

DATE: Jan. 1, 2009

CURRICULUM VITAE

Name: Ruyan Guo, Ph.D.

Rank: Robert E. Clarke Professor of Electrical Engineering

I. GENERAL INFORMATION

A. Personal Data:

Name: Ruyan Guo
Gender: Female
Birth Place: Beijing, China
Citizenship: United States of America (naturalized 1995)

B. Education:

Ph.D., Solid State Science, The Pennsylvania State University, 1990
M.S., Electrical Engineering, Xi'an Jiaotong University, Xi'an, China, 1984
B.S., Electrical Engineering, Xi'an Jiaotong University, Xi'an, China, 1982

C. Academic Appointments (chronological with latest first):

- Robert E. Clarke Professor of Electrical Engineering, Department of Electrical and Computer Engineering, The University of Texas at San Antonio, San Antonio (Fall 2007 – present)
- Adjunct Professor of Electrical Engineering, Department of Electrical Engineering and Materials Research Institute, The Pennsylvania State University, University Park, PA (2008 - present)
- Professor of Electrical Engineering, Department of Electrical Engineering and Materials Research Institute, The Pennsylvania State University, University Park, PA (2004 – 2008)
- Associate Professor of Electrical Engineering, Department of Electrical Engineering and Materials Research Institute, The Pennsylvania State University, University Park, PA (1999 - 2004)
- Senior Research Associate and Associate Professor of Materials and Associate Professor of Electrical Engineering (affiliated), Materials Research Laboratory, The Pennsylvania State University, University Park, PA (1996–99)
- Faculty Research Associate and Assistant Professor of Materials, Materials Research Laboratory, The Pennsylvania State University, University Park, PA (1995 – 1996)
- Faculty Research Associate, Materials Research Laboratory, The Pennsylvania State University, University Park, PA (1991-1994)
- Associate Lecturer, Electrical Engineering Department, Xi'an Jiaotong University, Xi'an, China (1984-1985)

D. Other Employment:

- Graduate Research Assistant, Materials Research Laboratory, The Pennsylvania State University, University Park, PA (1985-1990)

E. Consulting:

Philip Morris, Motorola, Corning, Cabot Inc.

F. Certification and Licensure:

G. Honors and Awards

- Fellow of the International Society for Optical Engineers (SPIE), 2009
- Robert E. Clarke Endowed Chair Professorship, Univ. Texas at San Antonio, 2007 - present
- Honorary Guest Professor of Wuhan University of Technology, Wuhan, China, Mar. 2006 - present
- Honorary Guest Professor of Beijing University of Technology, Beijing, China, April 2006 - present
- Honorary Guest Professor of Shanghai University, Shanghai, China, 2006 – 2009
- Visiting Professor Grant for outstanding personal in science and technology, National Science Council, Executive Yuan, Republic of China (Jan.-Feb. 2006)

- o Distinguished Guest and Speaker at Jiaotong University's 110th Anniversary, Xian, China (April 2006)
- o Academic Advisory Board Member, Electronic Materials Research Lab, Xi'an Jiaotong University, China
- o Fellow of the American Ceramic Society (2003)
- o Strathmore's WHO'S WHO (since 2001)
- o Certificate of Excellence in Service, American Ceramic Society (2001)
- o IEEE Certificate of Recognition for Organizing the Ninth IEEE International Symposium on Application of Ferroelectrics (1994)
- o XEROX Award for the Best PhD Research in Materials, Penn State University (1991).

II. TEACHING

A. Classroom/Laboratory: at The University of Texas at San Antonio

<u>Date</u>	<u>Course</u>	<u>Level</u>
Spring 2009	EE 5293 Dielectric and Optoelectronic Engineering Lab (NEW)	<u>G</u>
Spring 2009	EE 3323 Electronic Devices	<u>U</u>
Spring 2009	EE 6953 Independent Studies	<u>G</u>
Fall 2008	EE 5493.002 Dielectric and Optoelectronic Devices (NEW)	<u>G</u>
Fall 2008	EE 3323 Electronic Devices	<u>U</u>
Fall 2008	EE 6953 Independent Studies	<u>G</u>
Fall 2008	EE 6983 Master Thesis	<u>G</u>
Fall 2008	EE 7953 Doctoral Research	<u>G</u>
Spring 2008	EE 5293 Dielectric and Optoelectronic Engineering Lab	<u>G</u>
Spring 2008	EE 3323 Electronic Devices	<u>U</u>
Spring 2008	EE 6953 Independent Studies	<u>G</u>
Spring 2008	EE 6983 Master Thesis	<u>G</u>
Spring 2008	EE 7953 Doctoral Research	<u>G</u>

at Penn State University:

Sp 1996	MATL 590	Materials Colloquium	G
Fa 1996	MATL 597	Special Topics – Crystal chemistry of ferroelectric perovskites	G
Sp 1997	MATL 597	Special Topics – Crystal chemistry of tungsten bronzes	G
Fa 1997	MATL 597	Special Topics – Bond polarizability model and ionic polarization	G
Sp 1998	MATL 597	Special Topics – Dielectric responses in Microwave Frequency	G
Fa 1998	MATL 590	Materials Colloquium and Xerox Seminar in Materials	G
Fa 1999	MATL 590	Materials Colloquium and Xerox Seminar in Materials	G
Fa 1999	EE 419	Solid State Devices	U/G
Sp 2000	MATSC 598A	Nonlinear Optical Materials	G
Fa 2000	EE 397E	Solid State Devices and Processing	U
Sp 2001	MATSC 598A	Nonlinear Optical Materials	G
Fa 2001	EE 412	Fiber Optic Communication Systems	U/G
Sp 2002	EE 422	Optical Engineering Laboratory	U/G
Fa 2002	EE 412	Fiber Optic Communication Systems	U/G
Sp 2003	EE 422	Optical Engineering Laboratory	U/G
Sp 2003	EE 547	Dielectric Devices	G
Fa 2003	EE 412	Fiber Optic Communication Systems	U/G
Sp 2004	EE 422	Optical Engineering Lab	U/G

Sp 2004	EE/MatSC526	Nonlinear Optical Materials	G
Fa 2004	EE 412	Optical Fiber Communications Systems	U/G
Sp 2005	EE 547	Dielectric Devices	G
Sp 2005	EE 422	Optical Engineering Lab	U/G
Fa 2006	EE 412	Optical Fiber Communications Systems	U/G
Sp 2007	EE 547	Dielectric Devices	G
Sp 2007	EE 422	Optical Engineering Lab	U/G
Level: Undergraduate (U), Graduate (G)			

B. Instructional Development:

1. Courses Developed (Course number, title, date)

EE5293 Advanced Dielectric and Optoelectronic Engineering Lab, first offered in spring 2008, UTSA.

EE 5493 Dielectric and Optoelectronic Devices, first offered in fall 2008, UTSA.

MATSC/EE 526 Nonlinear Optical Materials, first offered in spring 2000, Penn State.

2. Media and Software Developed

Designed, edited, and maintained NSF EE REU Website at EE Penn State; Designed and edited related circulation flyers, year-end newsletters, various forms and informative materials. March 2003 - Summer 2008.

C. Masters' Theses and Ph.D. Dissertations Directed

1. Masters

Ongoing:

MS EE Candidate: Tamez, Juan P.
MS EE Candidate: Pachala, Bhargavaram
MS EE Candidate: Yanamadala, Roop Chand
MS EE Candidate: Tetali, Meera Reddy

Completed in 2008:

MS EE, Penn State (2008): Deily, Kevin

Guided 12 additional MS students to completion at Penn State prior to joining UTSA.

2. Ph.D. Dissertation

Ongoing:

PhD EE Candidate: Mcintosh, Robert A
PhD EE Candidate: Zhu, Sijia
Visiting PhD Candidate: Wang, Hsiaoyuan (Penn State Univ.)
Visiting PhD Candidate: Wu, Liying (Xian Jiaotong Univ., China)
Visiting PhD Candidate: Botero, Eriton (Univ. Federal de Sao Carlos, Brazil)

Completed in 2008:

PhD Materials, Penn State (2008) Tanmoy Maiti

Guided 10+ additional PhD students to completion at Penn State prior to joining UTSA.

