

MICHAEL S. DETAMORE

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BACKGROUND AND HONORS

EDUCATION

Ph.D. Bioengineering (2004) Rice University

B.S. Chemical Engineering (2000) University of Colorado at Boulder

POSITIONS

2012- **Professor** of Chemical and Petroleum Engineering, and Courtesy Professor of Mechanical Engineering, University of Kansas

2009-2012 **Associate Professor** of Chemical and Petroleum Engineering, and Courtesy Associate Professor of Mechanical Engineering, University of Kansas

2004-2009 **Assistant Professor** of Chemical and Petroleum Engineering, and Courtesy Assistant Professor of Mechanical Engineering, University of Kansas

2011 **Visiting Professor**, National University of Ireland-Galway

2000 **Post-B.S. Intern**, Otologics, LLC, Boulder, CO

HONORS AND AWARDS

General

- Fellow, American Institute of Medical and Biological Engineering (2015)
- Iwao Yasuda Award, BMES Cellular and Molecular Bioengineering Special Interest Group (2014)
- Fulbright Scholar – Ireland (2011)
- Coulter Foundation Translational Research Award (2011)
- The Outstanding Graduate Alumnus Award; Dept. of Bioengineering, Rice University (2011)
- NSF CAREER Award (2009)

Teaching/Mentoring

- Raymond Oenbring Teaching Award (student-selected, 1 awarded annually at KU in Chemical & Petroleum Engineering) (May 2013)
- Sharp Teaching Professorship (1 awarded annually in the School of Engineering at KU, 3-year appointment) (May 2011)
- Raymond Oenbring Teaching Award (student-selected, 1 awarded annually at KU in Chemical & Petroleum Engineering) (May 2011)
- Gould Award for Distinguished Service to Undergraduate Engineering Education (student-selected, 1 award per year at KU) (May 2010)
- Raymond Oenbring Teaching Award (student-selected, 1 awarded annually at KU in Chemical & Petroleum Engineering) (May 2010)
- Outstanding Educator Award, Mortar Board National Honor Society (student-selected, 1 of 5 awarded annually at KU) (November 2009)
- Kemper Fellowship for Teaching Excellence (1 of 20 awarded annually at KU) (August 2008)
- Gould Award for Distinguished Service in Undergraduate Engineering Advising (student-selected, 1 award per year at KU) (May 2008)

Research

- University Scholarly Achievement Award (4 awarded at KU & KUMC across all disciplines) (2014)
- Chancellor's Recognition (1 of 5 faculty selected campus-wide), Lawrence Chamber of Commerce Annual Meeting (January 2011)
- Miller Professional Development Award for Distinguished Research, KU Engineering (2009)

- Kansas Technology Enterprise Corporation Scholar (1 of 2 awarded annually) (2009)

Publication Recognitions

- #3 Most Recently Read Article, *Tissue Eng B*, Sridharan *et al.* (February 2016)
- #2 Most Recently Read Article, *Tissue Eng B*, Dennis *et al.* (January 2015)
- Top 10 Most Accessed Article, *Recent Patents Reg Med*, Wang *et al.* 2013 (January 2014)
- Top 5 Most Downloaded Article, *Ann Biomed Eng*, Detamore *et al.* 2007 (March 2013)
- Featured article, *Cellular Reprogramming*, Devarajan *et al.* (February 2013)
- #1 Most Downloaded Article, *Tissue Eng A*, Wang *et al.*, over 1-month period (April 2010)
- #2 Most Downloaded Article, *Tissue Eng A*, Wang *et al.*, over 12-month period (April 2010)
- #5 Most Recently Cited Article, *Tissue Eng B*, Singh *et al.*, over 3-year period (August 2010)
- #14 Most Downloaded Article, *Tissue Eng B*, Singh *et al.*, over 12-month period (April 2010)
- #2 Most Cited Article, *Tissue Eng C*, Singh *et al.*, over 3-year period (September 2011)
- #11 Most Recently Read Article, *Tissue Eng B*, Renth *et al.*, over 1-month period (November 2012)
- #7 Most Recently Read Article, *Tissue Eng B*, Xiao *et al.*, over 1-month period (September 2013)
- #15 Most Recently Cited Article, *Tissue Eng C*, DeKosky *et al.* (November 2013)
- #3 on the 25 Hottest Articles, *J Biomech*, Singh and Detamore (Jan-March, 2009)
- “Selected 2010 Paper” from *J Biomed Sci Eng* (1 of 3 from November issue) (2010)

Service

- Guest co-Editor, Special Issue on “Emerging Trends in Biomaterials Research” for the *Annals of Biomedical Engineering* (Scheduled 2016)
- Chair of two sessions at the TERMIS World Congress in Boston: “Green technologies for the preparation of enhanced biomaterials for tissue engineering and regenerative medicine” and “Engineering Tissue Interfaces” (September 2015)
- Chair of Mini-symposium on Biomechanics of Tissue Engineered Cartilage at the World Congress of Biomechanics (July 2014)
- Advisory Board, Midwest Stem Cell Therapy Center (2013 – Present)
- MTE Study Section (NIH), standing study section member (2011 – 2015)
- Federal Advisory Committee, Department of Veterans Affairs, standing study section member, Translational and Spinal Cord Injury and Regenerative Medicine Programs (2011 – 2015)
- Co-Chair, BMES Cellular and Molecular Bioengineering Conference (January 2013)
- Founder and Co-Chair, TMJ Bioengineering Conferences (May 2006, November 2009, September 2012, June 2014, September 2016)
- Editorial Board of *Tissue Engineering* (2009 – 2012)
- Editorial Board of *Annals of Biomedical Engineering* (2009 – Present)
- Editorial Board of *Journal of Biomechanical Engineering* (2014 – Present)
- Guest Editor, Special Issue on “Interfacial Bioengineering” for the *Annals of Biomedical Engineering* (June 2010)
- The Outstanding Special Issue of the Year, *Annals of Biomedical Engineering*: “Interfacial Bioengineering” (2010)
- Miller Award for Distinguished Service to the Engineering Profession, KU Engineering (2006)
- Invited to be an Affiliate Member of the American Society of TMJ Surgeons (March 2006)

Student/Fellow awards

- Ashley Farris – NSF Fellowship (2015)
- Mitchell VeDepo – Capitol Graduate Research Summit Top Presentation, Topeka, KS (2015)
- BanuPriya Sridharan – Art in Science Award, Kansas City Area Life Sciences Institute (2014)

- Cate Wisdom – Co-founder of Collab (2014)
- Ashley Farris – Research Award for summer project at InStem in Bangalore, India (2014)
- Mackenzie Bloom – Undergraduate Biology Program Research Award (2014)
- Mackenzie Bloom – KU Undergraduate Research Symposium Outstanding Presentation Award (2014)
- Ashley Farris – KU Undergraduate Research Symposium Outstanding Presentation Award (2014)
- Deena Rennerfeldt – NSF Fellowship (2013)
- Emily Beck – Capitol Graduate Research Summit Top Presentation, Topeka, KS (2013)
- Megan Godsey – NSF Fellowship (2012)
- A.J. Mellott – Capitol Graduate Research Summit Top Presentation, Topeka, KS (2012)
- Cate Wisdom – Madison & Lila Self Graduate Fellowship [KU award] (2012)
- Neethu Mohan, Ph.D., SPRBM outstanding fellow award (2012)
- Nathan Dormer – Marnie and Bill Argersinger Award for Outstanding Doctoral Dissertation (2011) [Best PhD Thesis Award, campus-wide award at KU]
- Lindsey Ott – NIH Biotechnology Training Grant PhD Trainee (2011 – 2013)
- Lindsey Ott – Engineering Graduate Ambassador Fellowship (2011)
- A.J. Mellott – NSF EAPSI Fellowship for summer research project in Japan (2011)
- Emily Beck – NSF Fellowship (2012 – 2015)
- Emily Beck – NSF GK-12 Fellow (2011 – 2012)
- Amanda Renth – Madison & Lila Self Graduate Fellowship [KU award]
- Brandon DeKosky – Goldwater Scholarship (2009); Hertz Fellowship (2010), NSF Fellowship (2010)
- Brandon DeKosky – 1st Place, Sigma Xi Annual Undergraduate Student Research Paper Competition at KU (2009)
- Milind Singh – Best PhD thesis in KU Chemical and Petroleum Engineering (2009)
- Nathan Dormer – NIH Biotechnology Training Grant PhD Trainee (2009 – 2011)
- Nathan Dormer – 2nd place, KU Graduate Engineering Association Annual PhD Research Podium Presentation (2009)
- Nathan Dormer – Best student podium presentation, Society for Physical Regulation in Biology and Medicine (2009)
- Milind Singh – 1st place, KU Graduate Engineering Association Annual PhD Research Poster Presentation (2006)

Awards prior to faculty position

- Best Thesis in Physical Sciences and Mathematics, Sigma Xi—Rice University/Texas Medical Center Chapter (Rice University, M.D. Anderson Cancer Center, University of Texas Health Science Center, Baylor College of Medicine, April 2004 – April 2005)
- Nettie S. Autrey Fellowship, Top Graduate Student in Engineering and Science at Rice University (2003–2004)
- Whitaker Foundation Fellowship (2001–2004)
- NSF Graduate Fellowship (declined)
- Valedictorian, College of Engineering and Applied Science, University of Colorado (2000)

AFFILIATIONS

- American Institute of Chemical Engineers (1997 – Present)
- Biomedical Engineering Society (2001 – Present)
- American Society for Engineering Education (2004 – Present)
- Fellow of the Midwest Institute for Comparative Stem Cell Biology (2006 – Present)

- American Society of TMJ Surgeons (2006 – Present)
- Society for Physical Regulation in Biology and Medicine (2006 – 2012)/Cellular and Molecular Bioengineering Special Interest Group of the Biomedical Engineering Society (2012 – Present)
- Orthopaedic Research Society (2008 – Present)
- Scottish Stem Cell Network (2010 – Present)
- European Society for Biomaterials (2011 – 2012)
- American Society of Mechanical Engineering (2012 – 2014)
- Society For Biomaterials (2014 – Present)

