16, 2011)
143. Lindburg, C. A., Elpers, M., Willey, J., Bateman, T, Dean, D., "Effect of Radiation on Articular Cartilage Mechanical Properties", Society for Biomaterials Annual Meeting, Seattle, WA, April 21-24, 2010.
144. McAllister, W., Wiles, L., Drennon, E., Turbeville, J., Kerscher, P., Kitchens, C., Dean, D., "The Effect of Metallic Nanoparticles on Vascular Smooth Muscle Cells" Society for Biomaterials Annual Meeting, Seattle, WA, April 21-24, 2010.
145. Wood, S. T., Dean, B. C., Dean, D., "Towards a Representative Phenotypic Representation of Structural Components of Vascular Smooth Muscle Cells", Society for Biomaterials Annual Meeting, Seattle, WA, April 21-24, 2010.
146. Datko, L. C., Cupelli, M., Kennedy, M., Alapati, S., Dean, D., "The Effects of Microenvironment on the Growth and Differentiation of Human Pulpal-derived Stem Cells", Society for Biomaterials Annual Meeting, Seattle, WA, April 21-24, 2010.
147. W. McAllister, L. Wiles, J. Turbeville, P. Kersher, C. Kitchens, D. Dean, "The Effect of Metallic Nanoparticles on Vascular Smooth Muscle Cell Mechanics" Biomedical Engineering Society Annual meeting in Austin, TX, (Oct. 6-9th, 2010)
148. S. Deitch, D. Dean, "Incorporating Cellular Mechanical Heterogeneity in a Multicellular Mechanical Model ", Biomedical Engineering Society Annual meeting in Austin, TX, (Oct. 6-9th, 2010)
149. L. Datko, M. Cupelli, S. Alapati, D. Dean, "The effects of microenvironment on the growth and differentiation of human pulpal-derived stem cells" Biomedical Engineering Society Annual Meeting in Austin, TX, (Oct. 6th-9th, 2010).
150. S. T. Wood, B. C. Dean, D. Dean, "Influence of Subcellular Structures on Single Vascular Smooth Muscle Cell Mechanics" Biomedical Engineering Society Annual Meeting in Austin, TX, (Oct. 6th-9th, 2010).
151. A. Lindburg, J. Wiley, T. Bateman, D. Dean, "The Effect of Radiation on Articular Cartilage Using a Murine Model" Biomedical Engineering Society Annual Meeting in Austin, TX (Oct. 6-9th, 2010).
152. S. Biechler, J. Moraveji, J. Weidner, R. Goodwin, D. Dean, A. Kheradvar, "Determination of Atrioventricular Cushion Material Properties in a Developing Chick Embryo" Biomedical Engineering Society Annual Meeting in Austin, TX (Oct. 6-9th, 2010).