D. Membership on Graduate Committees

1. Masters

Sharmila Garapati, MS EE, "Using a PID Controller for Temperature Control of A Water Tank Using MATLAB"
Dheeraj Chandra Jasti, MS EE, "Simulation of ECG Signal Using MATLAB and SIMULINK"
Dheeraj G. Rajagopal, MS EE, "Technological advances through human interfacing sensing for safe driving"
Katari Udaya Kumar, MS EE, "Cooperative communications"
Sowjanya Arekapudi, MS EE "An advanced wireless sensor networks for continuous health monitoring"
Gauthami Tamannagari, MS EE, "Power efficient design of finger-ring sensor for patient monitoring"
Kevin Deily, MS EE (Penn State), "Polar Polymeric Materials for Advanced High Frequency and Low Operation Field Modulator Applications"

Served on numerous MS Thesis committees prior to joining UTSA.

2. Ph.D. Dissertation

Hsiao-Yuan Wang, PhD (Penn State, ongoing), “Simulation and evaluation of dielectric and magnetoelectric properties of diphasic and layered ferroic composites”

Tanmoy Maiti, PhD (Penn State, 2008) “Polar cluster-like behavior in relaxor ferroelectric materials”

Served on numerous PhD Thesis committees prior to joining UTSA.

E. Postdoctoral Fellows Supervised

Hongbo Liu (Penn State), postdoctoral researcher at UTSA

Supervised 8 additional postdoctoral researchers prior to joining UTSA.

F. Undergraduate Students (Research) Supervised

Supervised more than 100 undergraduate students in research prior to joining UTSA, as Director of NSF Research Experience for Undergraduates Site Program; served as faculty mentor for more than 9 undergraduate students conducting research in Guo's labs; at EE, Penn State.

III. RESEARCH

A. Bibliography:

1. Books/Book Chapters

1a. Books

- (1). *Advances in Dielectric Materials and Electronic Devices; Vol. 174*, edited by K. M. Nair, R. Guo, A. S. Bhalla, D. Suvorov, and S.-I. Hirano. **Paperback:** 800 pages **Publisher:** Wiley-American Ceramic Society (March 2005) **Language:** English **ISBN:** 1574982443
- (2). *Synthesis, Properties, and Crystal Chemistry of Perovskite-Based Materials; Vol. 169*, edited by W. Wong-Ng, A. Goyal, R. Guo, and A. S. Bhalla. **Paperback:** 208 pages **Publisher:** Wiley-The American Ceramic Society (May 2005) **Language:** English **ISBN:** 1574981900
- (3). *Developments in Dielectric Materials and Electronic Devices; Vol. 167*, edited by K. M. Nair, R. Guo, A. S. Bhalla, S.-I. Hirano, and D. Suvorov. **Paperback:** 416 pages **Publisher:** Wiley-American Ceramic Society (May 2004) **Language:** English **ISBN:** 1574981889
- (4). *Morphotropic Phase Boundary Perovskites, High Strain Piezoelectrics, and Dielectric Ceramics; Vol. 136*, edited by R. Guo, K. M. Nair, W. K. Wong-Ng, A. Bhalla, D. Viehland, D. Suvorov, C. Wu, and S.-I. Hirano. **Hardcover:** 580 pages **Publisher:** Wiley-American Ceramic Society (August 1, 2003) **Language:** English **ISBN:** 157498151X
- (5). *Optoelectronic Materials and Technology in Information Age; Vol. 126*, edited by R. Guo, A. Bruce, B. Lee, V. Gopalan, B. V. Basavaraj, and M. Yan. **Publisher:** Wiley-American Ceramic Society (March 17, 2002) **Language:** English **ISBN:** 157498134X
- (6). *Perovskite oxides for electronic, energy conversion, and energy efficiency applications; Vol. 104*, edited by W. Wong-Ng, T. Holesinger, G. Riley, and R. Guo. **Hardcover:** 293 pages **Publisher:** Wiley-American Ceramic Society (September 2000) **Language:** English **ISBN:** 1574980912
- (7). *Crystal Growth of Novel Electronic Materials; Vol. 60*, edited by R. K. Pandey, and R. Guo. **Hardcover:** 361 pages **Publisher:** Wiley-American Ceramic Society (June 1995) **Language:** English **ISBN:** 1574980033
- (8). *Photonic Fiber and Crystal Devices: Advances in Materials and Innovations in Device Applications II* Proceedings of SPIE Vol. **7056**, edited by Shizhuo Yin, Ruyan Guo (International Society for Optical Engineering, San Diego, CA, 2008), 56 papers; Softcover, ISBN: 9780819472762
- (9). *Photonic Fiber and Crystal Devices: Advances in Materials and Innovations in Device Applications*; Proceedings of SPIE Vol. **6698**, edited by R. Guo, S. S. Yin, and F. T. Yu (International Society for Optical Engineering, San Diego, CA, 2007), 368 pages; 39 papers; Softcover, ISBN: 9780819468468.

- (10). *Photorefractive Fiber and Crystal Devices: Materials, Optical Properties, and Applications XII*; Proceedings of SPIE edited by F. T. S. Yu, R. Guo, and S. S. Yin (2006). Vol. **6314**, 55 papers; Pub. Sep 2006; **Publisher:** The International Society for Optical Engineering; Softcover; 482 pages; ISBN 0-8194-6393-0
- (11). *Photorefractive Fiber and Crystal Devices: Materials, Optical Properties, and Applications XI* Proceedings of SPIE, Francis T. S. Yu, Ruyan Guo, Shizhuo Yin, (editors) Vol. **5911**; 39 papers; Pub. Sep 2005; **Publisher:** The International Society for Optical Engineering; Softcover 340 pages; ISBN 0-8194-5916-X
- (12). *Photorefractive Fiber and Crystal Devices: Materials, Optical Properties, and Applications X* Proceedings of SPIE, Francis T. S. Yu, Ruyan Guo, Shizhuo Yin, (editors) Vol. **5560**; 45 papers; Pub. Oct 2004; **Publisher:** The International Society for Optical Engineering; Softcover 398 pages; ISBN 0-8194-5498-2.
- (13). *Photorefractive Fiber and Crystal Devices: Materials, Optical Properties, and Applications IX* Proceedings of SPIE, Francis T. S. Yu, Ruyan Guo, Shizhuo Yin (editors) Vol. **5206**; 38 papers; Pub. Oct 2003; **Publisher:** The International Society for Optical Engineering; Softcover 330 pages; ISBN 0-8194-5079-0
- (14). *Photorefractive Fiber and Crystal Devices: Materials, Optical Properties, and Applications VIII* Proceedings of SPIE, Francis T. S. Yu, Ruyan Guo (editors) Vol. **4803**; 35 papers; Pub. Nov 2002; **Publisher:** The International Society for Optical Engineering; Softcover 318 pages; ISBN 0-8194-4571-1

1b. Book Chapters

- (15). R. Guo, "Ferroelectric Relaxor Characteristics and Phase Transitions Studied by Thermal Strain and Optical Methods (review article)," in *Morphotropic Phase Boundary Perovskites, High Strain Piezoelectrics, and Dielectric Ceramics, Ceramic Transactions*; Vol. **136** (2003), p. 567-580.
- (16). E. Alberta, R. Guo, and A. S. Bhalla, "Structure-Property Diagrams of Ferroic Solid Solutions. Part I: Perovskite Relaxor Ferroelectrics with Morphotropic Phase Boundaries (single volume review article)," *Ferroelectrics Review* **4**, 1-327 (2001).
- (17). R. Roy, R. Guo, and A. S. Bhalla, "Perovskite - Lessons from its History and Its Crystal Chemistry (review article)," in *Electronic Ceramic Materials and Devices*; Vol. **104**, edited by K. M. Nair, A.S. Bhalla (Am. Ceram. Soc. Westville, OH, 2000), p. 3-39.
- (18). A. S. Bhalla and R. Guo, "Pyroelectricity (review article)," in *Encyclopedia of Electrical and Electronics Engineering*; Vol. **17**, edited by J. G. Webster (John Wiley & Sons, Inc., 1999), p. 465-469.
- (19). R. Guo, "Morphotropic phase boundary systems in ferroelectric tungsten bronze (review article)," in *Dielectric Ceramic Materials, Ceramic Trans.*; Vol. **100** (American Ceramic Soc, Cincinnati, Ohio, 1999), p. 535-57.
- (20). A. S. Bhalla and Ruyan Guo, "Substrates for Microwave Applications of High Tc Superconductors (review article)," in *Hybrid Microelectronic Materials, Amer. Ceram. Soc.*; Vol. **68** (1996), p. 119-130.
- (21). A.S. Bhalla, R. Guo, R. Roy, "The Perovskite Structure - A Review of Its Role in Ceramic Science and Technology," *Mat. Res. Innovat.*, **4(1)**, 3-26, (2000).