RESEARCH

PUBLICATIONS

Google Scholar: <http://scholar.google.com/citations?user=8iR8H4kAAAAJ&hl=en>

- 1) DETAMORE MS, Swanson MA, Frender KR, Hrenya CM, "A kinetic-theory analysis of the scale-up of circulating fluidized beds," *Powder Technology*, 116 (2-3): 190-203, 2001
- 2) DETAMORE MS and Athanasiou KA, "Tensile properties of the porcine temporomandibular joint disc," *Journal of Biomechanical Engineering*, 125 (4): 558-565, 2003
- 3) DETAMORE MS and Athanasiou KA, "Structure and function of the temporomandibular joint disc: Implications for tissue engineering," *Journal of Oral and Maxillofacial Surgery*, 61 (4): 494-506, 2003
- 4) DETAMORE MS and Athanasiou KA, "Motivation, characterization and strategy for tissue engineering the temporomandibular joint disc," *Tissue Engineering*, 9 (6): 1065-1087, 2003
- 5) DETAMORE MS and Athanasiou KA, "Effects of growth factors on temporomandibular joint disc cells," *Archives of Oral Biology*, 49 (7): 577-583, 2004
- 6) Almarza AJ, DETAMORE MS, Allen KD, Athanasiou KA, "The TMJ disc: Tissue engineering concerns and current efforts," *TMJ Science*, 2004 (not peer-reviewed)
- 7) DETAMORE MS, Orfanos JG, Almarza AJ, French MM, Wong ME, Athanasiou KA, "Quantitative analysis and comparative regional investigation of the extracellular matrix of the porcine temporomandibular joint disc," *Matrix Biology*, 24 (1): 45-57, 2005 (PMC4474406)
- 8) DETAMORE MS and Athanasiou KA, "Evaluation of three growth factors for TMJ disc tissue engineering," *Annals of Biomedical Engineering*, 33 (3): 383-390, 2005 (PMC4474384)
- 9) DETAMORE MS and Athanasiou KA, "Use of a rotating bioreactor toward tissue engineering the temporomandibular joint disc," *Tissue Engineering*, 11 (7-8): 1188-1197, 2005 (PMC4474409)
- 10) DETAMORE MS and Schmedlen RH, "Teaching a graduate-level course in tissue engineering," *Chemical Engineering Education*, 39(4): 272-278, 2005 (Educational Article)
- 11) DETAMORE MS, Hegde JN, Wagle RR, Almarza AJ, Montufar-Solis D, Duke PJ, Athanasiou KA, "Cell type and distribution in the porcine temporomandibular joint disc," *Journal of Oral and Maxillofacial Surgery*, 64 (2): 243-248, 2006 (PMC4474408)
- 12) DETAMORE MS, Mao JJ, Athanasiou KA, "A call to action for bioengineers and dental professionals: directives for the future of TMJ bioengineering," *Annals of Biomedical Engineering*, 35 (8): 1301-1311, 2007
- 13) Wang L and DETAMORE MS, "Tissue engineering the mandibular condyle," *Tissue Engineering*, 13 (8): 1955-1971, 2007 (Special Issue on 'Emerging Technologies and New Basic Science Directions in Tissue Engineering')
- 14) Bailey MM, Wang L, Bode CJ, Mitchell KE, DETAMORE MS, "A comparison of human umbilical cord matrix stem cells and TMJ condylar chondrocytes for tissue engineering TMJ condylar cartilage," *Tissue Engineering*, 13 (8): 2003-2010, 2007 (Special Issue on 'Emerging Technologies and New Basic Science Directions in Tissue Engineering')
- 15) Tanaka E, DETAMORE MS, Tanimoto K, Kawai N, "Lubrication of the temporomandibular joint," *Annals of Biomedical Engineering*, 36 (1): 14-29, 2008
- 16) Wang Q, Wang L, DETAMORE MS, Berkland C, "Biodegradable colloidal gels as moldable tissue engineering scaffolds," *Advanced Materials*, 20 (2): 236-239, 2008
- 17) Singh M and DETAMORE MS, "Tensile properties of the mandibular condylar cartilage," *Journal of Biomechanical Engineering*, 130 (1): 011009-1 – 011009-7, 2008
- 18) Tanaka E, DETAMORE MS, Mercuri LG, "Degenerative disorders of the temporomandibular joint: Etiology, diagnosis, and treatment," *Journal of Dental Research*, 87 (4): 296-307, 2008
- 19) Snider GR, Lomakin J, Singh M, Gehrke SH, DETAMORE MS, "Regional dynamic tensile properties of the TMJ disc," *Journal of Dental Research*, 87 (11): 1053-1057, 2008

- 20) Singh M, Morris CP, Ellis R, DETAMORE MS, Berkland CJ, "Microsphere-based seamless scaffolds containing macroscopic gradients of encapsulated factors for tissue engineering," *Tissue Engineering Part C: Methods*, 14 (4): 299-309, 2008 (PMC2762824)
- 21) Singh M, Berkland CJ, DETAMORE MS, "Strategies and applications for incorporating physical and chemical signal gradients in tissue engineering," *Tissue Engineering Part B: Reviews*, 14 (4): 341-366, 2008 (PMC2737593)
- 22) Wang L and DETAMORE MS, "Effects of growth factors and glucosamine on porcine mandibular condylar cartilage cells and hyaline cartilage cells for tissue engineering applications," *Archives of Oral Biology*, 54 (1): 1-5, 2009
- 23) Wang L, Lazebnik M, DETAMORE MS, "Hyaline cartilage cells outperform mandibular condylar cartilage cells in a TMJ fibrocartilage tissue engineering application," *Osteoarthritis and Cartilage*, 17 (3): 346-353, 2009
- 24) Singh M and DETAMORE MS, "Biomechanical properties of the mandibular condylar cartilage and their relevance to the TMJ disc," *Journal of Biomechanics*, 42 (4), 405-417, 2009
- 25) Wang L, Seshareddy K, Weiss ML, DETAMORE MS, "Effect of initial seeding density on human umbilical cord mesenchymal stromal cells for fibrocartilage tissue engineering," *Tissue Engineering Part A*, 15 (5): 1009-1017, 2009 (PMC2810412)
- 26) Singh M and DETAMORE MS, "Stress relaxation behavior of mandibular condylar cartilage under high-strain compression," *Journal of Biomechanical Engineering*, 131 (6): 061008-1 – 061008-5, 2009
- 27) Wang L, Singh M, Bonewald LF, DETAMORE MS, "Signalling strategies for osteogenic differentiation of human umbilical cord mesenchymal stromal cells for 3D bone tissue engineering," *Journal of Tissue Engineering and Regenerative Medicine*, 3 (5): 398-404, 2009
- 28) Wang L, Tran I, Seshareddy K, Weiss ML, DETAMORE MS, "A comparison of human bone marrow-derived mesenchymal stem cells and human umbilical cord-derived mesenchymal stromal cells for cartilage tissue engineering," *Tissue Engineering Part A*, 15 (8): 2259-2266, 2009
- 29) Wang L and DETAMORE MS, "Insulin-like growth factor-I improves chondrogenesis of predifferentiated human umbilical cord mesenchymal stromal cells," *Journal of Orthopaedic Research*, 27 (8): 1109-1115, 2009
- 30) Singh M, Sandhu B, Scurto AM, Berkland CJ, DETAMORE MS, "Microsphere-based scaffolds for cartilage tissue engineering: Using subcritical CO₂ as a sintering agent," *Acta Biomaterialia*, 6 (1): 137-143, 2010 (PMC2787728)
- 31) Wang L, Dormer NH, Bonewald LF, DETAMORE MS, "Osteogenic differentiation of human umbilical cord mesenchymal stromal cells in polyglycolic acid scaffolds," *Tissue Engineering Part A*, 16 (6): 1937-1948, 2010
- 32) Wang Q, Wang J, DETAMORE MS, Berkland C, "Injectable PLGA based colloidal gels for zero-order dexamethasone release in cranial defects," *Biomaterials*, 31(18): 4980-4986, 2010 (PMC2856787)
- 33) DETAMORE MS, "Special issue on interfacial bioengineering: Bridging the gap from the molecular scale to the macroscale," *Annals of Biomedical Engineering*, 38(6): 1937, 2010
- 34) Dormer NH, Berkland CJ, DETAMORE MS, "Emerging techniques in stratified designs and continuous gradients for tissue engineering of interfaces," *Annals of Biomedical Engineering*, 38(6): 2121-2141, 2010 (Special Issue on 'Interfacial Bioengineering') (PMC3729916)
- 35) Dormer NH, Singh M, Wang L, Berkland CJ, DETAMORE MS, "Osteochondral interface tissue engineering using macroscopic gradients of bioactive signals," *Annals of Biomedical Engineering*, 38(6): 2167-2182, 2010 (Special Issue on 'Interfacial Bioengineering') (PMC3773241)
- 36) Xu HHK, Zhao L, DETAMORE MS, Takagi S, Chow LC, "Umbilical cord stem cell seeding on fast-resorbable calcium phosphate bone cement," *Tissue Engineering Part A*, 16 (9): 2743-2753, 2010 (PMC2928047)