153. T. Harvey, B. C. Dean, D. Dean, "Constructing a realistic brain phantom to validate the Independent Component Analysis of EEG Data", Biomedical Engineering Society Annual meeting in Austin, TX (Oct. 6-9th, 2010)
154. L. Ikonov, W. McAllister, D. Dean, "Direct Measurements of Nanoparticle and Cell Interactions using Atomic Force Microscopy", Biomedical Engineering Society Annual meeting in Austin, TX (Oct. 6-9th, 2010)
155. H. Roberts, C. A. Lindburg, D. Dean "Effect of X-Ray on Porcine Articular Cartilage Biomechanics" Biomedical Engineering Society Annual meeting in Austin, TX, (Oct. 6-9th, 2010)
156. M. Toney, C. A. Lindburg, D. Dean, "Mechanical Properties of Mesenchymal Cells during Vascular Smooth Muscle Cell Differentiation" Biomedical Engineering Society Annual meeting in Austin, TX (Oct. 6-9th, 2010).
157. Datko, LC, Zimmerman, B, Alapati, S, Kennedy, M., Dean, D. "Mechanical Properties of Human Teeth Subjected to Common Clinical Whitening Agents and Etchants", Society for Biomaterials Annual Meeting, San Antonio, TX, April 22-25, 2009.
158. Hemmer, JD, Wood, ST, J Nagatomi, D Dean, CJ Wright-Walker, M LaBerge, poster. "Effects of OxLDL on the Viscoelastic Properties of Vascular Smooth Muscle Cells." Society for Biomaterials Annual Meeting, San Antonio, TX, April 22-25, 2009.
159. Hemmer, JD, Dean, D, CJ Wright-Walker, M LaBerge. "Frictional Property Measurement of Individual Vascular Smooth Muscle Cells." Society for Biomaterials Annual Meeting, San Antonio, TX, April 22-25, 2009.
160. Wood, S.T., Hemmer, J., Dean, B, Dean, D, "Structural Modeling of Vascular Smooth Muscle Cell Mechanics" Biomedical Engineering Society Annual Meeting in Pittsburgh, PA (Oct. 2009)
161. Cupelli, M., Datko, L, Alapati, S., Dean, D., "Effect of Microenvironment on Differentiation of Dental Pulp Cells" Biomedical Engineering Society Annual Meeting in Pittsburgh, PA (Oct. 2009)
162. Drennon, E., Wiles, L., Turbeville, J., Kerscher, P., Kitchens, C., Dean, D., "The Effect of Metallic Nanoparticles on Vascular Smooth Muscle Cells" Biomedical Engineering Society Annual Meeting in Pittsburgh, PA (Oct. 2009)
163. Riemer, M.J., Taylor, C.J., Dong, C.J., Sun, S.J., Dean, D., "Mathematical Modeling of Neurite Growth" Biomedical Engineering Society Annual Meeting in Pittsburgh, PA (Oct. 2009)
164. Datko, L, Cupelli, M., Alapati, S., Dean, D., "The Effects of Substrate Properties on the Growth and Differentiation of Human Pulpal-Derived Stem Cells" Biomedical Engineering Society Annual Meeting in Pittsburgh, PA (Oct. 2009)
165. Deitch, S., LaBerge, M., Dean, D., "Effects of Cell-Cell and Cell-Matrix Interaction on the Mechanical Heterogeneity of Vascular Smooth Muscle Cells" Biomedical Engineering Society Annual Meeting in Pittsburgh, PA (Oct. 2009)

166. Ross, Q., Elpers, M., Livingston, E., Bateman, T., Sosdian, L., Kennedy, M., Dean, D., “Effect of Space Radiation on Bone Mechanics” Biomedical Engineering Society Annual Meeting in Pittsburgh, PA (Oct. 2009)
167. Kelly, C., Datko, L., McAllister, W., Alapati, S., Kennedy, M., Dean, D., “Modeling the Effect of Drill-Bit Generated Heat on Human Teeth”, Biomedical Engineering Society Annual Meeting in St. Louis, MO (Oct. 2008)
168. Datko, L., Zimmerman, B., Alapati, S., Kennedy, M., Dean, D., “ Mechanical Properties of Human Teeth Subjected to Common Clinical Whitening Agents and Etchants” Biomedical Engineering Society Annual Meeting in St. Louis, MO (Oct. 2008)
169. McAllister, W., Dean, D., Kennedy, M., “Depositing Hydroxyapatite to Create Synthetic Dental Tissue”, Biomedical Engineering Society Annual Meeting in St. Louis, MO (Oct. 2008)
170. Peay, C., Alaimo, J., Marshall, A., Dean, D., “Increasing Alginate Gel Electrical Conductivity with Gold Nanoparticles” Biomedical Engineering Society Annual Meeting in St. Louis, MO (Oct. 2008)
171. Wood, S.T., Hemmer, J., Dabney, J., Dean, B., Dean, D., “Quantifying Vascular Smooth Muscle Cell Cytoskeletal Structure from Confocal Microscopy”, Biomedical Engineering Society Annual Meeting in St. Louis, MO (Oct. 2008)
172. Deitch, S., Gao, B.Z., Dean, D., “Effect of Matrix on Cardiomyocyte Viscoelastic Properties in 2D Culture”, Biomedical Engineering Society Annual Meeting in St. Louis, MO (Oct. 2008)
173. Alaimo, J., Marshall, A., Dean, D., “Electrical Conductance of Collagen Gels with Gold Nanoparticles”, Biomedical Engineering Society Annual Meeting in St. Louis, MO (Oct. 2008)
174. Deitch, S., Kunkle, C., Cui, X., Boland, T., Dean, D., “Collagen Matrix Alignment Using Inkjet Printing”, Materials Research Society Spring Meeting in San Francisco, CA. (Mar. 2008)
175. Wood, S., Hemmer, J., Dabney, J., Dean, B., LaBerge, M., Dean, D., “Modeling of Vascular Smooth Muscle Cell Mechanics”, Materials Research Society Spring Meeting in San Francisco, CA. (Mar. 2008)

