Andrew F Callender

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Education:

- Ph.D. (Chemistry), University of Michigan, Ann Arbor, Michigan (August 2006). Dissertation: *Dynamic Raman Spectroscopy of Mineralized Tissue.* Advisor: Dr. Michael Morris.
- M.S. (Chemistry), University of Michigan, Ann Arbor, Michigan (August 2003). Concentration: Analytical chemistry (separations). Advisor: Dr. Mark Meyerhoff.
- B.S. (Chemistry and Biology, *summa cum laude*), King College, Bristol, Tennessee (May 1999).

Experience:

2008 – Present: Assistant Professor, Dept. of Chemistry, Tennessee Tech University. Research focus: Spectroscopic methods for the detection and quantification of emerging pollutants, including engineered nanomaterials and personal care products.

2006 – 2008: Intelligence Community Postdoctoral Fellow, Dept. of Chemistry, University of Michigan. PI: Prof. Ted Goodson III. Research focus: Nonlinear optical properties of novel organic chromophores (corranulynes) and nanostructures (silver-in-silica peapods), using fluorescence upconversion, two-photon absorption and entangled photon absorption.

Relevant Publications:

RE Ruther, AF Callender, H Zhou, SK Martha, J Nanda. "Raman Microscopy of Lithium-Manganese-Rich Transition Metal Oxides". *J Electrochem Soc*. **2015**, *162 (1)*, A98-A102.

Levina, E., Wagaman, A. S., Callender A. F, Mandair, G. S., Morris M. D., Estimating the number of pure chemical components in a mixture by maximum likelihood. *Journal of Chemometrics* **2007**, *21*, 24-34.

William F. Finney, Erin Wilson, Andrew Callender, Michael D. Morris, Larry W. Beck, "Reexamination of Hexafluorosilicate Hydrolysis by 19F NMR and pH Measurement", *Environmental Science & Technology* **2006**, *40*, 2572-2577.

Kurtulus Golcuk, Gurjit S. Mandair, Andrew F. Callender, Nadder Sahar, David H. Kohn and Michael D. Morris, "Is Photobleaching Necessary for Raman Imaging of Bone Tissue Using a Green Laser?", *Biophys. Biochem. Acta* **2006**, *1758*, 868-873.

Kurtulus Golcuk, Gurjit S. Mandair, Andrew F. Callender, William F. Finney, Nadder Sahar, David H. Kohn and Michael D. Morris, "Rapid Raman Spectroscopy of Musculoskeletal Tissue Using a Visible Laser and an Electron-Multiplying CCD (EMCCD) Detector". *Proceedings of the SPIE* **6093** (2006) 269

Morris, Michael D.; Finney, William F.; Callender, Andrew; Wallace, Joseph M.; Kohn, David, H. Chemical Structure Changes Accompanying Mechanical Loading of Cortical Bone Tissue, *Proc. ICCBMT 8*, **2004,** 227-229.

Callender, A.F.; Finney, W.F.; Morris, M.D.; Sahar, N.D.; Kohn, D.H.; Kozloff, K.M.; Goldstein, S.A. Dynamic Mechanical Testing System for Raman Microscopy of Bone Tissue Specimens. *Vibrational Spectroscopy* **2006,** *38*, 101-105.