- 37) Singh M, Dormer NH, Salash JR, Christian JM, Moore DS, Berkland CJ, DETAMORE MS, "Three-dimensional macroscopic scaffolds with a gradient in stiffness for functional regeneration of interfacial tissues," *Journal of Biomedical Materials Research Part A*, 94(3):870-876, 2010 (PMC2926291)
- 38) Wemer RD, DETAMORE MS, Weatherly RA, "Immunohistochemical characterization of the rabbit tracheal cartilages," *Journal of Biomedical Science and Engineering*, 3(10): 1007-1013, 2010
- 39) Zhao L, DETAMORE MS, "Chondrogenic differentiation of stem cells in human umbilical cord stroma with PGA and PLLA scaffolds," *Journal of Biomedical Science and Engineering*, 3(11): 1041-1049, 2010 (PMC4474381)
- 40) DeKosky BJ, Dormer NH, Ingavle GC, Roatch CH, Lomakin J, DETAMORE MS, Gehrke SH, "Hierarchically designed agarose and poly(ethylene glycol) interpenetrating network hydrogels for cartilage tissue engineering," *Tissue Engineering Part C: Methods*, 16(6): 1533-1542, 2010 (PMC2988644)
- 41) Wang L, Ott LM, Seshareddy K, Weiss ML, DETAMORE MS, "Musculoskeletal tissue engineering with human umbilical cord mesenchymal stromal cells," *Regenerative Medicine*, 6(1): 95-109, 2011 (PMC3057462)
- 42) Wang Q, Jamal S, DETAMORE MS, Berkland C, "PLGA-chitosan/PLGA-alginate nanoparticle blends as biodegradable colloidal gels for seeding human umbilical cord mesenchymal stem cells," *Journal of Biomedical Materials Research Part A*, 96A (3): 520-527, 2011 (PMC3080015)
- 43) Zhao L, Tang M, Weir MD, DETAMORE MS, Xu HHK, "Osteogenic media and rhBMP-2 induced differentiation of umbilical cord mesenchymal stem cells encapsulated in alginate microbeads and integrated in an injectable calcium phosphate-chitosan fibrous scaffold," *Tissue Engineering Part A*, 17(7-8): 969-979, 2011 (PMC3063701)
- 44) Dormer NH, Busaidy K, Berkland CJ, DETAMORE MS, "Osteochondral interface regeneration of rabbit mandibular condyle with bioactive signal gradients," *Journal of Oral and Maxillofacial Surgery*, 69(6): e50-e57, 2011 (PMC3101307)
- 45) Ott LM, Weatherly RA, DETAMORE MS, "Overview of tracheal tissue engineering: clinical need drives the laboratory approach," *Annals of Biomedical Engineering*, 39(8): 2091-2113, 2011
- 46) Lazebnik M, Singh M, Friis LA, Berkland CJ, DETAMORE MS, "Biomimetic method for combining the nucleus pulposus and annulus fibrosus for intervertebral disc tissue engineering," *Journal of Tissue Engineering and Regenerative Medicine*, 5(8): e179-e187, 2011
- 47) Wang L, Zhao L, DETAMORE MS, "Human umbilical cord mesenchymal stromal cells in a sandwich approach for osteochondral tissue engineering," *Journal of Tissue Engineering and Regenerative Medicine*, 5(9): 712-721, 2011 (PMC3770475)
- 48) Mohan N, Dormer NH, Caldwell KL, Key VH, Berkland CJ, DETAMORE MS, "Continuous gradients of material composition and growth factors for effective regeneration of the osteochondral interface," *Tissue Engineering Part A*, 17(21-22): 2845-2855, 2011
- 49) Devarajan K, Staecker H, DETAMORE MS, "A review of gene delivery and stem cell based therapies for regenerating inner ear hair cells," *Journal of Functional Biomaterials*, 2(3), 249-270, 2011 (Special Issue on 'Artificial Organs and Biomaterials') (PMC4030941)
- 50) Dormer NH, Singh M, Zhao L, Mohan N, Berkland CJ, DETAMORE MS, "Osteochondral interface regeneration of the rabbit knee with macroscopic gradients of bioactive signals," *Journal of Biomedical Materials Research Part A*, 100(1): 162-170, 2012 (PMC3222786)
- 51) Ingavle G, Dormer NH, Gehrke SH, DETAMORE MS, "Using chondroitin sulfate to improve the viability and biosynthesis of chondrocytes encapsulated in interpenetrating network (IPN) hydrogels of agarose and poly(ethylene glycol) diacrylate," *Journal of Materials Science: Materials in Medicine*, 23(1): 157-170, 2012 (invited article) (PMC3729881)

- 52) Dormer NH, Qiu Y, Lydick AM, Allen ND, Mohan N, Berkland CJ, DETAMORE MS, "Osteogenic differentiation of human bone marrow stromal cells in hydroxyapatite-loaded microsphere-based scaffolds," *Tissue Engineering Part A*, 18(7-8): 757-767, 2012 (PMC3313610)
- 53) Renth AN, DETAMORE MS, "Leveraging 'raw materials' as building blocks and bioactive signals in regenerative medicine," *Tissue Engineering Part B*, 18(5): 341-362, 2012 (PMC3458620)
- 54) Aljitawi OS, Xiao Y, Zhang D, Stehno-Bittel L, Garimella R, Bonewald LF, Hopkins RA, DETAMORE MS, "Generating CK19-positive cells with hair-like structures from Wharton's jelly mesenchymal stromal cells," *Stem Cells and Development*, 22(1): 18-36, 2013
- 55) Jeon JH, Bhamidipati M, Sridharan B, Scurto AM, Berkland CJ, DETAMORE MS, "Tailoring of processing parameters for sintering microsphere-based scaffolds with dense phase carbon dioxide," *Journal of Biomedical Materials Research Part B*, 101(2): 330-337, 2013 (PMC4474405)
- 56) Devarajan K, Forrest ML, DETAMORE MS, Staecker H, "Adenovector mediated gene delivery to human umbilical cord mesenchymal stromal cells induces inner ear cell phenotype," *Cellular Reprogramming*, 15(1): 43-54, 2013 (PMC4298749)
- 57) Mellott AJ, Forrest ML, DETAMORE MS, "Physical non-viral gene delivery methods for tissue engineering," *Annals of Biomedical Engineering*, 41(3): 446-468, 2013
- 58) Bhamidipati M, Scurto AM, DETAMORE MS, "The future of carbon dioxide for polymer processing in tissue engineering," *Tissue Engineering Part B*, 19(3): 221-232, 2013 (PMC3627402)
- 59) Dormer NH, Gupta V, Scurto AM, Berkland CJ, DETAMORE MS, "Effect of different sintering methods on bioactivity and release of proteins from PLGA microspheres," *Materials Science and Engineering Part C*, 33(7): 4343-4351, 2013 (PMC3752427)
- 60) Xiao Y, Friis EA, Gehrke SH, DETAMORE MS, "Mechanical testing of hydrogels in cartilage tissue engineering: Beyond the compressive modulus," *Tissue Engineering Part B*, 19(5): 403-412, 2013 (PMC3752504)
- 61) Rennerfeldt DA, Renth AN, Talata Z, Gehrke SH, DETAMORE MS, "Tuning mechanical performance of poly(ethylene glycol) and agarose interpenetrating network hydrogels for cartilage tissue engineering," *Biomaterials*, 34(33):8241-57, 2013 (PMC3773240)
- 62) Ingavle GC, Frei AW, Gehrke SH, DETAMORE MS, "Incorporation of aggrecan in interpenetrating network hydrogels to improve cellular performance for cartilage tissue engineering," *Tissue Engineering Part A*, 19(11-12):1349-59, 2013 (PMC3638541)
- 63) Bhamidipati M, Sridharan B, Scurto AM, DETAMORE MS, "Subcritical CO₂ sintering of microspheres of different polymeric materials to fabricate scaffolds for tissue engineering," *Materials Science and Engineering Part C*, 33(8): 4892-4899, 2013 (PMC3837075)
- 64) Wang L, Weiss ML, DETAMORE MS, "Recent patents pertaining to immune modulation and musculoskeletal regeneration with Wharton's jelly cells," *Recent Patents on Regenerative Medicine*, 3(3): 182-192, 2013 (Invited for Special Issue on Perinatal Stem Cells Patents and Applications: Regenerative Medicine, Tissue Repair, Immune Modulation) (PMC4533117)
- 65) DETAMORE MS, "Human umbilical cord mesenchymal stromal cells in regenerative medicine," *Stem Cell Research & Therapy*, 4:142, 2013 (PMC4029508)
- 66) Wang Q, Gu Z, Jamal S, DETAMORE MS, Berkland C, "Hybrid hydroxyapatite nanoparticle colloidal gels are injectable fillers for bone tissue engineering," *Tissue Engineering Part A*, 19(23-24): 2586-2593, 2013 (PMC3856930)
- 67) Khanlari A, DETAMORE MS, Gehrke SH, "Increasing crosslinking efficiency of methacrylated chondroitin sulfate hydrogels by copolymerization with oligo(ethylene glycol) diacrylates," *Macromolecules*, 46(24): 9609-9617, 2013
- 68) Lomakin J, Sprouse PA, DETAMORE MS, Gehrke SH, "Effect of pre-stress on the dynamic tensile behavior of the TMJ disc," *Journal of Biomechanical Engineering*, 136(1): 011001-1 – 011001-8, 2014

- 69) Ingavle GC, Gehrke SH, DETAMORE MS, “The bioactivity of agarose-PEGDA interpenetrating network hydrogels with covalently immobilized RGD peptides and physically entrapped aggrecan,” *Biomaterials*, 35(11): 3558-3570, 2014 (PMC3936106)
- 70) Mohan N, Gupta V, Sridharan B, Sutherland A, DETAMORE MS, “The potential of encapsulating ‘raw materials’ in 3D osteochondral gradient scaffolds,” *Biotechnology and Bioengineering*, 111(4): 829-841, 2014 (PMC4476659)
- 71) Mellott AJ, Godsey ME, Shinogle HE, Moore DS, Forrest ML, DETAMORE MS, “Improving viability and transfection efficiency with human umbilical cord Wharton’s jelly cells through use of a ROCK inhibitor,” *Cellular Reprogramming*, 16(2): 91-97, 2014 (PMC3967373)
- 72) Xiao Y, Rennerfeldt D, Friis EA, Gehrke SH, DETAMORE MS, “Evaluation of apparent fracture toughness of articular cartilage and hydrogels,” *Journal of Tissue Engineering and Regenerative Medicine*, Epub, 2014 (PMC4183721)
- 73) Dennis SC, DETAMORE MS, Kieweg SL, Berkland CJ, “Mapping glycosaminoglycan-hydroxyapatite colloidal gels as potential tissue defect fillers,” *Langmuir*, 30(12): 3528-37, 2014 (PMC3974614)
- 74) Sutherland AJ, Converse GL, Hopkins RA, DETAMORE MS, “The bioactivity of cartilage extracellular matrix in articular cartilage regeneration,” *Advanced Healthcare Materials*, 4(1): 29-39, 2015 (PMC4286437)
- 75) Mellott AJ, Shinogle HE, Moore DS, DETAMORE MS, “Fluorescent photo-conversion: A second chance to label unique cells,” *Cellular and Molecular Bioengineering*, 8(1): 187-196, 2015 (PMC4406481)
- 76) Shi Z, Zhao L, Qiu G, He R, DETAMORE MS, “The effect of extended passaging on the phenotype and osteogenic potential of human umbilical cord mesenchymal stem cells,” *Molecular and Cellular Biochemistry*, 401(1-2):155-64, 2015
- 77) Khanlari A, Schulteis J, Suekama T, DETAMORE MS, Gehrke SH, “Designing crosslinked hyaluronic acid hydrogels with tunable mechanical properties for biomedical applications,” *Journal of Applied Polymer Science*, 132(22): 42009(1-7), 2015
- 78) Dennis SC, Berkland CJ, Bonewald LF, DETAMORE MS, “Endochondral ossification for enhancing bone regeneration: Converging native ECM biomaterials and developmental engineering *in vivo*,” *Tissue Engineering Part B*, 21(3): 247-266, 2015 (PMC4442558)
- 79) Mellott AJ, Devarajan K, Shinogle HE, Moore DS, Talata Z, Laurence JS, Forrest ML, Noji S, Tanaka E, Staecker H, DETAMORE MS, “Non-viral reprogramming of human Wharton’s jelly cells reveals differences between *ATOH1* homologues,” *Tissue Engineering Part A*, 21(11-12): 1795-1809, 2015 (PMC4449705)
- 80) Roberts GW, Sturm BSM, Hamdeh U, Stanton GE, Rocha A, Kinsella TL, Fortier MOP, Sazdar S, DETAMORE MS and Stagg-Williams SM, “Promoting catalysis and high-value product streams by in-situ hydroxyapatite crystallization during hydrothermal liquefaction of microalgae cultivated with reclaimed nutrients,” *Green Chemistry*, 17(4): 2560-2569, 2015
- 81) Sutherland AJ, Beck EC, Dennis SC, Converse GL, Hopkins RA, Berkland CJ, DETAMORE MS, “Decellularized cartilage may be a chondroinductive material for osteochondral tissue engineering,” *PLoS ONE*, 10(5):e0121966, 2015 (PMC4428768)
- 82) Khanlari A, Suekama TC, DETAMORE MS, Gehrke SH, “Structurally diverse and readily tunable photocrosslinked chondroitin sulfate based copolymers,” *Journal of Polymer Science, Part B: Polymer Physics*, 53(15): 1070–1079, 2015
- 83) Gupta V, Mohan N, Berkland CJ, DETAMORE MS, “Microsphere-based scaffolds carrying opposing gradients of chondroitin sulfate and tricalcium phosphate,” *Frontiers in Bioengineering and Biotechnology*, 3(96): 1-15, 2015 (PMCID Pending)
- 84) Beck EC, Lohman B, Tabakh D, Kieweg SL, Gehrke SH, Berkland CJ, DETAMORE MS, “Enabling surgical placement of hydrogels through achieving paste-like rheological behavior in