PATENTS

1. Patent Awarded, US20140094701, “Devices that Cooperate with Ultrasound Probes for Musculoskeletal Evaluations and Related Systems and Methods”, D. Kwartowitz, E. Trent, F. Mefleh, V. Raikar, D. Dean, 2014
2. Patent filed, “Low Cost Glucose Monitoring System and Method of Use”, D. Dean, K. Gainey, P.T. Ovington, L. Wiles, K. Harfmann, and R. M. Halsey, US Patent Application No.: 14/709,700, 2015.

3. Patent, "Metal Clip Detectors and Methods of Detection", N. Demore, D. Dean, S. Stanley, J.R. Wilson III, C. Jordan, M. McCullough, International patent: WO/2018/039672, 03/3018, US patent: 62/379,883, 2016.
4. SC LaunchPad Entrepreneur Competition finalist for MedUSim's CLiVE, a medical training simulator device. MedUSim consists of faculty members (D. Dean and J. Nagatomi) and undergraduate students (G. Fercana, S. Becker, M. Townsend, E. Tumblin, M. Dunphy, K. Grove). SC LaunchPad is a state-wide competition open to anyone in the state of South Carolina. The top 10 finalists presented on Dec. 2010.
5. Co-Founder of Accessible Diagnostics LLC. Company founded in Oct. 2014 focusing on low-cost diagnostic devices.

HONORS AND AWARDS

Adjunct Associate Professor, Center for Global Health, Medical University of South Carolina, (2018- present)
 Member of NIH NHLBI Mentored Transition to Independence (MTI) study section, (2018-2022)
 Clemson Representative, Society for Biomaterials Awards Committee (2018- present)
 Esin Gulari Leadership and Service Award (2018)
 Co-director of the Clemson Tigers ADVANCE Pathfinder and Pathway programs (programs to recruit URM and women to Clemson) (2017-present)
 Clemson President's Leadership Institute, (2016)
 Award of Distinction from Clemson National Scholars Program, (2013, 2018)
 Murray Stokely Award for Excellence in Teaching from Clemson College Engineering and Science, (2012)
 Honoris Causa from Clemson University Circle of Omicron Delta Kappa, (2012)
 Outstanding Academic Faculty Award from the President's Commission on the Status of Women, Clemson University, (2012)
 Phil and Mary Bradley Award for Mentoring in Creative Inquiry, Clemson University, (2011)
 Favorite Clemson University Undergraduate Research Advisor, Clemson Undergraduate Bioengineering Class (2009)

SPONSORED RESEARCH

Current:

"Impact of Integrated HIV/NCD Screening on HIV Testing Uptake and Engagement in HIV Care: an RCT in Kisarawe, Tanzania", NIH NIMH 1 R01 MH111366, co-PI (PI: M Sweat, \$3,100,000), (2016-2021)

“CAREER: Hierarchical Mechanical Models of Cell Constructs”, NSF CBET 1254609, PI (\$400,000), (2013-2019)

Past:

“NSF-ERC Research Opportunities in Europe for NSF CAREER Awardees”, NSF, PI (\$18,000), (2015-2016) (supplement to NSF CAREER grant to do sabbatical in UK)

“REU Site: Interfaces and Surfaces” NSF DMR 1460863, co-Inv, (PI: Marian Kennedy, \$220,000), (2015-2018)

“Composite Materials for Contact Sports Helmets”, Industry contract, (PI: DesJardins, \$80,518) (2013-2015)