2. Journal Papers (refereed full length)

2a. Published or In Press

- (22). L. Wu, X. Wang, J. H. Wang, R. Guo, and A. Bhalla, "Ferroelectric relaxor behavior of 0.8BT-0.2NBMT Ceramic," *Ferroelectric Letters* **36**, 08L111 (2008 accepted).
- (23). J. P. Cheng, Y. Zhang, and R. Guo, "Field Emission Properties of ZnO Single Crystal Microtubes," *J. Appl. Phys.* (2008 accepted).

- (24). J. H. Wang, Y. Somiya, R. Guo, and A. Bhalla, "Understanding of Dielectric Properties of $\text{Pb}_{0.2}\text{Sr}_{0.8}\text{TiO}_3\text{-MgO}$ Composite from Numerical Approach," *Integrated Ferroelectrics* **100**, 88-102 (2008).
- (25). J. C. Jiang, E. I. Meletis, Z. Yuan, J. Liu, J. Weaver, C. L. Chen, B. Lin, V. Giurgiutiu, R. Y. Guo, A. S. Bhalla, D. Liu, and K. W. White, "Orientation preferred structures in BaTiO_3 thin films on Ni substrates," *Journal of Nano Research* **1**, 59-63 (2008).
- (26). J. Sheen, R. Guo, A.S. Bhalla, and L.E. Cross, "Dielectric dispersion at microwave frequencies of some low loss mixed oxide perovskites," *Ferroelectrics Letters Section* **35** (3-4) 79-85 (2008).
- (27). J. Cheng, Y. Zhang, and R. Guo, "ZnO microtube ultraviolet detectors," *Journal of Crystal Growth* **310**, 57-61 (2008).
- (28). Y. Jiang, R. Guo, and A. S. Bhalla, "Growth and dielectric properties of Ta_2O_5 single crystals grown by laser heated pedestal growth technique," *Zhongguo Jiguang/Chinese Journal of Lasers* **35**, 1710-1712 (2008).
- (29). H. Lee, Y. Lee, R. Guo, A. S. Bhalla, and W. Kang, "Preparation and second harmonic generation of $\text{Ba}_2\text{TiSi}_2\text{O}_8$ films," *Materials Letters* **62**, 2057-2060 (2008).
- (30). L. C. Lim, W. S. Chang, K. K. Rajan, M. Shanthi, P. Yang, H. O. Moser, C.-S. Tu, F.-T. Wang, C.-T. Tseng, A. S. Bhalla, and R. Guo, "Phase transformations in annealed PZN-4.5%PT single crystals," *Journal of Applied Physics* **103**, 084122-1-6 (2008).
- (31). T. Maiti, R. Guo, and A. S. Bhalla, "Structure-property phase diagram of $\text{BaZr}_x\text{Ti}_{1-x}\text{O}_3$ system," *Journal of the American Ceramic Society* **91**, 1769-1780 (2008).
- (32). S. Ouyang, G. Zhang, R. Guo, A. S. Bhalla, and J. Cheng, "Structural and dielectric property of $\text{K}_2\text{Ba}_4\text{Li}_{1.2}\text{Zn}_{0.4}\text{Nb}_9\text{O}_{30}$ ceramics," *Materials Letters* **62**, 1812-1814 (2008).
- (33). R. Wongmaneerung, R. Guo, A. Bhalla, R. Yimnirun, and S. Ananta, "Thermal expansion properties of PMN-PT ceramics," *Journal of Alloys and Compounds* **461**, 565-9 (2008).
- (34). S. Wongsanmai, R. Yimnirun, S. Ananta, R. Guo, and A. S. Bhalla, "Thermal expansion measurements in the relaxor ferroelectric PIN-PT system," *Materials Letters* **62**, 352-356 (2008).
- (35). J. Y. Fu, P. Y. Liu, J. Cheng, A. S. Bhalla, and R. Guo, "Optical measurement of the converse piezoelectric d_{33} coefficients of bulk and microtubular zinc oxide crystals," *Applied Physics Letters* **90**, 212907 (2007).
- (36). Z. Yuan, J. Liu, J. Weaver, C. L. Chen, J. C. Jiang, B. Lin, V. Giurgiutiu, A. Bhalla, and R. Y. Guo, "Ferroelectric BaTiO_3 thin films on Ni metal tapes using NiO as buffer layer," *Applied Physics Letters* **90**, 202901 (2007).
- (37). Z. Yu, C. Ang, R. Guo, and A. S. Bhalla, "Dielectric properties of $\text{Ba}(\text{Ti}_{1-x}\text{Zr}_x)\text{O}_3$ solid solutions," *Materials Letters* **61**, 326-329 (2007).
- (38). S. Wongsanmai, S. Ananta, R. Yimnirun, R. Guo, and A. S. Bhalla, "Dielectric properties and relaxor behavior of PIN based system," *Ferroelectrics, Letters Section* **34**, 36-45 (2007).
- (39). J. H. Wang, R. Guo, and A. S. Bhalla, "Finite element simulation of magnetostrictive and piezoelectric coupling in a layered structure," *Ferroelectrics, Letters Section* **34**, 46-53 (2007).
- (40). T. Maiti, R. Guo, and A. S. Bhalla, "Ferroelectric relaxor behaviour in $\text{Ba}(\text{Zr}_x\text{Ti}_{1-x})\text{O}_3\text{:MgO}$ composites," *Journal of Physics D: Applied Physics* **40**, 4355-4359 (2007).
- (41). T. Maiti, R. Guo, and A. S. Bhalla, "Enhanced electric field tunable dielectric properties of $\text{BaZr}_x\text{Ti}_{1-x}\text{O}_3$ relaxor ferroelectrics," *Applied Physics Letters* **90**, 182901 (2007).
- (42). T. Maiti, R. Guo, and A. S. Bhalla, "Tailored dielectric properties and tunability of lead free relaxor $\text{Ba}(\text{Zr}_x\text{Ti}_{1-x})\text{O}_3\text{:MgO}$ composites," *Ferroelectrics* **361**, 84-91 (2007).
- (43). J. K. Kim, S. S. Kim, M. H. Park, J. W. Kim, E. J. Choi, T. G. Ha, H. K. Cho, R. Guo, and A. S. Bhalla, "Effects of annealing temperature on the electrical properties of Cr-substituted BiFeO_3 thin films," *Ferroelectrics* **350**, 118-23 (2007).

