

1. Mark R. Appleford
Associate Professor

DEPARTMENT
Biomedical Engineering

2. EDUCATION

- a. Ph.D., Biomedical Engineering, University of Tennessee Health Science Center, TN, 2007
- b. M.S., Bioengineering, California Polytechnic State University San Luis Obispo, CA, 2003
- c. B.S., Biological Science, California Polytechnic State University San Luis Obispo, CA, 2001

3. ACADEMIC EXPERIENCE

- Univ. of Texas San Antonio, Associate Dean of Academic Affairs, COE, 2015-
- Univ. of Texas San Antonio, Associate Professor, Department of Biomedical Engineering, 2014-
- Univ. of Texas San Antonio, Assistant Professor, Department of Biomedical Engineering, 2008-2014
- Univ. of Texas San Antonio, Visiting Assistant Professor, Department of Biomedical Engineering, 2007
- Univ. of Tennessee Health Science Center, Postdoctoral Fellow, Dept. of Biomedical Engineering, 2007

4. NON ACADEMIC EXPERIENCE

- a. Department of Defense, CDMRP research program evaluation, VA, 2014-
- b. Materials Engineering Technician, Rockwell Scientific, Thousand Oaks, CA, 1997-99

5. CERTIFICATIONS OR PROFESSIONAL REGISTRATIONS

- a. n/a

6. CURRENT MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS

- a. Society for Biomaterials
- b. Biomedical Engineering Society
- c. Orthopaedic Research Society

7. HONORS AND AWARDS

- a. University of Texas Ambassadors Award, Teaching, 2015
- b. International Association for Dental Research, Hatton Award Finalist, 2007
- c. American Association for Dental Research, Unilever Hatton Award, 2007
- d. Tennessee Biomedical Engineering Conference, Research Award, 2005
- e. Biomedical Engineering Society, Annual Meeting, Presenter, Conference Award, 2004, 2005
- f. California Polytechnic State U. Outstanding Master's Thesis Award, 2003

8. SERVICE ACTIVITIES

- a. UTSA/UTHSCSA Joint Graduate Program Advisor of Record
- b. UTSA CHEM/MATE Task Force

- c. UTSA IACUC scientific member, Faculty Workload Policy Chair, Outreach Committee, Chemical Safety Committee, UG BME Student Society Advisor
- d. Oak Ridge Associated Universities Scientific Review Board
- e. National Research Agency, European Union, Scientific Review

9. PUBLICATIONS

- a. Textbook: Introduction to Biomaterials: CM Agrawal, JL Ong, MR Appleford, G Mani. Cambridge University Press, 2014.
- b. M Pilia, T Guda, BE Pollot, V Aguero, MR Appleford. Local microarchitecture affects mechanical properties of deposited extracellular matrix for osteonal regeneration. *Materials Science and Engineering: C* 35, 122-133, 2014.
- c. M Pilia, T Guda, SM Shiels, MR Appleford. Influence of substrate curvature on osteoblast orientation and extracellular matrix deposition. *Journal of biological engineering* 7 (1), 23, 2013
- d. X Bai, S Sandukas, M Appleford, JL Ong, A Rabiei. Antibacterial effect and cytotoxicity of Ag-doped functionally graded hydroxyapatite coatings. *Journal of Biomedical Materials Research Part B: Applied Biomaterials*. 100B (2), p. 553 - 561.
- e. M Appleford, S Oh, J Cole, JL Ong. Ultrasound effect on osteoblast precursor cells in trabecular calcium phosphate scaffolds. *Journal of Biomaterials* 2007;28:4788-4794.
- f. CR Rathbone, T Guda, BM Singleton, DS Oh, MR Appleford, JL Ong. Effect of cell-seeded hydroxyapatite scaffolds on rabbit radius bone regeneration. *Journal of Biomedical Materials Research Part A* 102 (5), 1458-1466, 2014.
- g. T Guda, JA Walker, B Singleton, J Hernandez, DS Oh, MR Appleford. Hydroxyapatite scaffold pore architecture effects in large bone defects in vivo. *Journal of biomaterials applications* 28 (7), 1016-1027, 2014.
- h. M Pilia, T Guda, M Appleford. Development of Composite Scaffolds for Load Bearing Segmental Bone Defects. *BioMed Research International*, 2013
- i. T Guda, JA Walker, BM Singleton, JW Hernandez, JS Son, SG Kim, DS Oh, MR Appleford, JL Ong, JC Wenke. Guided Bone Regeneration in Long-Bone Defects with a Structural Hydroxyapatite Graft and Collagen Membrane. *Tissue Eng Part A*. 2012 Sep 14.
- j. SM Shiels, KD Solomon, M Pilia, MR Appleford, JL Ong. BMP-2 tethered hydroxyapatite for bone tissue regeneration: coating chemistry and osteoblast attachment. *J Biomed Mater Res A*. 2012 Nov;100(11):3117-23.
- k. M Saucedo, DW Johnson, J Huang, S Bin-Shafique, VM Sponsel, M Appleford. Durability of Polymer Infused Roots Used for Soil Stabilization. *Journal of Materials in Civil Engineering* 26 (8) 043, 2013.

10. PROFESSIONAL DEVELOPMENT ACTIVITIES

- a. FASEB Society Congress, 2013-2014.
- b. UTSA - The Academy of Distinguished Teaching Scholars, 2015.
- c. UTSA – Hybrid Learning Workshop Series 2015.
- d. UTSA – Initiatives to Maximize Student Development, 2014.