“TIGER: Collaborative medical technology development for Tanzania”, Clemson College of Engineering and Science, PI, \$20,000 (2015)

“TIGER: Clemson Research Center for Advanced Radiation Therapy Environments”, Clemson College of Engineering Science, co-PI, \$20,000 (2015)

“REU Site: Interfaces and Surfaces: Exploring and Experiencing Science (I SEE Science)” NSF, co-Inv, (PI: Marian Kennedy, \$109,971), (2011-2014)

“Towards Development of an Image-Based Protocol for the Detection and Staging of Rotator Cuff Injury”, (PI: Kwartowitz, \$56, 251) (2013-2015)

“IDeA Networks of Biomedical Research Excellence”, NIH 5 P20 RR-016461 and 8 P20 GM-103499, co-inv (PI: Pirisi-Creek, \$3,178,801) (2010-2015)

“Cardiac-Cell Mechanics at the Single-Cell Level: Properties and Interactions”, NIH NHLBI K25, PI (\$827,036), (2009-2014)

“2009 Research Infrastructure Improvement Grant”, NSF 0903795, co-Inv (PI: Nagarkatti, \$12,000,000), (2008-2013)

“Student Enrichment Experiences in Tanzania: Assessing Medical Technology Needs in the Developing World”, Bill and Melinda Gates Foundation, PI (\$40,000) (2012-2013)

“Quantifying Microbe-mineral Interactions Leading to Remotely Detectable Induced Polarization Signals: Implications for Monitoring Bioremediation” DOE, co-PI (PI S. Moysey, \$96,543), (2011-2013)

“Understanding the Effect of Ionizing Radiation on Articular Cartilage Biomechanics”, NASA SC Space Grant Consortium, PI (\$22,000), (2012)

“Using Gold Nanorods to Modify the Extracellular Matrix and Mechanical Properties of Cardiac Valves” NIH NHLBI R21, Co-PI (PI: E. Goldsmith, \$275,000), (2009-2012)

“Quantifying the Effect of Radiation on Adult Articular Cartilage Tissue Function and Mechanics”, NASA SC Space Grant Consortium, PI (\$22,000), (2011)

“Integrated Biomedical Science and Engineering Undergraduate Research”, NIH DHHS, Co-Inv (PI: L. Dooley, ~\$100,000), (2009-2010)

“Effect of Space Flight on Articular Cartilage”, NASA SC Space Grant Consortium REAP, PI (\$30,000), (2009-2010)

“MRI Acquisition of a Nano- to Microscale 3D Imaging System for Biomedical Research and Education”, NSF Major Research Instrumentation, Co-Inv (PI: J. Nagatomi, \$292,680) (2009-2010)

“Palmetto Academy: Effect of Radiation on Cartilage Biomechanics”, NASA SC Space Grant Consortium, PI (\$22,000), (2010)

“Effect of Radiation on the Biomechanics of Cartilage Tissue”, NASA SC Space Grant Consortium Palmetto Academy, PI (\$16,000), (2009)

“E-friendly Low Shrink Wool Fiber” KentWool Inc., Co-Inv (PI: M. Ellison, \$229,851) (2008-2009)

“Summer Space Biomedical Research (SSBR) Program” NASA SC Space Grant Consortium, Co-Inv (\$45,000) (2009)

“Modeling the Mechanical Property Effects of Space-Flight Induced Bone Remodeling”, NASA SC Space Grant Consortium, PI (\$16,000) (2009)

“Band Excitation PFM Imaging of Articular Cartilage Tissue” Oak Ridge National Laboratory’s Center for Nanophase Materials Sciences (CNMS) User Nanoscience Research Program, PI (2008-2009)

“Electrically conductive biodegradable gel and nanoparticle composites for nerve repair”, Clemson University Research Grant Committee, PI, \$10,000 (2008)

“A novel approach for guided regeneration of dental pulp cells and their role in deposition of mineralized hard tissue (dentin)”, MUSC dental school NIH-COBRE grant, consultant, \$50,000, (\$10,000) (2007-2008)