- (44). Y. Bing, A. S. Bhalla, and R. Guo, "One-dimensional crystal growth of near morphotropic phase boundary $(1-x)\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$ - $x\text{PbTiO}_3$ crystal fibers," *Ferroelectric Letters* **33**, 7-14 (2006).
- (45). C. Huang, A. S. Bhalla, R. Guo, and L. E. Cross, "Dielectric behavior of strontium barium niobate relaxor ferroelectrics in ceramics and single crystal fibers," *Japanese Journal of Applied Physics* **45**, 165-167 (2006).
- (46). C. Huang, A. Bhalla, and R. Guo, "Real time observation of domain reversal in cerium-doped $\text{Sr}_{0.61}\text{Ba}_{0.39}\text{Nb}_2\text{O}_6$ single crystal fibers," *Applied Physics Letters* **89**, 222908-10 (2006).
- (47). J. K. Kim, S. S. Kim, W. J. Kim, M. H. Park, A. S. Bhalla, and R. Guo, "Influences of Cr-Doping on the Electrical Properties in BiFeO_3 Thin Films," *Ferroelectrics Letters* **33**, 91-100 (2006).
- (48). J. K. Kim, S. S. Kim, W. J. Kim, T. G. Ha, I.-S. Kim, J.-S. Song, R. Guo, and A. S. Bhalla, "Improved ferroelectric properties of Cr-doped $\text{Ba}_{0.7}\text{Sr}_{0.3}\text{TiO}_3$ thin films prepared by wet chemical deposition," *Materials Letters* **60**, 2322-2325 (2006).
- (49). J. K. Kim, S. S. Kim, W.-J. Kim, A. S. Bhalla, and R. Guo, "Enhanced Ferroelectric Properties of Cr-Doped BiFeO_3 Films Grown by Chemical Solution Deposition," *Appl. Phys. Lett.* **88**, 132901 (2006).
- (50). J. K. Kim, S. S. Kim, M. H. Park, E. J. Choi, J. W. Kim, R. Guo, and A. S. Bhalla, "Microstructure and electrical properties of co-substituted BiFeO_3 thin films prepared by a chemical solution deposition," *Ferroelectrics* **345**, 77-82 (2006).
- (51). C. Li, R. Guo, and A. S. Bhalla, "Optical Frequency Dispersion near ferroelectric relaxor phase transition in lead barium niobate crystal," *Ferroelectrics* **339**, 1789/103-1799/113 (2006).
- (52). T. Maiti, R. Guo, and A. S. Bhalla, "Electric field dependent dielectric properties and high tunability of $\text{BaZr}_x\text{Ti}_{1-x}\text{O}_3$ relaxor ferroelectrics," *Appl. Phys. Lett.* **89**, 122909-1-3 (2006).
- (53). T. Maiti, E. Alberta, R. Guo, and A. S. Bhalla, "The polar cluster like behavior in Ti^{4+} substituted BaZrO_3 ceramics," *Materials Letters* **60**, 3861-3865 (2006).
- (54). T. Maiti, R. Guo, and A. Bhalla, "The evolution of relaxor behavior in Ti^{4+} doped BaZrO_3 ceramics," *Journal of Applied Physics* **100**, 114109-1-6 (2006).
- (55). R. Wongmaneerung, R. Yimnirun, S. Ananta, R. Guo, and A. S. Bhalla, "Polarization behavior in the two stage sintered lead titanate ceramics," *Ferroelectrics, Letters Section* **33**, 137-146 (2006).
- (56). Y. Liu, Y. Fu, H. Liu, B. Wang, R. Guo, and F. T. S. Yu, "Phase-Coded Multiplexing Holography Using a Cylindrical Lens with and without a Random Mask," *Optical Memory and Neural Networks (Information Optics)* **14**, 15-22 (2005).
- (57). Y. Liu, B. Wang, R. Guo, and F. T. S. Yu, "Intelligent reduction of zero-order diffraction in Fourier optical systems," *Opt. Eng.* **44**, 103602-8 (2005).
- (58). P. Irvin, J. Levy, R. Guo, and A. Bhalla, "Three-dimensional polarization imaging of $(\text{Ba},\text{Sr})\text{TiO}_3\text{:MgO}$ composites," *Applied Physics Letters* **86**, 042903-1 (2005).
- (59). C. Huang, R. Guo, Z. Tang, and Z. Zhang, "Preparation of zirconia base solid solution nanopowder by exothermal solid-state synthesis," *Journal of the American Ceramic Society* **88**, 1651-1654 (2005).
- (60). C. Huang, A. S. Bhalla, and R. Guo, "Measurement of microwave electro-optic coefficient in $\text{Sr}_{0.61}\text{Ba}_{0.39}\text{Nb}_2\text{O}_6$ crystal fiber," *Applied Physics Letters* **86**, 211907 (2005).
- (61). C. Huang, A. S. Bhalla, M. T. Lanagan, L. E. Cross, and R. Guo, "Dielectric measurement of ferroelectric $\text{Sr}_{0.61}\text{Ba}_{0.39}\text{Nb}_2\text{O}_6$ single crystal fiber using cavity perturbation method," *Appl. Phys. Lett.* **86**, 122903 (2005).
- (62). C. Huang, R. Guo, and A. S. Bhalla, "Real-time observation of pulse reshaping using $\text{Sr}_{0.61}\text{Ba}_{0.39}\text{Nb}_2\text{O}_6$ single crystal fiber in a microwave cavity," *Appl. Phys. Lett.* **86**, 131106 (2005).
- (63). J. Y. Fu, H. Liu, Y. Liu, B. Wang, R. Guo, A. S. Bhalla, and F. T. S. Yu, "Phase multiplexing using random phase mask modified cylindrical lens for high density and secure holographic storage:

- theoretical and experimental studies," *Optical Memory & Neural Networks (Information Optics)* **14** (2005).
- (64). R. Abraham, R. Guo, and A. S. Bhalla, "Modeling permittivity and tangent loss in dielectric materials using finite element method and Monte Carlo simulation," *Ferroelectrics* **315**, 1-15 (2005).
 - (65). B. Wang, R. Guo, S. Yin, and F. T. S. Yu, "Chemical Sensing with Hetero-Core Fiber Specklegram," *Journal of Holography and Speckle* **1**, 53-57 (2004).
 - (66). D. A. Tenne, A. Soukiassian, X. X. Xi, H. Choosuwana, R. Guo, and A. S. Bhalla, "Lattice dynamics in $\text{Ba}_x\text{Sr}_{1-x}\text{TiO}_3$ single crystals: A Raman study," *Physical Review B* **70**, 174302 (2004).
 - (67). D. A. Tenne, A. Soukiassian, X. X. Xi, H. Choosuwana, R. Guo, and A. S. Bhalla, "Lattice dynamics in $\text{Ba}_x\text{Sr}_{1-x}\text{TiO}_3$ thin films studied by Raman spectroscopy," *Journal of Applied Physics* **96**, 6597-6605 (2004).
 - (68). H. Manuspiya, R. Guo, and A. S. Bhalla, "Nb₂O₅-based oxide ceramics and single crystals- investigation of dielectric properties," *Ferroelectrics Letters Section* **31**, 157-166 (2004).
 - (69). H. Manuspiya, R. Y. Guo, and A. S. Bhalla, "Nb₂O₅-based oxide ceramics and single crystals- investigation of dielectric properties," *Ceramics International* **30**, 2037-2041 (2004).
 - (70). Y. Liu, R. Guo, and F. T. S. Yu, "A novel voiceprint identification system based on speech spectrogram correlation," *Optical Memory & Neural Networks (Information Optics)* **13**, 121-8 (2004).
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- (257). R. Guo and A. Bhalla, "Normalized Ion Polarizability Additivity Rule and Its Application on HTSC Substrate Materials," in *Impact of Recent Advances in Processing of Ceramic Superconductors, Ceramic Transactions; Vol. 84* (1998), p. 139-156.
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- (260). R. Tao, A. R. Guo, C.-S. Tu, I. Siny, R. S. Katiyar, R. Guo, and A. S. Bhalla, "Raman studies on potential substrate materials of $\text{Sr}(\text{Al}_{1/2}\text{Ta}_{1/2})\text{O}_3$ and $\text{Sr}(\text{Al}_{1/2}\text{Nb}_{1/2})\text{O}_3$ for HTSC," in *Materials Research Society Symposium - Proceedings, Proceedings of the 1995 MRS Fall Symposium, Nov 27-30 1995*, Boston, MA, USA, 1996 (Materials Research Society, Pittsburgh, PA, USA), p. 357-362.
- (261). D. Ravichandran, K. Yamakawa, R. Roy, A. S. Bhalla, S. Trolier-McKinstry, R. Guo, and L. E. Cross, "The effect of annealing temperature on the formation of $\text{SrBi}_2\text{Ta}_2\text{O}_9$ (SBT) thin films," in *ISAF '96. Proceedings of the Tenth IEEE International Symposium on Applications of Ferroelectrics* (Cat. No.96CH35948), *ISAF '96. Proceedings of the Tenth IEEE International Symposium on Applications of Ferroelectrics*, 18-21 Aug. 1996, East Brunswick, NJ, USA, 1996 (IEEE), p. 601-3.
- (262). A. R. Guo, C. S. Tu, R. Tao, R. S. Katiyar, R. Guo, and A. S. Bhalla, "Temperature Dependent Raman Study on CsTiOAsO_4 Crystals," *Thermodynamics and Kinetics of Phase Transformations, MRS Symp. Proc.*, 1996, p. 661-666.
- (263). R. Guo, Y. Jiang, A. S. Bhalla, and L. E. Cross, "Single crystal fibers of rare earth ortho-niobate: Growth, ferroelastic property, and domain studies," in *ISAF '96. Proceedings of the Tenth IEEE*

