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Assistant Professor
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EDUCATION

- Ph.D., Mechanical Engineering** **April, 2011**
Virginia Polytechnic Institute and State University, Blacksburg, VA
- Postdoctoral Research Associate, Engineering Institute** **2011-2013**
Los Alamos National Laboratory, Los Alamos, NM

RESEARCH EXPERIENCE/PROJECTS

- Assistant Professor, Mechanical Engineering, Tennessee Tech, Cookeville, TN** August 2013 – Present
- Research interests include identifying novel applications of smart material technologies, energy harvesting for biomedical applications, energy harvesting to create self-powered wireless sensors for structural health monitoring, and the development of novel energy harvesting transducers
 - Current Projects:
 - Smart knee implants: embedding piezoelectric sensors/harvesters in total knee replacements
 - Multilayer piezoelectret foam energy harvesting: lightweight, conformable, and lead-free
 - Microsecond state monitoring: structural health monitoring (SHM) on the microsecond scale
- Postdoctoral Research Associate, Los Alamos National Laboratory, Los Alamos, NM** July 2011 – July 2013
- Multi-source energy harvesting combining vibration and solar harvesting to power low-power embedded electronics on wind turbines
 - Novel piezoelectret polymer foam material for energy harvesting applications
 - Vibratory and acoustic sensing systems for determination of steam quality in steam pipelines
- Graduate Research Assistant, Virginia Tech, Blacksburg, VA** August 2006 – July 2011
- Multifunctional piezoelectric energy harvesting combining piezoceramic layers and thin-film battery layers to create *self-charging structures* capable of simultaneous energy harvesting and energy storage
 - Baseline-free wave propagation-based SHM technique for damage detection in thin plates

RECENT AWARDS

2015 Air Force Summer Faculty Fellowship Recipient

SELECTED PUBLICATIONS

1. Wilson, B. E., Meneghini, R. M., and **Anton, S. R.**, Embedded Piezoelectrics for Sensing and Energy Harvesting in Total Knee Replacement Units, in *Proc SPIE Smart Struc & NDE*, March, 2015, San Diego, CA.
2. **Anton, S. R.**, Erturk, A., and Farinholt, K. M., 2014, Piezoelectret Foam-Based Vibration Energy Harvesting, *J Intel Mat Syst Str*, Vol. 25, No 14, pp. 1681-1692.
3. **Anton, S. R.**, Erturk, A., and Inman, D. J., 2012, Bending strength of piezoelectric ceramics and single crystals for multifunctional load-bearing applications, *IEEE T Ultrason Ferr*, 59(6): 1085-1092.
4. **Anton, S. R.**, Erturk, A., and Inman, D. J., 2010, Multifunctional Self-charging Structures using Piezoceramics and Thin-Film Batteries, *Smart Mater Struct*, 19(11): 115021 (15 pp.).
5. **Anton, S. R.**, Park, G., and Inman, D. J., 2009, Reference-Free Damage Detection using Instantaneous Baseline Measurements, *AIAA J*, 47(8): 1952-1964.
6. **Anton, S. R.** and Sodano, H. A., 2007, A Review of Power Harvesting using Piezoelectric Materials (2003-2006), *Smart Mater Struct*, 16(3): R1-R21.