POSTDOCTORAL ADVISING

Research Faculty

Champaigne, Kevin July 2014- present

Wilson, Kayla January 2017- August 2017

Postdoctoral Researchers

Rodriguez, Jorge July 2013- 2015

Olsen, Shawn August 2012- June 2013

Wood, Scott T. January 2012- September 2012

GRADUATE STUDENT ADVISING

Doctoral Graduates

Cash, Hannah (PhD) “The Mechanical and Functional Effects of Ionizing Radiation on Articular Cartilage”, (May 2019)

Harvey, Tyler (PhD) “Computational Approaches to Understanding Structure-Function Relationships at the Intersection of Cellular Organization, Mechanics, and Electrophysiology”, (Dec. 2018)

Bowman, Laura (PhD) “Whole Body Irradiation and Degradation of Structural and Functional Properties of Mouse Bone: X-rays, Protons, and Heavy Ions”, (Dec. 2017) *Co-Advised with Dr. Ted Bateman (UNC)

Wilson, Kayla (PhD) “Diabetes in Low-Resource Settings: Novel Methods for Detection and Daily Monitoring”, (Dec. 2016)

Rusin, Matthew (PhD) “Impact of Ionizing Radiation Dose and Dose Rate on Adipose Stem Cell Function”, (Aug. 2016)

Desai, Aesha (PhD) “Manipulating Cardiovascular Cellular Interactions and Mechanics: A Multidimensional and Multimodal Approach”, (May 2016)

Chen, Ruikai, (PhD) “Investigating the Effects of Biochemical and Biophysical Signals on Vascular Smooth Muscle Cell Differentiation” (December 2014)

Deitch, Sandra, (PhD) “Characterizing Mechanical Heterogeneity in Cardiovascular Cells” (December 2011)

Wood, Scott T. (PhD) “Computational Approaches to Understand Phenotypic Structure and Constitutive Mechanics Relationships of Single Cells” (December 2011)

Masters Graduates

Maggio, Michael (M.S.) “Differential Gene Expression in Tendinopathy: Insights into the Failure of Wound Healing” (Dec. 2019)

Newkirk, Olivia “A Multimodal Exploration of Altered Mechanical and Histological Properties in Tendons with Degenerative Tendinopathy” (Dec. 2019)

Slaney, Scott (M.S.) “Development of a Breast Tissue Marker and Localization System”, (Aug. 2019)

Chowdhury, Anika (M.S.) “Lectin Coated Electrodes For Biosensor Water Testing Applications”, (May 2019)

Bradley, Suzanne (M.S.) “Stretching Vascular Smooth Muscle Cells on Micropatterned Surfaces”, (May 2018)

Wells, Jared (M.S.), “A Sensor Based Approach to Analyzing Motion in Medical Applications: AV Fistula Cannulation and Rett Syndrome”, (May 2017)

Hafner, Katherine (M.S.) “Evaluating Stem Cell Response to a Spider Silk Scaffold” (May 2017)

Navarro, Miriam (M.S.) “Development of a Tissue-Mimicking Brain Phantom for Neurosurgical Pre-Operative Planning and Training” (Dec 2016)

Robson, Megan (M.S) “An Investigation Into The Effects Of Low-Dose Gamma Radiation On Porcine Digital Flexor Tendons” (May 2016)

Mappus, Elliott (MS) “Magnetic Nanoparticles in the Prevention of Neointimal Hyperplasia” (May 2015)

Loper, Leanne (MS) “Analyzing User Acceptance of Mobile Technology in Clinical Settings through Point-Of-Care Mobile Applications” (May 2015)

King, Austin (MS) “The Effect of Gold Nanoparticle Size on the Mechanical Properties of Human Umbilical Vein Endothelial Cells”, (Aug. 2014)

Hammers, Jacob (MS) “Digital Image Processing for Ultrasonic Therapy and Tendinous Injury”, (May 2014)

Kieu, Tri (MS) “The Effects of Different Size Gold Nanoparticles on Mechanical Properties of Vascular Smooth Muscle Cells under Mechanical Conditions”, (Dec. 2013)

Lindburg, Carl Alex (MS) “The Effects of Low Dose Ionizing Radiation Exposure on the Metabolic and Mechanical Properties of Articular Cartilage”, (Dec. 2012)