International Symposium on Applications of Ferroelectrics (Cat. No.96CH35948), *ISAF '96. Proceedings of the Tenth IEEE International Symposium on Applications of Ferroelectrics*, East Brunswick, NJ, USA, 1996 (IEEE), p. 899-902.

- (264). R. Guo, H. T. Evans, Jr., and A. S. Bhalla, "Crystal structure analysis of ferroelectric tetragonal tungsten bronze $\text{Pb}_{0.596}\text{Ba}_{0.404}\text{Nb}_{2.037}\text{O}_6$," in *ISAF '96. Proceedings of the Tenth IEEE International Symposium on Applications of Ferroelectrics* (Cat. No.96CH35948), *ISAF '96. Proceedings of the Tenth IEEE International Symposium on Applications of Ferroelectrics*, East Brunswick, NJ, USA, 1996 (IEEE), p. 241-4.
- (265). R. Guo, A. S. Bhalla, R. Roy, and L. E. Cross, "Candidate HTSC film substrates of complex oxide perovskite compositions," in *Epitaxial Oxide Thin Films and Heterostructures*, San Francisco, CA, USA, 1995 (Mater. Res. Soc), p. 215-20.
- (266). K. Y. Chen, S. Afonso, R. C. Wang, Y. Q. Tang, G. Salamo, F. T. Chan, R. Guo, and A. Bhalla, "Epitaxial growth of superconducting $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ films on $\text{Sr}(\text{Al}_{0.5}\text{Ta}_{0.5})\text{O}_3$ buffered MgO substrates," in *Proceedings of the Symposium on Low Temperature Electronics and High Temperature Superconductivity, Proceedings of the International Symposium on Low-Temperature Electronics and High-Tc Superconductivity*, Reno, NV, USA, 1995 (Electrochem. Soc), p. 121-6.
- (267). R. Guo, A. S. Bhalla, R. Roy, and L. E. Cross, "Candidate HTSC film substrates of complex oxide perovskite compositions," in *Materials Research Society Symposium - Proceedings, Proceedings of the 1994 MRS Spring Meeting, Apr 5-7 1994*, San Francisco, CA, USA, 1994 (Materials Research Society, Pittsburgh, PA, USA), p. 215-220.
- (268). R. Guo, D. A. McHenry, A. S. Bhalla, and L. E. Cross, "Electrooptic properties of lead barium niobate (PBN) single crystals," *First International Meeting on Nonlinear Optics: Materials, Phenomena and Devices - NLO '90, Jul 16-20 1990*, Kauai, HI, USA, 1990 (Publ by IEEE, Piscataway, NJ, USA), p. 257.
- (269). R. Guo and F. Liu, "T. S. C. Study of ZnO nonohmic ceramic materials," *Conference Record of the 1985 International Conference on Properties and Applications of Dielectric Materials.*, 1985 (IEEE, New York, NY, USA), p. 478-481.

3b. Submitted/Under Preparation

J. Cheng, Y. Zhang, and R. Guo, "UV Photoresponse and Field Emission Properties of ZnO Single Crystal Microtubes," accepted and to be published in *Ferroelectrics*, 2009.

4. Book Reviews

5. Other Articles

- (1). *EEREU Annual Research Journal - Electrical Engineering Research Experience for Undergraduates; Vol. VI*, edited by J.D. Mitchell and Ruyan Guo. **Publisher:** Dept. Electrical Engineering, Penn State University (Aug. 2008), 141 pages, ISBN 0-913260-08-8 (978-0-913260-08-1).
- (2). *EEREU Annual Research Journal - Electrical Engineering Research Experience for Undergraduates; Vol. V*, edited by R. Guo and W. K. Jenkins. **Publisher:** Dept. Electrical Engineering, Penn State University (Aug. 2007), 201 pages, ISBN 0-913260-07-X (978-0-913260-07-4).
- (3). *EEREU Annual Research Journal - Electrical Engineering Research Experience for Undergraduates; Vol. IV*, 217 pages; edited by R. Guo and W. K. Jenkins. **Publisher:** Dept. Electrical Engineering, Penn State University (Aug. 2006). ISBN 0-913260-06-1
- (4). *EEREU Annual Research Journal - Electrical Engineering Research Experience for Undergraduates; Vol. III*, 197 pages; edited by R. Guo and W. K. Jenkins. **Publisher:** Dept. Electrical Engineering, Penn State University (Aug. 2005). ISBN 0-913260-05-3

- (5). *EEREU Annual Research Journal - Electrical Engineering Research Experience for Undergraduates; Vol. II*, 209 pages; edited by R. Guo, W. K. Jenkins, and B. Wang. **Publisher:** Dept. Electrical Engineering, Penn State University (Aug 2004). ISBN 0-913260-04-5
- (6). *EEREU Annual Research Journal - Electrical Engineering Research Experience for Undergraduates; Vol. I*, 215 pages; edited by R. Guo, W. K. Jenkins, and B. Wang. **Publisher:** Dept. Electrical Engineering, Penn State University (Aug 2003). ISBN 0-913260-03-7

B. Lectures, Seminars

(Chronologically, NOT INCLUDING presentations given at conferences as shown in 3a)

1. Scientific Lectures, Seminars

(More than 300 talks/lectures presented; some invited talks/lectures are listed below):