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101. Lohman B, Beck EC, DETAMORE MS, "Swelling and degradation of decellularized cartilage and hyaluronic acid nanocomposite hydrogels," **Biomedical Engineering Society**, Seattle, WA (September, 2013) [undergraduate abstract]
102. Samandi G, Gupta V, Haslam JL, Berkland CJ, DETAMORE MS, "Polymeric coated microparticle scaffolds engineered for future use in musculoskeletal tissue regeneration," **Biomedical Engineering Society**, Seattle, WA (September, 2013) [undergraduate abstract]
103. Rennerfeldt DA, DETAMORE MS, Gehrke SH, "Aggrecan as chondroinductive component in interpenetrating network hydrogels for cartilage tissue engineering," **American Institute of Chemical Engineers**, San Francisco, CA (November, 2013)
104. Khanlari A, Schulteis J, DETAMORE MS, Gehrke SH, "Enhancing crosslinking efficiency and mechanical performance of glycosaminoglycan hydrogels," **American Institute of Chemical Engineers**, San Francisco, CA (November, 2013)
105. Ott LM, Farris A, Fox K, Weiss ML, Weatherly RA, DETAMORE MS, "Material composition gradients and protein-loaded electrospun scaffolds: An animal model study for repair of tracheal defects," **Tissue Engineering and Regenerative Medicine International Society-North America**, Atlanta, GA (November, 2013)
106. Khanlari A, DETAMORE MS, Gehrke SH, "Improving the crosslinking efficiency of methacrylated chondroitin sulfate gels using oligo(ethyleneglycol diacrylates)," **Materials Research Society**, Boston, MA (December, 2013)
107. Beck EC, Kieweg SL, Berkland CJ, Converse G, Hopkins RA, DETAMORE MS, "Incorporating decellularized cartilage in injectable colloidal gel pastes: Evaluation of cellular response," **Society for Biomaterials**, Denver, CO (April, 2014)
108. Ott LM, Farris A, Fox K, Weiss ML, Weatherly RA, DETAMORE MS, "Material composition gradients and protein-loaded electrospun scaffolds: an animal model study for repair of tracheal defects," **Society for Biomaterials**, Denver, CO (April, 2014)
109. Sridharan B, Lin S, Berkland CJ, DETAMORE MS, "Degradation study of raw material encapsulated microsphere-based scaffolds for osteochondral tissue engineering," **Society for Biomaterials**, Denver, CO (April, 2014)
110. Sutherland AJ, Gupta V, DETAMORE MS, "Chondroinductive microsphere based scaffolds with decellularized cartilage for cartilage tissue engineering," **Biomedical Engineering Society**, San Antonio, TX (October, 2014)
111. Mellott AJ, Shinogle H, Nelson-Brantley J, Staecker H, DETAMORE MS, "Inducing inner ear hair cell development by seeding reprogrammed human Wharton's jelly cells on decellularized cochlea," **Biomedical Engineering Society**, San Antonio, TX (October, 2014)
112. Gupta V, DETAMORE MS, "Raw material-directed differentiation of rat bone marrow stromal cells in microsphere based gradient scaffolds," **Biomedical Engineering Society**, San Antonio, TX (October, 2014)
113. Beck EC, Lohman B, Kieweg SL, Gehrke SH, Berkland CJ, DETAMORE MS, "Enabling surgical placement of hydrogels through achieving paste-like rheological behavior prior to crosslinking," **Biomedical Engineering Society**, San Antonio, TX (October, 2014)

114. Sridharan B, Hwu A, Lin S, DETAMORE MS, "Approaching cartilage tissue engineering through human umbilical cord-derived mesenchymal stromal aggregates," **Tissue Engineering and Regenerative Medicine International Society-North America**, Washington, DC (December, 2014)
115. Gupta V, DETAMORE MS, "Raw material encapsulation influences differentiation of rat bone marrow stromal cells in microsphere based gradient scaffolds" **Tissue Engineering and Regenerative Medicine International Society-North America**, Washington, DC (December, 2014)
116. Ott LM, Zabel TA, Farris AL, Walker NK, Chakroff JT, Johnson JK, Gehrke SH, Weatherly RA, DETAMORE MS, "*In vitro* characterization of gradient electrospun scaffolds for tracheal defect repair," **Tissue Engineering and Regenerative Medicine International Society-North America**, Washington, DC (December, 2014)
117. Sridharan B, Laflin A, Hwu A, Lin S, DETAMORE MS, "A comparison of human Wharton's jelly cell aggregates and rat bone marrow-derived mesenchymal cell aggregates for cartilage tissue engineering," **BMES Cellular and Molecular Bioengineering SIG Conference**, St. Thomas, U.S. Virgin Islands (January, 2015)
118. Sridharan B, Laflin AD, DETAMORE MS, "Priming stem cell aggregates for cartilage tissue engineering," **Tissue Engineering and Regenerative Medicine International Society – World Congress**, Boston, MA (September, 2015)
119. Beck EC, Libeer T, Kieweg SL, Gehrke SH, Converse GL, Hopkins RA, Berkland CJ, DETAMORE MS, "Promoting chondrogenesis through paste-like hydrogel precursors," **Tissue Engineering and Regenerative Medicine International Society – World Congress**, Boston, MA (September, 2015)
120. Lyne D, Gupta V, DETAMORE MS, "Homogenous microsphere-based scaffolds with high concentrations of hydroxapatite and tricalcium phosphate," **Tissue Engineering and Regenerative Medicine International Society – World Congress**, Boston, MA (September, 2015)
121. Lohfeld SR, Salash JR, McHugh PE, DETAMORE MS, "3D printing of microspheres for tissue engineering scaffolds," **Tissue Engineering and Regenerative Medicine International Society – World Congress**, Boston, MA (September, 2015)
122. VeDepo MC, DETAMORE MS, Converse GL, Hopkins RA, "Effects of decellularization on the collagen crosslinking of aortic valve leaflets," **Tissue Engineering and Regenerative Medicine International Society – World Congress**, Boston, MA (September, 2015)
123. Salash JR, Lohfeld SR, DETAMORE MS, "Bridging the osteochondral gap in mandibular condyle reconstruction with multiphasic 3D printing," **Tissue Engineering and Regenerative Medicine International Society – World Congress**, Boston, MA (September, 2015)
124. Gupta V, Lyne D, Bunch J, DETAMORE MS, "Gradients of decellularized cartilage and demineralized bone matrix in microsphere-based scaffolds for regeneration of the osteochondral interface in rabbits," **Tissue Engineering and Regenerative Medicine International Society – World Congress**, Boston, MA (September, 2015)
125. Gupta V, Lyne D, DETAMORE MS, "Biphasic calcium phosphate encapsulating homogenous microsphere-based scaffolds for bone regeneration," **Tissue Engineering and Regenerative Medicine International Society – World Congress**, Boston, MA (September, 2015)
126. Mellott AJ, Shinogle HE, Nelson-Brantley J, Staecker H, DETAMORE MS, "Combining gene delivery and decellularized cochleas to engineer inner ear sensory epithelium," **Tissue Engineering and Regenerative Medicine International Society – World Congress**, Boston, MA (September, 2015)
127. Townsend J, Dennis SC, Whitlow J, DETAMORE MS, Berkland CJ, "Comparison of bone regeneration in critical size calvarial defects utilizing natural materials and growth factors *in vivo*,"

Tissue Engineering and Regenerative Medicine International Society – World Congress, Boston, MA (September, 2015)

128. Bloom M, Keogh A, Xu M, DETAMORE MS, Barry F, “Effects of kartogenin and thalidomide on chondrogenesis in mesenchymal stem cells and mesenchymal stem cells derived from human induced pluripotent stem cells,” **Biomedical Engineering Society**, Tampa, FL (October, 2015)
129. Lohfeld SR, Salash JR, DETAMORE MS, McHugh PE, “3D printing of polymeric microspheres for tissue engineering scaffolds,” **World Biomaterials Congress**, Montreal, Canada (May, 2016)
130. Dennis SC, Whitlow J, DETAMORE MS, Kieweg SL, Berkland CJ, “Colloidal extracellular matrix gels for filling and remodeling osseous defects,” **World Biomaterials Congress**, Montreal, Canada (May, 2016)
131. Beck EC, Barragan M, Tadros MT, Gehrke SH, Berkland CJ, DETAMORE MS, “Approaching the compressive modulus of articular cartilage through naturally derived cartilage matrix,” **World Biomaterials Congress**, Montreal, Canada (May, 2016)
132. Beck EC, Barragan M, Tadros MT, Gehrke SH, Kieweg SL, Berkland CJ, DETAMORE MS, “Promoting chondroinduction with naturally derived hydrogel pastes,” **World Biomaterials Congress**, Montreal, Canada (May, 2016)

INVITED LECTURES (International lectures in red font)