McCaskill, Britton (MS) “Effects of Physiological Dynamic Compression Loading on Gold Nanoparticle Permeation of Articular Cartilage,” (Aug. 2012)

Cupelli, Matthew, (MS) “Effects of Different Microenvironmental Conditions on the Growth and Differentiation of Dental Pulp Stem Cells,” (May 2012)

Shuford, Stephen, (MS) “Internalization of Actin Monomers into 3T3 Fibroblasts via Thermal Inkjet Printing for Investigation of Cytoskeleton Incorporation and Mechanics,” (May 2012)

L’Ecuyer, Heather (MS) “The Effects of Coated Gold Nanorods on Porcine Atrioventricular Valve Tissues Using Atomic Force Microscopy,” (May 2012).

Datko, Laura, (MS) “Effects of Microenvironment on Growth and Differentiation of Human Dental Pulp Cells,” (May 2011). (NSF Graduate Student Research Fellowship Recipient)

McAllister, William (MS) “Vascular Smooth Muscle Cells in Response to Gold Nanoparticles” (May 2011)

Current Graduate Advising

Gohbrial, Nardine (Ph.D.) (Dec. 2020)

McCullough, Melissa (Ph.D.) (May 2022)

Newkirk, Olivia (MS) (Dec. 2019)

Maggio, Michael (MS) (Dec. 2019)

TEACHING

Courses Taught

BioE 3700, Bioinstrumentation and Bioimaging, (Spring and Fall) F07-F15, S17-F17, F18, F19
 BioE2000, Bioengineering Professional Development, S18, F18
 BioE 4510 (section 3), Creative Inquiry on Redesigning Medical Simulators, Spring 2008-2014
 BioE 4510 (section 4), Creative Inquiry on Modeling Neuron Outgrowth/Can Cells Solve Mazes?, Spring 2009-2014
 BioE4510 (section 5), Creative Inquiry on Robotics and Bioengineering, Fall 2010-2014
 BioE4510 (section 10), Creative Inquiry on Designing Medical Technology for the Developing World, Spring 2011-present
 BioE4510 (section 12), Creative Inquiry on Rotator Cuff Injury Diagnosis and Treatment, Fall 2011-2014
 BioE4510 (section 12), Explorations into Soft Tissue Sports Injuries, 2017-present
 BioE4510 (section 13), Creative Inquiry on Pulp Cells for Dental Tissue Regeneration, 2011-2016
 BioE4510 (section 15), Roper Mountain Science Center, 2013-2015
 BioE4510 (section 20), Mapping Amino Acids on Protein Surfaces, 2013-2014
 BioE4510 (section 21), Hands On Tissue Engineering, 2013-present
 BioE4510 (section 24), Engineering for Modern Healthcare, 2014-present
 BioE4510 (section 25), Generation and Characterization of Radiation for Biomedical Applications, 2014-present
 BioE4510 (section 31), Collaborative biomedical engineering design between Clemson and Arusha Technical College, 2017-present
 BioE4510 (section 37), Innovations in Bioinstrumentation, 2013-present
 BioE 4500/BioEH4500, Undergraduate Research in Bioengineering, 2008-present
 BioE 4610, Nanotechnology and Biomaterials, Su08
 Engr 1900, Special Project in Engineering I, Summer 2008-present
 MS&E 4910, Undergraduate Research, 2008-2009
 BioE8500, Introduction to Bioinstrumentation, 2010-2012
 BioE8500, Mentoring Undergraduate Teams, 2011-present

Workshops and Seminars

Short Course on Nanomechanics of Biological Systems, in Coimbatore, India Su19
 IEEE EMBS International Summer School on Computer Modeling in Medicine Lectures, Su19
 Panel on Translating Mechanobiology to the Clinic, at the Cellular and Molecular Bioengineering (CMBE) conference, Jan. 2018
 Seminars on Introduction to Bioengineering for High School Students for visiting high school groups S10, F10, S11, S12
 Workshop on Atomic Force Microscopy for Summer REU students, Su11, Su12
 Workshop on “Cell Culture for non-Bio Engineers and Scientists” for students and faculty Su 10, Su11, Su12
 Seminar on “What is Bioengineering?” for Middle School Students, presented at Edwards Middle School S10
 Demo on Bioinstrumentation for freshmen general engineering students F09, F10, F11, F12

