

Amar S. Bhalla
Distinguished Research Professor of Electrical Engineering

1. Degrees

Ph.D. Solid State Science The Pennsylvania State University, 1971
M.S. Physics Rajasthan University, India, 1964
B.S. Phys., Chem., Maths. Rajasthan University, India, 1962

2. Service at UTSA

Years of Service: 9 years (since fall 2007)
Original appointment: Distinguished Research Professor of Electrical Engineering (Aug. 2007 to date); Associate Dean for Research, College of Engineering (Aug. 2007 to Sept. 2014).
Current Appointment: Distinguished Research Professor of Electrical Engineering

3. Other Related Experience

a. At The Pennsylvania State University

Senior Scientist & Professor of Solid State Science and Professor of Electrical Engineering, Material Research Laboratory (1986 - 9/07)
Senior Scientist and Professor of Solid State Science, Material Research Laboratory (1986-1995),
Senior Research Associate and Associate Professor of Solid State Science, Materials Research Laboratory (1981-1986)
Research Associate, Materials Research Laboratory (1975-1981)
Post Doctoral Fellow, Materials Research Laboratory (1971-1973).

b. At the National Science Foundation

Off-site Program Director, Ceramics, Metal & Electronic Materials, Division of Materials Research, Washington, DC (1995-1996)
Program Director, Ceramics, Metal & Electronic Materials, Division of Materials Research, Washington, DC (1993-1995).

c. Others

Visiting Professor of the Frontier of Chemistry Chair, Endowed by Mitsui-Toatsu Co., at the Research Center for Advanced Science and Technology, University of Tokyo, Japan (1990- 1991)
Associate, National Academy of Sciences and National Research Council USA at NASA, Marshall Space Flight Center, Huntsville, AL (1973-1975)
Visiting Scientist, Univ. of Turkey, Finland and National Physical Lab, Delhi India (3/71-12/71)
National Physical Laboratory, India (1965-1967)
Lecturer in Physics, University of Rajasthan, India (1964-1965)

4. Consulting, Patent, etc.

Govt. Labs, NASA, United Nations Development Programs (UNDP), GTE, GE, Rockwell, IBM, J.T. Bakers Chemicals, Ultran, Teltron, B.M.High Tech. Sensors, Kodak, Inc., Murata, Co., Philip Morris and several universities in developing their materials science programs.
"Pyroelectric Crystals with High Figure of Merit." U.S. Patent #4,648,991 (3/1987)
"Ceramic Electrode Materials and Electrical Devices Formed Therewith," Patent SSM&P, #6929, RCT Project #070-1491 (1987)
"Pyro-Optic Detector and Imager," Patent #89-918/215-892570 (2/1989)
"MO-CuO Oxides as Flux for Low Firing of Lead Zirconate Titanate and Modified PZT Compositions for Cofiring with Electrodes," Disc # 91-1066