- (1). (Invited) R. Guo*, H. Liu, W. Jamieson, and A. S. Bhalla, "Piezoelectric Resonance Enhanced Optical and Electrooptic Properties," The Sixth Asian Meeting on Ferroelectrics, Aug. 2-6, 2008, Taipei, Taiwan.
- (2). (Invited) A. Bhalla*, T. Maiti, and R. Guo, "Study of Relaxor Behavior of Ba(ZrxTi1-x)O3 Compositions", The Sixth Asian Meeting on Ferroelectrics, Aug. 2-6, 2008, Taipei, Taiwan.
- (3). (Invited) R. Guo*, Y. Lee, J. H.Wang, A. S. Bhalla, "Scanning Electron Acoustic Microscopy Studies of Ferroic Domains," International Symposium on Advanced Dielectric Materials & Electronic Devices, MS&T'08 (Materials Science and Technology 2008 Conference and Exhibition), Oct. 2008, Pittsburgh, Pennsylvania.
- (4). Ruyan Guo, Guest Lectuer, "Ferroelectric Materials in Microwave and Optical Applications," EE 5493 Nanotechnology (UTSA graduate course).
- (5). (Invited) J. Jiang*, Z.Yuan, J. Liu, J.Weaver, C. Chen, B. Lin, V. Giurgiutiu, R. Guo, A. Bhalla, "BaTiO3 Thin Films on Metallic Substrates: Fabrication, Microstructure and Property," Materials Science and Technology 2007 Conference and Exhibition, Sept. 16-20, 2007, Detroit, MI.
- (6). (Invited) R. Guo*, Y. Lee, J. H.Wang, A. S. Bhalla, "Ferroic Domain Features Studied by Thermal Wave Modulated Electro-Acoustic Imaging," Materials Science and Technology 2007 Conference and Exhibition, Sept. 16-20, 2007, Detroit, MI.
- (7). (Invited) A. S. Bhalla*, T. Maiti, R. Guo, "Relaxor Behavior in the Non Lead Ba(ZrxTi1-x)O3 Compositions" Materials Science and Technology 2007 Conference and Exhibition, Sept. 16-20, 2007, Detroit, MI.
- (8). (invited) Amar S. Bhalla*, Ruyan Guo, Juliana Brooks and Mark Mortenson, "Resonant Spectral Control of NaCl Crystal Growth from Aqueous Solution," Symposium V: Materials Science of Water Purification, MRS Fall Meeting, November 26 - 30, 2007, Boston, MA.
- (9). (Invited lecture) R. Guo, "Recent Advancement and Opportunities in Materials Research," Synthetic Crystal Institution, Shandong University, Jinan, China, April 12, 2006, 2006.
- (10). (Invited lecture) R. Guo, "Morphotropic Phase Boundary in Ferroelectric Tungsten Bronzes and Their E-Field Dependence," Department of Physics, Shandong University, Jinan, China, April 18, 2006, 2006.
- (11). (Invited lecture) R. Guo, "Ferroelectric Crystals in Microwave and Optical Applications," Beijing University of Technology, Beijing, China, April 11, 2006, 2006.
- (12). (Invited lecture) R. Guo, "Morphotropic Phase Boundary in PZT and Tungsten Bronze Systems and Their E-Field Dependence," Beijing University of Technology, Beijing, China, April 12, 2006, 2006.
- (13). (Invited lecture) R. Guo, "Recent Advances and Opportunities in Ferroelectric and Piezoelectric Materials Research," College of Electronic Information Engineering, Xi'an Jiaotong University, Xi'an, China, April 7, 2006, 2006.
- (14). (Invited Lecture) R. Guo, "Ferroelectric Materials in Microwave and Optical Applications," Electronic Materials Research Laboratory, Xi'an Jiaotong University, Xian, China, April 5, 2006, 2006.

- (15). (Invited lecture) R. Guo, "Morphotropic Phase Boundaries in Ferroelectric Tungsten Bronzes and Perovskite," Electronic Materials Research Laboratory, Xi'an Jiaotong University, Xi'an, China, April 4, 2006, 2006.
- (16). (Invited Lecture) R. Guo, "Recent Advances and Opportunities in Ferroelectric Materials Research," Wuhan University of Technology, Wuhan, China, April 4, 2006, 2006.
- (17). (Invited Lecture) R. Guo, "Recent Advances and Opportunities in Ferroelectric Materials Research," Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai, China, March 28, 2006, 2006.
- (18). (Invited lecture) R. Guo, "Recent Advances and Opportunities in Ferroelectric Materials Research," Shanghai University, Shanghai, China, March 30, 2006, 2006.
- (19). (invited) R. Guo, C. Huang, S. Johnson, M. Gu, H. Liu, Y. Lee, Z. Zhou, and A. Bhalla, "Ferroelectric Single Crystal Fibers for Optoelectronic and Microwave Applications," 107th Am. Ceram. Soc. Annual Meeting & Exposition April 2005, Baltimore, Maryland, USA, 2005.
- (20). (Best Paper Award, ICMAT 2005) A. S. Bhalla*, S. Agrawal, R. Guo, and D. K. Agrawal, "Microwave Tunable Dielectric Ba_{0.5}Sr_{0.5}TiO₃:MgO Composites prepared from the Nano Size Particles," 3rd ICMAT 2005 and IUMRS-ICAM July 3-8, 2005, Singapore, 2005.
- (21). (Invited) R. Guo, "Ferroelectric Relaxors," Seminar held at Institut für Werkstoffe der Elektrotechnik Sept. 2005, RWTH Aachen Germany, 2005.
- (22). (Invited Tutorial) R. Guo, "Ferroelectric single crystal materials in optoelectronics and microwave photonic applications," IEEE International Topical Meeting on Microwave Photonics, MWP'04, Oct 4-6 2004, Ogunquit, ME.
- (23). (Invited talk) Ruyan Guo, "Structure and phase transition studies on Ferroelectric Tungsten Bronzes and Perovskites", Symposium on Fifty-Five Years of Ferroelectrics, Sept. 21-23, 2003, Leeds, United Kingdom
- (24). (Invited talk) R. Guo, "Development of ferroelectric single crystal fibers and exploration for their electrooptic and nonlinear optic applications," SPIE's International Symposium on Optical Science and Technology, 3-8 August 2003, San Diego, California.
- (25). (Invited talk) Ruyan Guo, "Local Electric Field Effect on Symmetry and Ferroelectric Property of Morphotropic Phase Boundary Ferroelectric Relaxors", American Ceramic Society 105th Annual Meeting and Exposition, April 27-30, 2003, Nashville, Tennessee.
- (26). (Best Presentation Award) Hongbo Liu, Bo Wang*, S. Singhania, Man Gu, and Ruyan Guo, "Synthesis and simulation of tapered optical fibers for sensing applications", The 204th Meeting of the Electrochemical Society (co-sponsored in part by the Electronics Division of the American Ceramic Society), Oct. 12-16, 2003, Orlando, Florida.
- (27). (Invited talk) Ruyan Guo, "Ferroelectric Characteristics and Phase Transitions Studied by Thermal Strain and Optical Methods", ACerS 104th Annual Meeting and Exposition, April 28-May 1, 2002, St. Louis, Missouri
- (28). (Invited talk) Ruyan Guo, "Electric-Boundary-Condition Sensitive Thermal Strain and Phase Transition Behavior of Relaxor Single Crystals", 2002 U.S. Navy Workshop on Acoustic Transduction Materials and Devices, May 13-15, 2002, Baltimore, Maryland
- (29). (Invited talk) Francis T.S. Yu and Ruyan Guo*, "Optical Implementation of Neural Networks", SPIE Annual Meeting, Applications and Science of Neural Networks, Fuzzy Systems, and Evolutionary Computation V, July 7-11, 2002, Seattle, Washington
- (30). (Invited talk) Ruyan Guo, "Morphotropic Phase Boundary Regions in Ferroelectric Materials of Oxygen-Octahedron Building Blocks", The 8th International Conference on Electronic Materials (IUMRS-ICEM2002), June 10-14, 2002, Xian, China
- (31). (Invited talk) R. Guo*, E. Alberta, A. S. Bhalla, "MPB Systems and Phase Relations", Symposium on Growth and Characterization of Piezoelectric Relaxor Single Crystals, April 27, 2001, State College, PA.
- (32). (Invited talk) R. Guo, "Morphotropic Phase Boundary Regions in Ferroelectric Materials of Oxygen-Octahedron Building Blocks", Symp. Advances in Dielectric Materials and Multilayer Electronic Devices, 103rd ACerS Annual Meeting, April 23-25, 2001, Indianapolis, Indiana.