Workshop on Introduction to Medical Instrumentation and Imaging, South Carolina IDeA Networks of Biomedical Research Excellence (INBRE), Bioengineering, Workshop Organizer Su08, Su09

Workshop on Introduction to Bioengineering: Instrumentation and Nanotechnology, Women In Science and Engineering workshop for 8th grade girls, Organizer, S08

MTHSC 481, Creative Inquiry in Mathematics and Bioengineering, Guest Lecturer/Research Project Mentor, F07, S08, F08, F09

Workshop on Introduction to Tissue Culture, South Carolina IDeA Networks of Biomedical Research Excellence (INBRE), Bioengineering, Workshop Organizer Su06, Su07

CpSc 881, Bioinformatics Seminar, Computer Science, Organizer/Participant F05, S06, F06, S07

New Course Development

Design characterization section of BioE 461 nanotechnology class Su08

Designed several new Creative Inquiry courses BioE4510 (see above courses category)

Design and test BioE 370 with new labs and topics during F07

UNIVERSITY AND PUBLIC SERVICE

Committees (Group according to department, college, university.)

Department: Chair, Departmental Assessment Committee (2007-2017)
 Member, Graduate Committee (2018-present)
 Member, Departmental Awards Committee (2018-present)
 Member, Undergraduate Assessment (ABET) Committee (2007- 2017)
 Member, 2011 Faculty Search Committee (2011)
 Member, Creative Inquiry Task Force (2010-2011)
 Member, IT Committee (2007-2009)
 Member, GenEd and E-portfolio task force (2007-2010)
 Member, Qualifier Exam Committee (2007-)
 Member, Creative Inquiry Task Force (2008-)
 Member, 2010 Department Faculty Search Committee (2010)
 Member, Summer Research Programs Task Force (2009-)
 Member, Graduate Committee (2011-2015)
 Faculty Advisor, Clemson Bioengineering Society and Clemson Engineering World Health

College: Chair, Dean's Advisory Committee (2013-)
 Reviewer and Chair, TIGER proposal Review (2013-)

Institute: Member, ACC Undergraduate Research Committee (2009- 2015)
 Member, Creative Inquiry Committee (2012- 2015)
 Member, Committee to interview National Scholar Finalists (2010-)
 Co-coordinator, Pathfinder and Pathway program, TIGERS Advance (2017-present)

Co-Director, Clemson-ITT Center for Innovative Medical Devices and Sensors (CIME DS) (2018-present)

External Committees:

NIH NHLBI Mentored Transition to Independence Panel (K99/K22 Review Panel), study section member (2018-2022)
Clemson Representative for Society for Biomaterials Awards Committee (2018-present)
Reviewer for NSF for ENG programs 2015-present
Society for Biomaterials, Pioneering Biomaterial Strategies for Traumatic Craniomaxillofacial Injuries, 2014, Organizer and co-chair
NIH NHLBI Mentored Transition to Independence Panel (K99/K22 Review Panel), 2014- 2017, ad hoc member
Biomedical Engineering Society, Cellular and Molecular Biomechanics session, 2013, Co-Chair
Biomedical Engineering Society, Undergraduate Research Session 2011, 2016, Co-Chair
SouthEast Biomedical Engineering Career Conference (SEBECC), Tissue Engineering Biomaterials and Drug Delivery Session Moderator, 2011
SouthEast Biomedical Engineering Career Conference (SEBECC) 2010 Program Committee Member (2010)
South Carolina Bioengineering Symposium Program Committee member and Chair of Clinical Applications and Translational Research Session (2009)

External Advisory Boards:

Member, “Project Lead the Way” Engineering and Biomedical Science Curriculum for 6th-12th graders in Anderson School District 5.
Member, “School District of Oconee PLTW” Pre-Engineering programs for Oconee School District
Member, “Project Lead the Way” Biomedical Science program for Pickens School District

Last updated April 4, 2020