5. State(s) in which registered None

6. Principle Publications of Last 5 Years

- [1] Zhu, X.N., Rahman, M.S., Wu, Y.J., Liu, X.Q., Huang, Y.H., Liu, G., Guo, R., Chen, X.M., and Bhalla, A.S.: 'Enhanced ferroelectricity, piezoelectricity and ferromagnetism in $(\text{Ba}_{0.75}\text{Ca}_{0.25})\text{TiO}_3$ modified BiFeO_3 multiferroic ceramics', *J Alloys and Compounds*, 2016, 658, pp. 973-980
- [2] Dutta, M., Bhalla, A., and Guo, R.: 'Seeing the Unseen - a critical review', *Wound*, 2016
- [3] M. Bichurin, V. Petrov, S. Priya, and A. Bhalla, Eds., *Multiferroic Magnetolectric Composites and Their Applications* (Adv. Condensed Matter Physics). Hindawi Publishing Corporation, 2012.
- [4] A. Bootchanont, J. Jutimoosik, S. Chandarak, M. Unruan, P. Kidkhunthod, W. Klysubun, S. Rujirawat, R. Yimnirun, R. Guo, and A. Bhalla, "Synchrotron X-ray absorption spectroscopy study of local structure transformation behavior in perovskite $\text{Ba}(\text{Ti,Zr})\text{O}_3$ system," *J Alloys and Compounds*, vol. 616, pp. 426-429, 2014.
- [5] L. F. Cotica, V. F. Freitas, O. A. Protzek, J. A. Eiras, D. Garcia, F. Yokaichiya, I. A. Santos, R. Guo, and A. S. Bhalla, "Tuning ferroic states in La doped $\text{BiFeO}_3\text{-PbTiO}_3$ displacive multiferroic compounds," *Journal of Applied Physics*, vol. 116, p. 034107 (6 pp.), 07/21 2014.
- [6] J. D. S. Guerra, M. Pal, R. J. Portugal, L. F. Cotica, I. A. Santos, R. Guo, and A. S. Bhalla, "Multiferroism and magnetoelectric coupling in $(\text{PbZr}_{0.65}\text{Ti}_{0.35}\text{O}_3)_{0.97}\text{-(BaFe}_{12}\text{O}_{19})_{0.03}$ ceramic composites," *Journal of Applied Physics*, vol. 114, p. 224113 (4 pp.), 12/14 2013.
- [7] P. Jaiban, S. Jiansirisomboon, A. Watcharapasorn, R. Yimnirun, R. Guo, and A. S. Bhalla, "High- and low-field dielectric responses and ferroelectric properties of $(\text{Bi}_{0.5}\text{Na}_{0.5})\text{Zr}_{1-x}\text{Ti}_x\text{O}_3$ ceramics," *Ceramics International*, vol. 39, pp. S81-S85, 2013.
- [8] J. W. Kim, S. S. Kim, and A. S. Bhalla, "Enhanced Electrical Properties of $\text{Bi}_{0.9}\text{Gd}_{0.1}\text{Fe}_{0.975}\text{B}_{0.025}\text{O}_3$, (B = Ni, Mn, Cu, Ti, and V) Thin Films," *Ferroelectrics*, vol. 473, pp. 129-36, 2014.
- [9] T. Maiti, R. Guo, and A. S. Bhalla, "Evaluation of experimental resume of $\text{BaZr}_x\text{Ti}_{1-x}\text{O}_3$ with perspective to ferroelectric relaxor family: An overview," *Ferroelectrics*, vol. 425, pp. 4-26, 2011.
- [10] M. Pal, R. Y. Guo, and A. Bhalla, "Study of Multiferroic Materials at Nano-Scale," *Integrated Ferroelectrics*, vol. 131, pp. 56-65, 2011.

7. Scientific and Professional Societies

Fellow: Optical Society of America; Fellow: American Ceramic Society; Member: Materials Research Society; IEEE; TMS

8. Honors and Awards

General Chairman, Ninth IEEE International Symp on the Applications of Ferroelectrics (1994);
 Fellow, Optical Society of America (1990); Fellow, American Ceramic Society (1990)
 Edward C. Henry Award, Electronics Div., Am. Ceramic Soc. the best paper of last ten years (1993)
 Fellowship of National Academy of Sciences, USA (1973-1975)
 Fellowship, Council of Scientific and Industrial Research, Govt. of India (1965-1966)

9. Institutional and Professional Services in the Last Five Years

a. Institutional

Associate Dean for Research, College of Engineering, UTSA (2007-Sept. 2014) Member, University Research Facility Committee (2009 – Sept. 2014)
 Member, University Research Ethics Committee (2009- Sept. 2014)
 Member, University Task Force on Health Disparity (2008-2009)
 Fellows Committee, The American Ceramic Society (2004-present)
 Trustee, The American Ceramic Society (1998- 2002)
 Member, Steering Committee, Electronics Division of Am. Cer. Soc., (1984-present)
 Member, Advisory Committee, Electronics Division of Am. Cer. Soc. (1984-present)

b. Professional

Editor, *J. Ferroelectrics Review* (1998-present)
 Associate Editor, *Ferroelectrics Letters* (1988- present)
 Associate Editor, *Ferroelectrics – Communications* (1995- present)
 Chief Editor, *Ceramics* (online journal, 2010-2014)