- (33). (Invited talk) Ruyan Guo, "Electric Boundary Conditions on Thermal Strain Behavior of Relaxor Single Crystals", Asia Meetings on Ferroelectrics (AMF-III), Dec. 12-15, 2000, Hong Kong, China.
- (34). (Invited talk) R. Guo, "Effect of Electric Field on Oxide Ferroelectric Solid Solutions Near a Morphotropic Phase Boundary", ACerS 102nd Annual Meeting, April 30-May 3, 2000, St. Louis, Missouri.
- (35). (Invited talk) R. Guo, "Property-Structure Relationship in Oxide Ferroelectric Tungsten Bronzes Containing Morphotropic Phase Boundary", The Second Symposium of Young Chinese Scholars on Materials Science and Technology, Oct. 8-12, 1999, Hangzhou, China.
- (36). (Invited talk) R. Guo, "Single Crystal Transducer Materials," 28th International Smart Actuator Symposium, July 16, 1999, Tokyo, Japan.
- (37). (Invited talk) R. Guo, "Structure- Property- Chemistry Relations in Ferroelectric Tungsten Bronze Compositions near a Morphotropic Phase Boundary", ACerS 1999 Annual Meetings, Apr. 25-28, 1999, Indianapolis, IN.
- (38). (Invited talk) R. Guo, "Morphotropic phase boundaries in ferroelectric tungsten bronze", Second Asian Meeting on Ferroelectrics, Dec. 7-11, 1998, Singapore.
- (39). (Invited talk) R. Guo, "Crystal structure analysis and polarization mechanisms of ferroelectric tungsten bronzes", The 56th Annual Pittsburgh Diffraction Conference, Nov. 5-7, 1998, Pittsburgh, PA.
- (40). (Invited talk) R. Guo, "A systematic study on tungsten bronze compositions for potential electrooptic applications", Department of Earth and Mineral Science, Penn State University, May 1998, University Park, PA.
- (41). (Invited talk) R. Guo, "Ferroelectric Tungsten Bronze Solid Solution Compositions near Morphotropic Phase Boundaries", International Symposium on Dielectric Ceramics, May 3-6, 1998, Cincinnati, Ohio.
- (42). (Invited, Keynote) A. S. Bhalla and R. Guo, "Oxide Perovskite Crystals for HTSC Film Substrates in Microwave Applications", International Conference on Substrate Crystals and HTSC Films (ICSCS-F '96), September 16-20, 1996, Jaszowiec, Poland.
- (43). (Invited talk) R. Guo, "Substrates for HTS Thin Films in Microwave Device Applications", 1996' Symposium on Physics for Chinese Young Scholars: Thin Film Materials and Physics, June 24-27, 1996, Anhui, China.
- (44). (Invited talk) R. Guo, "Low Loss and Low Permittivity Dielectric Substrate Materials for Microwave Applications", First Asian Meetings on ferroelectrics, Oct. 3-7, 1995, Xi'an, China.
- (45). (Invited talk) R. Guo, "Polarization Fluctuation Phenomena in Tungsten Bronze ferroelectric Materials", 1995 ACerS Annual Meeting, May 1-3, 1995, Cincinnati, Ohio.
- (46). (Invited talk) S. Bhalla* and R. Guo, "Temperature Dependent Electrooptic Properties of Ferroelectric Oxide Tungsten Bronze Single Crystals", Japan-US Workshop on Advanced Ceramics, Nov. 1994, Tsukuba, Japan.
- (47). (Invited talk) A. S. Bhalla* and R. Guo, "Structure and Property of Substrate Materials for HTSC Films", World Congress on Superconductivity, June 27-July 1, 1994, Orlando, Florida.
- (48). (Invited talk) R. Guo, "Electrooptic Properties of Ferroelectric Lead Barium Niobate (PBN) Single Crystals", Sixth US-Japan Seminar on Dielectric and Piezoelectric Ceramics, Nov. 11-12, 1993, Maui, Hawaii.
- (49). (Invited talk) A. S. Bhalla*, J. Yamamoto, and R. Guo, "Electrical and Optical Properties of Single Crystal Fibers and Crystals of Tungsten Bronzes", INDO-US Workshop on Synthesis and Processing of Advanced Materials", Mar. 22-24, 1992, Delhi, India.
- (50). (Invited talk) A. S. Bhalla*, J. Yamamoto, and R. Guo, "Single Crystal Fibers for Integrated Optics Applications", International Symposium on Integrated Ferroelectrics, Mar. 9-11, 1992, San Francisco, California.
- (51). (Invited talk) R. Guo* and A. S. Bhalla, "Polarization Mechanisms in Relaxor Ferroelectrics", US-China Symposium on Advanced Ceramic Materials, Sep. 8-11, 1987, Gaithersburg, Maryland.

2. Other Lectures, Seminars, Briefings, Short courses

- (Invited Speaker) Ruyan Guo, "Advancing the Under Represented Minority (URM) and Women in Engineering Profession," High School Girls Campus Visit, 1604 Campus, UTSA, Apr. 2008.
- (Invited Panelist and Speaker) R. Guo, "Research activity design for a department based multidisciplinary REU site," NSF REU Directors Workshop, Portland, Oregon, Oct. 19-20, 2006, 2006.
- (Public lecture) R. Guo, "The Transformation from Undergraduate to Graduate Studies," Wuhan University of Technology, Wuhan, China, April 5, 2006, 2006.
- (Public lecture) R. Guo, "Transformation from Undergrad to Graduate Studies," Shandong University, Jinan, China, April 12, 2006, 2006.
- (Mini Course/Workshop) Ruyan Guo, "Nonlinear Dielectric Materials and Devices," National Chiao Tung University, Taiwan January 2006
- (Invited Tutorial) R. Guo, "Ferroelectric single crystal materials in optoelectronics and microwave photonic applications," IEEE International Topical Meeting on Microwave Photonics, *MWP'04, Oct 4-6 2004*, Ogunquit, ME.
- (Invited Tutorial) R. Guo, "Single Crystal Transducer Materials," 28th International Smart Actuator Symposium, July 16, 1999, Tokyo, Japan.

C. Areas of Research Interest

Science and engineering of electronic and optoelectronic materials and devices.

Ferroelectric, piezoelectric, and pyroelectric oxides; crystal chemistry and structure-composition-property relationships; low loss and frequency agile microwave dielectrics and devices; electrooptic, photorefractive, and nonlinear optical materials, optical fiber communications and tunable wireless optical interactions.

D. Research Support

1. National/International

Agency: ONR

Title: Design, Simulation, and Characterization of Novel Piezoelectric and Electrostrictive Composite Materials

Peer Reviewed (Y/N) Y

Date (start-end) 04/01/2008 -03/31/2011

Total amount: \$450,000

Role (Principal Investigator/Co-Investigator): PI

Agency: NSF

Title: SST - Ferroelectric Thin-Film Active Sensor Arrays for Structural Health Monitoring

Peer Reviewed (Y/N) Y

Date (start-end) 09/01/05 - 08/31/08 (transferred to UTSA from 09/01/2007)

Total amount: \$66,500

Role (Principal Investigator/Co-Investigator): Co-PI

Agency: NSF

Title: Design and Processing of Novel Electronic Composite Materials

Peer Reviewed (Y/N) Y

Date (start-end) 11/01/07-06/30/09 (transferred to UTSA from 09/01/2007)

Total amount: \$195,850

Role (Principal Investigator/Co-Investigator): Co-PI

Agency: NSF

Title: Microwave Growth and Characterization of Zinc Oxide Single Crystal Microbubbles for Optoelectronic Applications

Peer Reviewed (Y/N) Y
Date (start-end) 07/01/05 -12/31/08 (Penn State)
Total amount: \$ 330,000
Role (Principal Investigator/Co-Investigator): Co-PI

Agency: NSF
Title: Electrical Engineering Research Experience for Undergraduates (EEREU) at Penn State University
Peer Reviewed (Y/N) Y
Date (start-end) 02/21/08 - 03/31/11 (Penn State)
Total amount: \$ 300,000
Role (Principal Investigator/Co-Investigator): Co-PI

2. State

Agency: Texas Higher Education Coordinating Board
Title: Intraarterial Revascularization and local brain cooling in acute stroke treatment
Peer Reviewed (Y/N) Y
Date (start-end) 06/30/08 – 06/29/10
Total amount: \$34,196
Role (Principal Investigator/Co-Investigator) PI

Agency: State of Texas Higher Educational Board
Title: STARS grant
Peer Reviewed (Y/N)
Date (start-end) 09/01/2007 -10/31/2009
Total amount: \$350,000
Role (Principal Investigator/Co-Investigator) PI

3. Companies

Agency: Agiltron, Inc. (US Air Force prime)
Title: SBIR: Tunable Dielectrics for Gigahertz Pulsed Power Applications
Peer Reviewed (Y/N) Y
Date (start-end) (yet to start 03/01/2009 – 02/28/2010)
Total amount: \$25,000
Role (Principal Investigator/Co-Investigator) PI

4. Other including sub-contracts, internal UTSA funding through earmarks, institutional grants etc.

Agency: UTSA
Title: Robert E. Clarke Endowment Fund
Peer Reviewed (Y/N) N/A
Date (start-end) 09/2007 - present
Total amount: ~\$11,500/year
Role (Principal Investigator/Co-Investigator) Chair Professor