1. “Tissue engineering for the temporomandibular joint,” **University of Missouri-Kansas City Department of Oral Biology** (June 15, 2005)
2. “TMJ tissue engineering: From the disc to the condyle,” **International Conference on TMJ Replacement and Tissue Engineering, Hiroshima, Japan** (March, 2006)
3. Wang L, Singh M, Boehler RM, Morris CP, Becker AR, DETAMORE MS, “Bridging the gap between mandibular condyle and TMJ disc tissue engineering,” **TMJ Bioengineering Conference**, Broomfield, CO (May, 2006)
4. “Strategies to tissue engineer the mandibular condyle,” **Kansas State University Department of Anatomy and Physiology**, College of Veterinary Medicine (October 9, 2006)
5. “Strategies to tissue engineer the mandibular condyle,” **University of Missouri-Kansas City Department of Oral Biology** (June 6, 2007)
6. DETAMORE MS, Dormer NH, Singh M, Scurto AM, Berkland CJ, “Gradient-based strategies for osteochondral regeneration,” **TMJ Bioengineering Conference**, Broomfield, CO (November, 2009)
7. “Orthopedic tissue engineering,” **Missouri Regional Life Sciences Summit**, Kansas City, MO (March, 2010)
8. DETAMORE MS, Wang L, Dormer NH, Zhao L, Berkland CJ, “Mesenchymal stem cells from Wharton’s jelly of the umbilical cord: an exciting new cell source for musculoskeletal tissue regeneration?” **Stem Cells Europe, Edinburgh, Scotland** (August, 2010)
9. “Gradient strategies and umbilical cord Wharton’s jelly cells for osteochondral tissue engineering,” **Missouri University of Science and Technology, Department of Materials Science and Engineering and Center for Bone and Tissue Repair and Regeneration**, Rolla, MO (September 2, 2010)
10. “Gradient strategies and umbilical cord Wharton’s jelly cells for osteochondral tissue engineering,” **K-INBRE Symposium**, Kansas City, KS (January 15, 2011)
11. “Tissue engineering in TMJ surgery – the future of TMJ surgery,” **European Society of TMJ Surgeons, Rome, Italy** (April 16, 2011)
12. “Gradient strategies and umbilical cord Wharton’s jelly cells for osteochondral tissue engineering,” **Rensselaer Polytechnic Institute, Department of Biomedical Engineering**, Troy, NY (May 5, 2011)
13. “Gradient strategies and umbilical cord Wharton’s jelly cells for osteochondral tissue engineering,” **Mayo Clinic**, Rochester, MN (May 12, 2011)

14. "Gradient strategies and umbilical cord Wharton's jelly cells for osteochondral tissue engineering," **Texas A&M, Department of Biomedical Engineering**, College Station, TX (June 8, 2011)
15. "Gradient strategies and umbilical cord Wharton's jelly cells for osteochondral tissue engineering," **National University of Ireland-Galway, Department of Mechanical and Biomedical Engineering, Galway, Ireland** (October 10, 2011)
16. "Gradient strategies and umbilical cord Wharton's jelly cells for osteochondral tissue engineering," **University of Aberdeen, Institute of Medical Sciences, Aberdeen, Scotland** (October 20, 2011)
17. "Bioengineering in the Jaw Joint: the Vision of Michael Detamore," **Academic Centre for Dentistry Amsterdam (ACTA), Department of Functional Anatomy, Amsterdam, The Netherlands** (October 27, 2011)
18. "Tissue Engineering and the TMJ," **University of Zurich, Center for Dental and Oral Medicine and Maxillofacial Surgery, Zurich, Switzerland** (November 9, 2011)
19. "Gradient strategies and umbilical cord Wharton's jelly cells for osteochondral tissue engineering," **National University of Ireland-Galway, Regenerative Medicine Institute, Galway, Ireland** (November 18, 2011)
20. "Gradient strategies and umbilical cord Wharton's jelly cells for osteochondral tissue engineering," **National University of Ireland-Galway, Network of Excellence for Functional Biomaterials, Galway, Ireland** (November 28, 2011)
21. "Gradient strategies and umbilical cord Wharton's jelly cells for osteochondral tissue engineering," **Technical University of Łódź, Institute of Applied Radiation Chemistry, Łódź, Poland** (December 1, 2011)
22. "Interpenetrating networks and colloidal gels," **Society for Physical Regulation in Biology and Medicine Annual Meeting**, San Juan, Puerto Rico (January 4, 2012)
23. "Gradient strategies and umbilical cord Wharton's jelly cells for osteochondral tissue engineering," **Rice University, Department of Bioengineering**, Houston, TX (February 7, 2012)
24. "Microsphere-based strategies for tissue regeneration in the TMJ," **American Association for Dental Research Annual Meeting**, Tampa, FL (March 23, 2012)
25. "Gradient strategies and umbilical cord Wharton's jelly cells for osteochondral tissue engineering," **University of Akron, Department of Chemical Engineering**, Akron, OH (April 13, 2012)
26. "Gradient strategies and umbilical cord Wharton's jelly cells for osteochondral tissue engineering," **Harvard University, Khademhosseini Group**, Cambridge, MA (April 17, 2012)
27. "Curing Tracheal Stenosis," **University Research and Entrepreneurship Symposium (URES)**, Cambridge, MA (April 18, 2012)
28. "Current advances in tissue regeneration," **American Association of Oral and Maxillofacial Surgery: Symposium on Stem Cell Technology and Tissue Engineering**, San Diego, CA (September 12, 2012) [1 of 4 featured speakers at the symposium]
29. "Gradient strategies and umbilical cord Wharton's jelly cells for osteochondral tissue engineering," **Colorado School of Mines, Department of Chemical & Biological Engineering**, Golden, CO (December 7, 2012)
30. DETAMORE MS, Dormer NH, Singh M, Ott LM, Gupta V, Sridharan B, Jeon JH, Busaidy K, Weatherly RA, Easley J, Palmer R, Key V, Scurto AM, Berkland CJ, Mohan N, "Leveraging Gradients in Osteochondral Regeneration and in Treating Tracheal Stenosis," **BMES Cellular and Molecular Bioengineering Conference**, Waimea, HI (January, 2013)
31. "Gradients and 'Raw Materials' in Tissue Engineering," **University of Memphis, Department of Biomedical Engineering**, Memphis, TN (March 22, 2013)
32. "Gradients and 'Raw Materials' in Tissue Engineering," **University of Pittsburgh, Department of Bioengineering**, Pittsburgh, PA (April 18, 2013)
33. "Gradients and 'Raw Materials' in Tissue Engineering," **Sree Chitra Tirunal Institute for Medical Sciences & Technology, Trivandrum, Kerala, India** (August 14, 2013)

34. "Gradients and 'Raw Materials' in Tissue Engineering," **University of Illinois, Department of Chemical and Biological Engineering**, Urbana-Champaign, IL (October 22, 2013)
35. "Application of Biomaterials in Regenerative Medicine," **Midwest Conference on Cell Therapy and Regenerative Medicine**, Kansas City, MO (November 23, 2013)
36. "Gradients and 'Raw Materials' in Tissue Engineering," **Institute for Stem Cell Biology and Regenerative Medicine (inStem)**, **Bangalore, Karnataka, India** (January 8, 2014)
37. "Gradients and 'Raw Materials' in Tissue Engineering," **Indian Institute of Science (IISc)**, **Bangalore, Karnataka, India** (January 10, 2014)
38. "Gradients and 'Raw Materials' in Tissue Engineering," **Wichita State University, Department of Biological Sciences**, Wichita, KS (March 3, 2014)
39. "Bridging the gap between the bioscience industry and academia in Kansas," **BioKansas: One Health Summit**, Kansas City, KS (March 6, 2014)
40. "Translational regenerative medicine," **KU Translational Bioscience Minisymposium**, Lawrence, KS (April 10, 2014)
41. "Gradients and 'Raw Materials' in Tissue Engineering," **University of Nebraska-Lincoln, Department of Chemical & Biomolecular Engineering**, Lincoln, NE (April 11, 2014)
42. "'Raw Materials' in Tissue Engineering," **Experimental Biology Conference**, San Diego, CA (April 27, 2014)
43. "Gradients and 'Raw Materials' in Tissue Engineering," **Brown University, Departments of Biomedical Engineering and Molecular, Pharmacology, and Physiology**, Providence, RI (May 9, 2014)
44. DETAMORE MS, Gupta V, Sridharan B, Easley J, Palmer RH, Galbraith R, Key VH, Berkland CJ, Mohan N, "Gradients and 'Raw Materials' in Tissue Engineering," **5th International Conference on Tissue Engineering**, **Kos, Greece** (June 22, 2014)
45. "Biomechanical requirements for engineered cartilage," Mini-symposium on Biomechanics of Tissue Engineered Cartilage at the **World Congress of Biomechanics**, Boston, MA (July 9, 2014)
46. "Engineering gradients to link disparate tissues," Mini-symposium on Grand Challenge at the Intersection of Tissue Engineering and Next Generation Implants: Engineering Tissue-Implant Interfaces at **IEEE-Engineering in Medicine and Biology Society**, Chicago, IL (August 28, 2014)
47. "TMJ scaffolds: Where are we headed," 2014 Innovators' Workshop on Personalized and Precision Orthodontic Therapy by the Consortium for Orthodontic Advances in Science and Technology at **Federation of American Societies for Experimental Biology**, Chicago, IL (September 12, 2014)
48. "Chondroinductive biomaterials for cartilage tissue engineering," **Biomedical Engineering Society**, San Antonio, TX (October, 2014)
49. "Microsphere-based gradient plugs for osteochondral regeneration," **Tissue Engineering and Regenerative Medicine International Society-North America**, Washington, DC (December, 2014)
50. "Gradients and 'Raw Materials' in Tissue Engineering," Stony Brook University, Department of Biomedical Engineering, Stony Brook, NY (February 4, 2015)
51. "Tissue Engineering and the TMJ," **TMD and Facial Pain Meeting on Bridging the Gap Between Science and Clinical Practice**, Phoenix, AZ (February 7, 2015)
52. "Chondroinductive materials for cartilage regeneration," **American Chemical Society**, Denver, CO (March 26, 2015)
53. "Gradients and 'Raw Materials' in Tissue Engineering," **Worcester Polytechnic Institute, Department of Biomedical Engineering**, Worcester, MA (April 13, 2015)
54. "Gradients and 'Raw Materials' in Tissue Engineering," **University of Florida, Department of Biomedical Engineering**, Gainesville, FL (May 19, 2015)
55. DETAMORE MS, Bhamidipati M, Berkland CJ, Scurto AM, "What can CO₂ do for you? Carbon dioxide for polymer processing," **Tissue Engineering and Regenerative Medicine International Society – World Congress**, Boston, MA (September 9, 2015)

56. “Gradients and ‘Raw Materials’ in Tissue Engineering,” **Columbia University, Center for Craniofacial Regeneration**, New York, NY (October 21, 2015)
57. “Will Chondroinductive Materials Revolutionize Cartilage Regeneration?” **4th Annual Musculoskeletal Repair and Regeneration Symposium**, New York, NY (October, 22, 2015)
58. “Gradients and ‘Raw Materials’ in Tissue Engineering,” **Trinity College Dublin, Biomedical Sciences Institute**, **Dublin, Ireland** (December 14, 2015)

