

## WAYNE HUEBNER – BIOGRAPHICAL SKETCH

CHAIRMAN, MATERIALS SCIENCE AND ENGINEERING  
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### **Professional Preparation**

Ph.D. Ceramic Engineering, University of Missouri-Rolla, 1987  
B.S. Ceramic Engineering, University of Missouri-Rolla, 1982

### **Appointments**

1/07 to present Professor and Chair of Materials Science and Engineering, Missouri S&T  
5/01 to 12/06: Vice Provost for Research, Missouri S&T  
1/01-5/01: Director, Materials Research Center,  
1/97 to 1/01: Professor and Chair of Ceramic Engineering, Missouri S&T  
8/91 to 12/96: Associate Professor, Department of Ceramic Engineering, Missouri S&T  
12/85 to 7/91: Assistant Professor of Ceramic Science and Engineering, The Pennsylvania State University

### **Specialty Areas**

Structure-property-processing relationships of electronic ceramics, with emphasis on development and theoretical understanding of the use of ferroelectrics, ionic & mixed conductors, piezoelectrics, and electrostrictive materials for multilayer capacitors, solid oxide fuel cells, gas separation membranes, phased linear array transducers, and high energy density dielectrics.

### **(1) Five relevant publications**

1. W. Zhang, W. Huebner, S.E. Sampayan and M. Krogh, "Mixed electron emission from lead zirconate-titanate ceramics," *Journal of Applied Physics*, **83**(11), 6055-6060 (1998).
2. W. Zhang, W. Huebner, and G. Waddill, "Electron Energy Distributions of Ferroelectric Emission from PLZT 8/65/35," *Ferroelectrics*, **215**, 75-86 (1998).
3. H. Lin, D. Van Aken and W. Huebner, "Modeling the Dielectric Response and Relaxation Spectra of Relaxor Ferroelectrics," *J. Am. Ceram. Soc.*, **82** [10] 2698-704(1999).
4. X. Zhou, W. Huebner, I. Kosacki, and H. Anderson, "Microstructure and Grain-Boundary Effect on Electrical Properties of Gadolinium-Doped Ceria," *J. Am. Ceram. Soc.*, **85**[7] 1757-62 (2002).
5. G.L. Brennecka, W. Huebner, B. Tuttle and P. Clem, "Use of Stress to Produce Highly Oriented Tetragonal Lead Zirconate Titanate (PXT 40/60) Thin Films and Resulting Electrical Properties," *J. Amer. Cer. Soc.*, **87**[8], 1459-1466 (2004).

## **(2) Five other publications**

1. X.D. Zhou, W. Huebner, and H. U. Anderson, "Processing of Nanometer-scale CeO<sub>2</sub> Particles," Chem. Mater., 15, 378-382 (2003).
2. E.J. Carleton and W. Huebner, "Surface Switching Characteristics of Variable Permittivity Dielectrics," IEEE Transactions on Dielectrics and Electrical Insulation, Vol. 9, No. 2, pp 253-262, April 2002.
3. R. Smith, X.D. Zhou, W. Huebner, and H. U. Anderson, "Novel Yttrium-Stabilized Zirconia Polymeric Precursor for the Fabrication of Thin Films," J. Mater. Res., 19, 2708-2713, 2004. Cit [4]
4. X.D. Zhou, S.C. Zhang and W. Huebner, "Spray Pyrolysis Synthesis and Dielectric Properties of Pb(Mg<sub>1/3</sub>Nb<sub>2/3</sub>)O<sub>3</sub>, J. Amer. Cer. Soc., 91[8], 2766-2768 (2008).
5. M. Koledintseva, S. Patil, R.W. Schwartz, W. Huebner, K.N. Rozanov, J. Shen and J. Chen, "Prediction of Effective Permittivity of Diphasic Dielectrics as a Function of Frequency," IEEE Transactions on Dielectrics and Electrical Insulation, 16[3], 793-808 (2009).

## **Synergistic Activities**

- Member of Tau Beta Pi, Phi Kappa Phi, Keramos, American Ceramic Society, Sigma XI, National Institute of Ceramic Engineers, Ceramic Educational Council, Phi Eta Sigma, American Society for Engineering Education (ASEE), National Council for University Research Administrators (NCURA).
- Numerous honors and awards including Fellow of the American Ceramic Society, Academy of the School of Mines and Metallurgy, Faculty Excellence Awards (92, 93, 94, 95, 96), Outstanding Teaching Awards (94, 95, 97, 99), American Ceramic Society's 1995 Karl Schwarzwald Professional Achievement in Ceramic Engineering Award

## **Collaborators**

- Matt O'Keefe, Richard Brow, Dave Van Aken, Von Richards, Ming Leu, Josh Rovey Greg Hilmas and Jim Drewniak (Materials Science & Engineering, Missouri S&T)
- Clive Randall and Susan Troler-McKinstry (Materials Science and Engineering, Penn State)
- Bill Kuhn (Electrical Engineering, Kansas State University)
- Steve Sampayan (Lawrence Livermore National Laboratory)
- Geoff Brenneka (Sandia National Labs)
- Dan Krueger, Ambrose Wolf, Kristie Wilder (Honeywell FM&T, Kansas City)