Industrial Invited Lectures

59. **Kinetic Concepts Inc. (KCI)**, San Antonio, TX (July 11, 2011)
60. **Smith & Nephew**, Memphis, TN (March 21, 2013)
61. **Medtronic**, Memphis, TN (March 22, 2013)
62. **AlloSource**, Centennial, CO (July 21, 2014)
63. **Exogenesis**, Boston, MA (April 10, 2015)

CURRENT AND COMPLETED FUNDING (~\$4.5 million as PI)

Current Support

Project Title: Evaluation of negative pressure on stem cell differentiation (PI)

Source of Support: NIH (K-INBRE)

Total Award Amount: \$5,000

Total Award Period Covered: 09/04/2015 – 04/30/2016

Project Title: Acquisition of advanced X-ray photoelectron spectroscopy for materials research (co-I)

Source of Support: NSF/MRI

Total Award Amount: \$1,186,650

Total Award Period Covered: 08/01/2014 – 07/31/2017

Project Title: KBA Rising Star Award (PI)

Source of Support: Kansas Bioscience Authority (State of Kansas)

Total Award Amount: \$612,502

Total Award Period Covered: 03/27/2012 – 08/31/2020

Project Title: Integrative colloidal gels for cranial defect repair (co-I)

Source of Support: NIH (NIDCR)

Total Award Amount: \$1,455,431

Total Award Period Covered: 02/01/2012 – 1/31/2016

Project Title: Umbilical cord matrix project (PI)

Source of Support: State of Kansas

Total Award Amount: \$1,057,316

Total Award Period Covered: 07/01/2008 – 06/30/2016

Completed Support

Project Title: Gradient-based strategy for osteochondral regeneration (PI)

Source of Support: NIH (NIAMS)

Total Award Amount: \$1,347,542

Total Award Period Covered: 04/01/2010 – 03/31/2015 (currently submitting renewal)

Project Title: Chondroinduction (PI)
Source of Support: SpinalCyte
Total Award Amount: \$20,000
Total Award Period Covered: 08/18/2014 – 06/30/2015

Project Title: Microsphere-based gradient plugs for osteochondral regeneration (PI)
Source of Support: Coulter Foundation
Total Award Amount: \$218,000
Total Award Period Covered: 09/01/2011 – 8/31/2014

Project Title: CAREER - Gradients and umbilical cord stem cells in osteochondral tissue engineering (PI)
Source of Support: NSF (DMR)
Total Award Amount: \$400,000
Total Award Period Covered: 05/16/2009 – 05/15/2014

Project Title: 2013 Cellular and Molecular Bioengineering (CMBE) Conference (co-PI)
Source of Support: NIH (R13)
Total Award Amount: \$10,000
Total Award Period Covered: 01/01/2013 – 12/31/2013
PI: Leipzig

Project Title: 2013 Cellular and Molecular Bioengineering (CMBE) Conference (co-PI)
Source of Support: NSF
Total Award Amount: \$10,000
Total Award Period Covered: 01/01/2013 – 12/31/2013
PI: Leipzig

Project Title: Measurement, Materials and Sustainable Environment Center (Principal Scientist)
Source of Support: NIST
Total Award Amount: \$12,275,527
Total Award Period Covered: 02/01/2010 – 01/31/2012

Project Title: Combining technologies to build a better biomaterial for TMJ tissue regeneration (PI)
Source of Support: Fulbright Scholar Program – Council for International Exchange of Scholars
Total Award Amount: Undisclosed
Total Award Period Covered: 09/01/2011 – 12/31/2011

Project Title: Bioinspired high mechanical performance artificial extracellular matrices (co-PI)
Source of Support: NSF (DMR)
Total Award Amount: \$375,000
Total Award Period Covered: 09/01/2008—08/31/2011

Project Title: RET Site: Bioengineering Toolkits for 4th Grade Teachers (BET 4Teachers) (Collaborator)
Source of Support: NSF (EEC)
Total Award Amount: \$500,000
Total Award Period Covered: 09/01/2008—08/31/2011

Project Title: Solvent-free engineering of a shape-specific osteochondral TMJ condyle (PI)
 Source of Support: NIH (NIBIB)
 Total Award Amount: \$399,138
 Total Award Period Covered: 05/01/2009 – 04/30/2011

Project Title: High toughness bio-inspired hydrogels for cartilage tissue engineering (PI)
 Source of Support: NIH (NIBIB)
 Total Award Amount: \$394,530
 Total Award Period Covered: 04/01/2009 – 03/31/2011

Project Title: Custom implants for rapid tissue regeneration in osteochondral defects (PI)
 Source of Support: Institute for Advancing Medical Innovation (IAMI)
 Total Award Amount: \$159,632
 Total Award Period Covered: 10/21/2009 – 03/31/2011

Project Title: Novel biomaterial for osteochondral regeneration in the TMJ (PI)
 Source of Support: Oral and Maxillofacial Surgery Foundation
 Total Award Amount: \$75,000
 Total Award Period Covered: 03/01/2009 – 02/28/2011

Project Title: Umbilical cord stem cells for engineering TMJ osteochondral constructs (PI)
 Source of Support: Arthritis Foundation
 Total Award Amount: \$330,000
 Total Award Period Covered: 07/01/2006 – 06/30/2010

Project Title: High toughness hydrogels for cartilage tissue engineering (PI)
 Source of Support: Kansas Idea Network of Biomedical Research Excellence (K-INBRE)
 Total Award Amount: \$43,395
 Total Award Period Covered: 05/01/2008 – 04/30/2009

Project Title: 2nd TMJ Bioengineering Conference (PI)
 Source of Support: NIH (NIDCR)
 Total Award Amount: \$30,000
 Total Award Period Covered: 01/01/2009 – 12/31/2009

Project Title: Development of electrospinning and gene delivery techniques for intervertebral disc
 regeneration (PI)
 Source of Support: University of Kansas-General Research Fund
 Total Award Amount: \$6,000
 Total Award Period Covered: 07/01/2008 – 06/30/2009

Project Title: Bioactive signal gradients to engineer TMJ condyle osteochondral constructs (PI)
 Source of Support: NIH (NIDCR)
 Total Award Amount: \$387,945
 Total Award Period Covered: 05/01/2007 – 04/30/2009

Project Title: Novel biomaterial approaches for TMJ tissue engineering (PI)
 Source of Support: University of Kansas-General Research Fund
 Total Award Amount: \$5,000

Total Award Period Covered: 07/01/2006 – 06/30/2007

Project Title: TMJ Bioengineering Conference (PI)

Source of Support: NIH (Primary: NIDCR/Secondary: NIBIB)

Total Award Amount: \$20,000

Total Award Period Covered: 02/01/2006 – 01/31/2007

Project Title: Tissue engineering the TMJ condyle (PI)

Source of Support: University of Kansas-New Faculty General Research Fund

Total Award Amount: \$8,000

Total Award Period Covered: 07/01/2005 – 06/30/2006

TEACHING & ADVISING

TEACHING EXPERIENCE

- CPE 211 – Material and Energy Balances (Fall 2004, 2005, 2006)
- CPE 511 – Momentum Transfer (Fall 2007, 2008, 2009)
- CPE 521 – Heat Transfer (Spring 2010, 2011, 2012, 2016)
- CPE 615 – Introduction to Process Dynamics & Control (Fall 2012, 2013, 2014, 2015)
- CPE 656/756 – Introduction to Biomedical Engineering (Spring 2006, 2008; Fall 2009)
- CPE 715/752* – Tissue Engineering (Spring 2005, 2007, 2009, 2011, 2013, 2015)
- ENGR 600* – Engineering Applications in India: Technical, Business, and Implementation Issues (Winter/Spring 2014)
- Tissue Engineering* – National University of Ireland – Galway (Fall 2011)
- Continuum Biomechanics, co-instructor (Spring 2004 @ Rice University)
- Math Teacher, Houston Taiwanese School of Languages and Culture (August 2002 – May 2003)

*Created these courses

ADVISEES – POST-DOCS

1. Richard Wemer, M.D.; visiting otolaryngology resident from KU Medical Center (Spring 2007)
2. Liang Zhao, M.D., Ph.D.; post-doctoral fellow (July 2007 – April 2009), currently Associate Professor, Consulting Surgeon, Orthopaedic Surgery, Nanfang Hospital, Southern Medical University, Guangzhou, China
3. Ganesh Ingavle, Ph.D.; post-doctoral fellow (November 2009 – April 2011), currently Marie Curie E4-10 Researcher at University of Brighton, England
4. Ju Hyeong Jeon, Ph.D.; post-doctoral fellow (November 2009 – May 2011), current position unknown
5. Neethu Mohan, Ph.D.; assistant research professor (September 2011 – May 2012), post-doctoral fellow (November 2009 – September 2011), currently Chitra High Value Fellow D, Division of Tissue Engineering & Regeneration Technologies, Sree Chitra Tirunal Institute for Medical Sciences & Technology, Trivandrum, India

ADVISEES – GRADUATE STUDENTS

1. Limin Wang, Ph.D. (Fall 2004 – Fall 2008), Chemical & Petroleum Engineering
 - Ph.D., Chemical and Petroleum Engineering (Defense: August 25, 2008)
 - “Tissue engineering the TMJ condyle using human umbilical cord mesenchymal stromal cells”
 - Completed a 2-year post-doc with Jan Stegemann at the University of Michigan, and a 2-year post-doc with Tony Mikos at Rice University. Currently an entrepreneur in Orlando, FL.
2. Milind Singh, Ph.D. (Fall 2004 – Fall 2008), Chemical & Petroleum Engineering
 - Ph.D., Chemical and Petroleum Engineering (Defense: October 13, 2008)
 - “Osteochondral tissue engineering for the TMJ condyle using a novel gradient scaffold”
 - Completed 2-year post-doc with Tony Mikos at Rice University, served as a Director at Orbis Biosciences, Inc. in Kansas City, KS. Currently at Bayer CropSci in North Carolina.
 - Awarded **Best PhD Thesis in Chemical & Petroleum Engineering** (2008)
3. Nathan Dormer, Ph.D. (Fall 2007 – Spring 2011), Bioengineering
 - Ph.D., Bioengineering (Defense: April 5, 2011)
 - “Osteochondral interface tissue engineering using macroscopic gradients of physicochemical signals”
 - Currently Director of Formulation Sciences at Orbis Biosciences, Inc. in Kansas City, KS
 - Awarded the Marnie and Bill Argersinger Award for Outstanding Doctoral Dissertation for the **Best PhD thesis at KU** (2011)

4. A.J. Mellott, Ph.D. (Fall 2008 – Spring 2014), Bioengineering
 - Ph.D., Bioengineering (Defense: April 3, 2014)
 - “Approaching inner ear hair cell regeneration through non-viral gene delivery”
 - Currently a Research Assistant Professor in the Department of Plastic Surgery at KU Medical Center
5. Lindsey Ott, Ph.D. (Fall 2008 – Fall 2014), Bioengineering
 - Ph.D., Bioengineering (Defense: December 10, 2014)
 - “In vitro and in vivo characterization of tunable fibrous scaffolds for tracheal tissue engineering”
 - Currently a Product Innovation Scientist at Likarda LLC in Kansas City, KS
6. BanuPriya Sridharan, Ph.D. (Fall 2011 – Summer 2015), Bioengineering
 - Ph.D., Bioengineering (Defense: July 31, 2015)
 - “Three-dimensional stem cell aggregates for cartilage tissue engineering”
 - Currently a Scientist at MedImmune
7. Emily Beck, Ph.D. (Summer 2009 – Present), Bioengineering
 - Ph.D., Bioengineering (Defense: October 6, 2015)
 - “Development of chondroinductive hydrogel pastes from naturally derived cartilage matrix”
 - Currently a Post-Doctoral Fellow with Dr. Clay Quint at the KU Medical Center
8. Vineet Gupta, Ph.D. candidate (Fall 2010 – Present), Bioengineering
 - Ph.D., Bioengineering (Defense: December 10, 2015)
 - “Raw material encapsulating microsphere-based scaffolds for osteochondral regeneration”
 - Currently a Post-Doctoral Fellow with David Volkin at the University of Kansas
9. Keerthana Devarajan, M.S. (Fall 2009 – Spring 2011), Bioengineering
 - M.S., Bioengineering (Defense: May 17, 2011)
 - “Adenoviral mediated gene delivery to human umbilical cord mesenchymal stromal cells for inner ear hair cell differentiation”
 - Currently Lab Manager/Life Science Research Assistant at Stanford University
10. Yinghua Xiao, M.S. (Fall 2009 – Fall 2011), Chemical & Petroleum Engineering
 - M.S., Bioengineering (Defense: August 26, 2011)
 - “Evaluation of fracture toughness for articular cartilage and hydrogels in cartilage tissue engineering”
 - Currently Life Science Research Assistant at Stanford University
11. Manjari Bhamidipati, M.S. (Fall 2009 – Fall 2011), Bioengineering
 - M.S., Bioengineering (Defense: November 11, 2011)
 - “Osteogenic and chondrogenic differentiation of rBMSCs on microsphere-based scaffolds sintered using subcritical CO₂”
 - Currently a PhD student at Rutgers University in New Jersey
12. Amanda Sutherland, M.S. (Fall 2012 – Present), Bioengineering
 - M.S., Bioengineering (Defense: June 17, 2014)
 - “Decellularized cartilage as a bioactive biomaterial for cartilage tissue engineering”
 - Currently a medical student at KU Medical Center
13. Mitchell VeDepo, Ph.D. candidate (Fall 2013 – Present), Bioengineering [Co-advised]
14. Salma Mahzoon, Ph.D. student (Fall 2013 – Present), Mechanical Engineering
15. Jakob Townsend, Ph.D. student (Fall 2014 – Present), Bioengineering
16. Jeannie Salash, M.S. student (Fall 2014 – Present), Bioengineering
17. Emi Kiyotake, Ph.D. student (Fall 2015 – Present), Bioengineering
18. Francisca Acosta, PREP student (Fall 2015 – Present), co-advised with Prof. Arghya Paul
19. Cate Wisdom, Ph.D. student (Fall 2012 – Spring 2015), Bioengineering

20. Syed Jamal, Ph.D. student (Spring 2009 – Spring 2010), Molecular Biosciences

ADVISEES – UNDERGRADUATES

1. Ashlyn Driskill, MBA student & Pre-med (Spring 2016 – Present)
2. Mason Wilde (Summer 2015 – Present)
3. Marilyn Barragan (Spring 2015 – Present)
4. Mike Holtz (Fall 2014 – Present)
5. Joshua Wu (Fall 2014 – Present)
6. Taylor Zabel (Summer 2014 – Present)
7. Dina Lyne (Spring 2013 – Present)*
8. McKenzie Miller (Fall 2014 – Fall 2015)
9. Brooke Lohman (Fall 2012 – Spring 2015)
10. Madeleine Tadros (Summer 2015)
11. Amy Laflin (Summer 2014 – Spring 2015)
12. Clinton Herrmann (Fall 2014 – Spring 2015)
13. Kevin Tenny (Fall 2014 – Spring 2015)
14. Ashley Farris, undergraduate (Fall 2011 – Summer 2015)
15. Mackenzie Bloom (Fall 2013 – Spring 2015)
16. Becky Reilly (Fall 2014 – Spring 2015)
17. Towne Walston (Summer 2014 – Fall 2014)
18. Jonathan Mosher (Spring 2013 – Spring 2014)
19. Tony Libeer (Fall 2013 – Fall 2014)
20. Staphany Lin (Summer 2013 – Spring 2014)
21. Alex Hwu (Fall 2013 – Spring 2014)
22. Drew Kuchinski (Spring 2014)
23. Natalie Walker (Fall 2013 – Spring 2014)
24. Gelareh Samandi, undergraduate (Fall 2010 – Summer 2014)
25. Jerrica Washburn (Spring 2013 – Fall 2013)
26. Austin Smith, undergraduate (Summer 2010 – Spring 2013)*
27. Deena Rennerfeldt, undergraduate (Summer 2010 – Summer 2013) – NSF Fellowship
28. Daniel Tabakh, undergraduate (Summer 2012 – Fall 2012)
29. Shawn Briley, undergraduate (Fall 2011 – Fall 2012)
30. Bharath Krishnamoorthi, undergraduate (Fall 2011 – Spring 2012)
31. Megan Godsey, undergraduate (Spring 2011 – Summer 2012) – NSF Fellowship
32. Cindy Vu, undergraduate (Spring 2010 – Spring 2012)
33. Rachael Ott, undergraduate (Summer 2011)
34. Alexandra Machen, undergraduate (Spring 2010 – Summer 2011)
35. Anthony Frei, undergraduate honors research (Fall 2009 – Summer 2011)
36. Marina Rasuck, undergraduate (Fall 2010 – Spring 2011)
37. Aaron Karlin, undergraduate (Summer 2010 – Spring 2011)
38. Anna Lydick, undergraduate (Spring 2010 – Spring 2011)
39. Steven Qiu, undergraduate honors research (Fall 2009 – Fall 2010)
40. Sahil Baghla, undergraduate from IIT-Kanpur (Summer 2010)
41. Bridget LaFollette, undergraduate (Fall 2009)
42. Danielle Minter, REU undergraduate research program (Summer 2009)
43. Laura Danielson, REU undergraduate research program (Summer 2009)
44. Nick Allen, undergraduate honors research (Spring 2009 – Summer 2009)
45. Lauren Byers, undergraduate honors research (Spring 2009 – Fall 2009)

46. Brandon DeKosky, undergraduate honors research (Summer 2008 – Spring 2010) – NSF Fellowship and Hertz Fellowship
 47. Allyson Martin, undergraduate honors research (Spring 2009)
 48. Mihael Lazebnik, undergraduate honors research (Spring 2007 – Spring 2009)*
 49. Erica Lind, undergraduate (Spring 2008 – Fall 2008)
 50. Joanne Hoang, undergraduate (Summer 2008)
 51. Paul Glatt, REU undergraduate research program (Summer 2008)
 52. Lana Johnson, undergraduate (Spring 2008)
 53. Jeannie Salash, undergraduate honors research (Summer 2007 – Spring 2008)*
 54. Jordan Christian, undergraduate honors research (Summer 2007 – Spring 2008)*
 55. Kaleigh Braun, undergraduate honors research (Fall 2007 – Spring 2008)*
 56. Chris Roatch, undergraduate (Summer 2006 – Summer 2008)*
 57. Ivy Tran, REU undergraduate research program (Summer 2007)
 58. Brindar Sandhu, REU undergraduate research program (Summer 2007)
 59. Travis Miller, undergraduate (Spring 2007)
 60. Bryn Gardner, undergraduate (Summer 2006 – Spring 2007)
 61. Grant Snider, undergraduate honors research (Spring 2006 – Spring 2007)
 62. Ryan Boehler, undergraduate honors research (Spring 2005 – Fall 2006)*
 63. Andrew Becker, University Scholar, undergraduate honors research (Fall 2004 – Fall 2006)*
 64. Casey Morris, undergraduate honors research (Spring 2005 – Fall 2006)*
 65. Sara Thompson, undergraduate (Summer 2006)*
 66. Angela Sanders, undergraduate honors research (Spring 2006)*
 67. Chris Conti, undergraduate (Spring 2006)
 68. Jaret Flores, undergraduate (Fall 2005)
 69. Lauren Tice, undergraduate (Fall 2005)
 70. Mark Bailey, REU undergraduate research program (Summer 2005)
 71. Anna Baldwin, undergraduate honors research (Spring 2005)
 72. Stephen Brown, undergraduate honors research (Spring 2005)
- *Undergraduate Research Award (URA) awardees*

ADVISEES – HIGH SCHOOL

1. Erika Green, high school student (Summer 2010)
2. Marilyn Barragan, high school student (Spring 2014)

THESIS COMMITTEES

Doctoral: Completed

- 1) Shara Thati (Advisor: Cory Berkland)
 - Ph.D. candidate, Pharmaceutical Chemistry (Defense: April 18, 2016)
 - “Optimizing the treatment of experimental autoimmune encephalomyelitis via pulmonary delivery of soluble antigen arrays”
- 2) Erik Van Kampen (Advisor: Stevin Gehrke)
 - Ph.D., Chemical & Petroleum Engineering (Defense: April 7, 2016)
 - “Controlling protein permeability in hydrogels for drug delivery applications”
- 3) Henrique Martiniano Vazão de Almeida, Ph.D. (Advisor: Daniel Kelly, Trinity College Dublin)
 - Ph.D. (Defense: December 14, 2015)
 - “Cartilage extracellular matrix-derived scaffolds for joint regeneration”
 - I served as the External Examiner for the *viva voce* examination in person.
- 4) Connor Dennis (Advisor: Cory Berkland)
 - Ph.D., Bioengineering (Defense: January 12, 2015)

- “Bone tissue engineering using colloidal gels and native extracellular matrix biomaterials”
- 5) Anahita Khanlari (Advisor: Stevin Gehrke)
 - Ph.D., Chemical Engineering (Defense: July 14, 2014)
 - “Engineering hydrogels to tune mechanical properties”
- 6) Adam Cyr (Advisor: Lorin Maletsky)
 - Ph.D., Bioengineering (Defense: April 15, 2014)
 - “Quantification of the relative contribution of individual soft tissue structures to total joint constraint”
- 7) Tricia Huber (Advisor: Stevin Gehrke)
 - Ph.D., Bioengineering (Defense: March 25, 2014)
 - “Evaluation of structure-property relationships within insect cuticle to identify motifs for biomaterial design”
- 8) Tiffany Suekama (Advisor: Stevin Gehrke)
 - Ph.D., Chemical and Petroleum Engineering (Defense: February 7, 2014)
 - “Engineering the microstructure of hydrogels to achieve enhanced mechanical properties”
- 9) Joshua Johnson (Advisor: Ken Fischer)
 - Ph.D., Mechanical Engineering (Defense: December 18, 2012)
 - “Effects of surgical repair or reconstruction on radiocarpal mechanics from wrists with scapholunate ligament injury”
- 10) Vidyashankara Iyer Gowrishankara (Advisor: Russ Middaugh)
 - Ph.D., Bioengineering (Defense: October 4, 2012)
 - “A study of protein-surface interactions”
- 11) Karthik Ramachandran (Advisor: Lisa Stehno-Bittel)
 - Ph.D., Bioengineering (Defense: April 10, 2012)
 - “A platform technology for optimized production of islet-like spheroids and other 3D cell spheroids for applications in drug discovery and regenerative medicine”
- 12) Amir Fakhari, Ph.D. (Advisor: Cory Berkland)
 - Ph.D., Bioengineering (Defense: January 19, 2012)
 - “Biomedical application of hyaluronic acid nanoparticles”
- 13) Vitaly Kheifets (Advisor: Sarah Kieweg)
 - Ph.D., Mechanical Engineering (Defense: May 31, 2011)
 - “Mathematical and experimental analysis of microbicide vaginal gels”
- 14) Abdul Baoum, Ph.D. (Advisor: Cory Berkland)
 - Ph.D. candidate, Pharmaceutical Chemistry (Defense: April 19, 2011)
 - “Nonviral vectors for gene delivery”
- 15) Zahra Mohammadi (Advisor: Cory Berkland)
 - Ph.D., Chemical and Petroleum Engineering (Defense: April 6, 2011)
 - “Metal-binding polymers as chelating agents”
- 16) Qun Wang (Advisor: Cory Berkland)
 - Ph.D., Chemical and Petroleum Engineering (Defense: September 24, 2010)
 - “Biodegradable colloidal gels as malleable tissue scaffolds and injectable drug carriers”
- 17) Mark Bailey, Ph.D. (Advisor: Cory Berkland)
 - Ph.D. candidate, Bioengineering (Defense: July 26, 2010)
 - “Fluorinated nanoparticles: A novel technology platform for multimodal biomedical imaging applications”
- 18) Joe Lomakin, Ph.D. (Advisor: Stevin Gehrke)
 - Ph.D., Chemical and Petroleum Engineering (Defense: July 27, 2009)
 - “Mechanics of biological polymer composites”
- 19) Chadd Clary, Ph.D. (Advisor: Lorin Maletsky)

- Ph.D., Mechanical Engineering (Defense: July 7, 2009)
- “A combined experimental-computational method to generate reliable subject specific models of the knee’s ligamentous constraint”

Doctoral: In Progress

- 20) Stephen Harrington (Advisor: Lisa Stehno-Bittel)
 - Ph.D.candidate, Bioengineering
- 21) Brittany Hartwell (Advisor: Cory Berkland)
 - Ph.D. student, Bioengineering
- 22) Sarah VanOosten (Advisor: Candan Tamerler)
 - Ph.D. student, Pharmaceutical Chemistry
- 23) Renae Waters (Advisor: Arghya Paul)
 - Ph.D. student, Bioengineering
- 24) Ryan Maloney (Advisor: Arghya Paul)
 - Ph.D. student, Bioengineering

Masters: Completed

- 1) Nick Tobaben, M.S. (Advisor: Lisa Friis)
 - M.S., Mechanical Engineering (Defense: July 19, 2012)
 - “Development of a novel piezoelectric implant to improve the success rate of spinal fusions”
- 2) Vara Aziz, M.S. (Advisor: Stevin Gehrke)
 - M.S., Bioengineering (Defense: April 1, 2010)
 - “Synthesis and characterization of hydrogels based on poly(N-vinylformamide)”
- 3) Mark Bailey, Ph.D. (Advisor: Cory Berkland)
 - M.S., Chemical and Petroleum Engineering (Defense: April 17, 2008)
 - “Pure insulin nanoparticle agglomerates for pulmonary delivery”
- 4) Matthew Arnold, M.S. (Advisor: Cory Berkland)
 - M.S., Chemical and Petroleum Engineering (Defense: January 22, 2007)
 - “Fabrication and evaluation of ciprofloxacin-loaded PLGA microparticles as aerosols for deep lung deposition”
- 5) David Tarverdi, M.S. (Advisor: Colin Howat)
 - M.S., Chemical and Petroleum Engineering (Defense: October 21, 2005)
 - “Development of a computer program to evaluate drying effectiveness and fluidization reliability in fluidized bed dryers”
- 6) Christian Eichler, M.S. (Advisor: Stevin Gehrke)
 - M.S., Chemical and Petroleum Engineering (Defense: July 18, 2005)
 - “Insect cuticle as a motif for biomimetic materials”

Masters: In Progress

None

SERVICE

KU SERVICE

- Faculty Mentor – Volleyball (2014 – Present)
- Faculty Mentor – Baseball (2012 – Present)
- Council Member – Biomedical Engineering Society, Cellular and Molecular Bioengineering Special Interest Group (2012 – 2015).
- Search Committee Chair for an Assistant Professor Position in Chemical & Petroleum Engineering (2013-14) – Position filled: Prof. Arghya Paul
- Doctoral Education Work Group, University Committee (2012)
- Post-doc Task Force, University Committee (2011)
- IACUC Veterinarian Search Committee (2011) (position filled)
- Animal Care and Use Strategic Planning Committee (2008 – 2010)
 - Search committee: Director of Animal Care Unit (position filled)
 - Search committee: University Veterinarian (position filled)
- Chemical and Petroleum Engineering ABET Committee (2008 – Present)
- Director – Biomaterials and Tissue Engineering Track (2005 – 2013)
 - Bioengineering Program Development Committee (2004 – 2007)
 - MD/PhD dual degree development committee (2005 – 2009)
 - 5-year Bioengineering Program Review Committee (2010)
- *Ad hoc* leader of “Healthcare Engineering” Thrust Area for long term planning for the future of the School of Engineering (2010)
- Engineering Library Committee (2004 – 2014)
- BMES Student Chapter advisor (2004 – Present)
- SFB Student Chapter co-advisor (2014 – Present)
- KU Student Society for Stem Cell Research, chapter advisor (2009)
- Graduate Engineering Association Advisory Committee (2005 – Present)
- Project Discovery (July 2005, 2006, 2007, 2008, 2009)
- Chemical Engineering Department Advisory Board – Secretary (2008 – Present)
- KU Center for Teaching Excellence Teaching Summit: co-presenter of “Engaging Undergraduates in Research” (8/18/2009)
- *Ad hoc* committees:
 - New Faculty Startup Packages (Spring 2005)
 - Bioengineering (Mechanical Engineering) Faculty Search Committee (Spring 2005)
 - Graduate Program Revision in Chemical & Petroleum Engineering

JOURNAL REVIEWS

1. *Acta Biomaterialia*
2. *Advanced Healthcare Materials*
3. *The Anatomical Record*
4. *Annals of Biomedical Engineering*
5. *Archives of Oral Biology*
6. *Biomacromolecules*
7. *Biomaterials*
8. *Biotechnology and Bioengineering*
9. *Cellular and Molecular Bioengineering*
10. *Chemical Engineering Education*
11. *Chemical Engineering Journal*

12. *Computer Methods and Programs in Biomedicine*
13. *Cells Tissues Organs*
14. *European Journal of Oral Sciences*
15. *European Journal of Pharmaceutics and Biopharmaceutics*
16. *Journal of Biomaterials Applications*
17. *Journal of Biomechanical Engineering*
18. *Journal of Biomechanics*
19. *Journal of Biomedical Materials Research-Parts A, B*
20. *Journal of Cellular and Molecular Medicine*
21. *Journal of Dental Research*
22. *Journal of Engineering in Medicine*
23. *Journal of Orofacial Pain*
24. *Journal of Orthopaedic Research*
25. *Journal for Oto-Rhino-Laryngology, Head and Neck Surgery*
26. *Journal of the Royal Society Interface*
27. *Journal of Tissue Engineering and Regenerative Medicine*
28. *Nanomedicine*
29. *Orthopedic Reviews*
30. *Osteoarthritis and Cartilage*
31. *Proceedings of the National Academy of Sciences*
32. *Recent Patents on Regenerative Medicine*
33. *Stem Cell Research & Therapy*
34. *Stem Cells and Development*
35. *Tissue Engineering, Parts A, B, C*
36. *Wound Repair and Regeneration*

PROPOSAL REVIEWS

International

- Singapore: National Medical Research Council (2011)
- Dutch Technology Foundation STW (2010)
- Scotland: Chief Scientist Office Experimental and Translational Medicine Research Committee (2010)
- Netherlands Organisation for Health Research and Development (2005)

Domestic

- NIH
 - **MTE Study Section (NIH), standing study section member (2011 – 2015)**
 - **Co-chair (Oct 2014, Feb 2015, June 2015)**
 - NIH SBIR (3/2/15)
 - MOSS Continuous Submission SEP (11/3/11)
 - MTE study section (February 9-10, 2011)
 - NIDCR Special Grants Review Committee: Review of F, K, and R03 Applications (10/21/10)
 - ZRG1 MOSS G 55R RC4 (5/21/10 – Mail in)
 - ZRG1 MOSS-F 02 (12/11/09 – Phone in)
 - ZRG1 MOSS D53 (11/17/09)
 - ZRG1 MOSS-C 58 Challenge Grant Study section (6/12/09 – Mail in)
- Veterans Affairs
 - **Regenerative Medicine Panel Member (2011 – 2015)**
 - Veterans Affairs (August 16, 2010)

- Veterans Affairs (February 23-24, 2011)
- NSF (2008)
- Louisiana EPSCoR program (2008)

NATIONAL AND INTERNATIONAL SERVICE

- AIMBE Fellow Selection Committee (2015)
- Program Committee, Society for Physical Regulation in Biology and Medicine Annual Meeting (January 2011)
- Program Committee, American Society of TMJ Surgeons (2008 – 2012)
- Editorial and conference chair positions listed earlier under Service Honors