5. Pending with funding agency

Agency: NSF
Title: A Novel Materials Processing Approach: Seeded and Encapsulated Microwave Growth of ZnO Crystals (Collaborative Proposal)
Peer Reviewed (Y/N) Y
Date (start-end) 07/01/2009 – 06/30/2012
Total amount: \$180,000 (UTSA)
Role (Principal Investigator/Co-Investigator) PI (UTSA)

Agency: DoE
 Title: EFRC: Radiation Resonance Catalytic Interactions in Condensed Materials
 Peer Reviewed (Y/N) Y
 Date (start-end) 09/01/2009-08/31/2014
 Total amount: \$6,328,582 (UTSA)
 Role (Principal Investigator/Co-Investigator) Co-PI

Agency: NSF
 Title: International Multifunctional Materials Research Institute (IMMRI) (Collaborative Proposal)
 Peer Reviewed (Y/N) Y
 Date (start-end) 05/01/2009 - 04/30/2014
 Total amount: \$ 2,217,274 (UTSA)
 Role (Principal Investigator/Co-Investigator) Co-PI

Completed Projects:

South Carolina, University of (NSF Prime)

09/01/2005-08/31/2008
 \$66,500
 SST - Ferroelectric Thin-Film Active Sensor Arrays
 for Structural Health Monitoring
 Co-PI

U.S. Civilian Research and Development Foundation (CRDF)

03/01/2006-02/29/2008
 \$5,400
 Patterned Ferroelectric Thin Film and 3D Integrated
 Optical Elements Preparation by Modified Sol-gel
 Technology
 PI

National Science Foundation

07/01/2005-12/31/2008
 \$330,000
 Microwave Growth and Characterization of Zinc
 Oxide Single Crystal Microtubes for Optoelectric
 Applications
 Co-PI

Materials Systems, Inc.

05/10/2004-05/10/2006
 \$115,000
 Cost Effective Production of Piezoelectric Single
 Crystal Material
 Co-PI

National Science Foundation

07/15/2004-06/30/2007
 \$386,758
 Design and Processing of Novel Electronic
 Composite Materials
 Co-PI

National Science Foundation

04/15/2003-03/31/2008
 \$ 653,138
 Electrical Engineering Research Experiences for
 Undergraduates at Penn State University (NSF REU
 site supplement)
 PI

National Science Foundation

09/01/2003-08/31/2006
 \$352,000
 Local Dynamic Origins of Relaxor Ferroelectricity
 PI

Northern NEF, Inc

12/02/2002-03/31/2005
 \$16,138
 Single Crystal Ferroelectric and Tungsten Bronze
 growth
 PI

Motorola

06/01/2002-05/31/2003
 \$12,500
 Ferroelectric Oxide Materials
 PI

National Science Foundation

08/15/2001-07/31/2003
 \$190,000
 Acquisition of an Optic Image Furnace for Ferroic
 Materials and Education
 PI

U.S. Civilian Research and Development Foundation (CRDF)

08/01/2001-11/01/2002
 \$3,400
 Production of Periodically Poled Lithium Niobate
 Crystals during Growth Process and Study of Poling
 Mechanisms
 PI

National Science Foundation

05/15/2000-04/30/2003
 \$335,000
 Structure-Property-Chemistry Relationship in
 Ferroelectric Bronzes: Material Science Issues in
 Tilted Oxygen Octahedra
 PI

Materials Systems, Inc.

05/01/1999-05/31/2001

\$40,000

Single Crystal Fibers by Laser Heated Pedestal
Growth Technique for Initiating Oriented Grain
Growth
Co-PI

U.S. Department of the Navy

01/01/1999-03/31/2001

\$1,500,000

Resource for Piezoelectric Single Crystals
Co-PI

U.S. Department of the Army

04/21/1998-04/20/2003

\$550,000

Ferroelectric Resource Center for Frequency Agile
Materials for Electronics
Faculty Associate/Co-PI

National Science Foundation

08/01/1997-12/31/1999

\$ 221,976

Morphotropic Phase Boundary Systems in
Ferroelectric Tungsten Bronze Family
PI

National Science Foundation

08/01/1994-1/31/1996

\$ 18,000

Polarization Fluctuation Phenomena in Tungsten
Bronze Ferroelectric Materials
PI

IV. SERVICE

A. Professional Activities:

1. Current Professional and Scientific Organizations/Societies If election/nomination required then mark with *

Years (from-to)	Name of Organization
1999 – present	*Fellow (2009), Member, SPIE (International Society for Optical Engineering)
2009 – present	Senior Member, SWE (Society for Women Engineers)
2003 - present	*Fellow, ACerS (American Ceramic Society),
1997 - present	Senior Member, IEEE (Institute of Electrical and Electronics Engineers)
1999 - present	Member, Women in Optics
1997- present	Member, IEEE-UFFC (Ultrasonic, Ferroelectric and Frequency Control Society)
1987-present	Member, MRS (Materials Research Society)
1996-present	Member, AAAS (American Association for the Advancement of Science)
1999 - present	Member, ASEE (American Society for Engineering Education)

2. Past and Current Positions and/or Offices Held in Professional Organizations

Years (from-to)	Name of Organization	Position held
2006-2009	Electronics Division, American Ceramic Society	Division Trustee (elected)
2008-2009	John Jeppson Award Committee, American Ceramic Soc.	Chair (appointed)
2005-2008	IEEE Ultrasonic, Ferroelectric and Frequency Control Soc	Adm Com member (elected)
2006-2008	John Jeppson Award Committee, ACerS	Member (appointed)
2007-2008	Nominations for Fellows Committee, Electronics, ACerS	Chair
2002-2003	Electronics Division, American Ceramic Society	Division Chair (elected)
2001-2002	Electronics Division, American Ceramic Society	Chair-Elect (elected)
2000-2001	Electronics Division, American Ceramic Society	Program Chair (elected)
1999-2000	Electronics Division, American Ceramic Society	Secretary (elected)
1998-1999	Electronics Division, American Ceramic Society	Secretary-Elect (elected)

3. Other Professional Activities (e.g., National and State Consultantships, Review Panels and Committees, Editorial Boards, Continuing Education Lectures Presented, etc.)

Editor/Editorial Board Member

- Web editor, *Ferroelectrics*, IEEE-UFFC (2004 – present)
- Editorial Board, *Ferroelectrics Letters* (2003 – present)

- International Editorial Board, *Electronic Components and Materials* (2005 – present)
- International Editorial Board, *Journal of the Korean Ceramic Society* (2002 – 2006)
- Editorial Board, *Journal of Phase Transitions* (2001-2005)

Meeting/Symposium Organizer/Chairmanship

Meeting: Conference on Photonic Fiber and Crystal Devices: Advances in Materials and Innovations in Device Applications III, Photonic Devices + Applications, SPIE Optics + Photonics
Year Aug 2-6, 2009, San Diego, CA USA

Role: Co-Chair

Meeting: Conference on Photonic Fiber and Crystal Devices: Advances in Materials and Innovations in Device Applications II, Photonic Devices + Applications, SPIE Optics + Photonics
Year Aug 10-14, 2008, San Diego, CA USA

Role: Co-Chair

Meeting: International Symposium on Advanced Dielectric Materials and Electronic Devices, Materials Science and Technology, 2008 Conference and Exhibition
Year Oct, 5-9, 2008, Pittsburg, PA USA

Role: Co-Chair

Summary list of meeting organizer/chairmanship:

- Chair/Co-Chair, *Conference on Photonic Fiber and Crystal Devices: Advances in Materials and Innovations in Device Applications, Photonic Devices + Applications, SPIE Optics + Photonics*.
I: Aug 10-14, 2007, San Diego, CA;
II: Aug. 10-14, 2008 San Diego, CA;
III. Aug.2-6, 2009, San Diego, CA.
- Co-Organizer, SPIE (The International Society for Optical Engineering) *Photorefractive Fiber and Crystal Devices: Materials, Optical Properties, and Applications* (San Diego, July 2001, July 2002, July 2003, Denver, July 2004, San Diego July 2005).
- Member, IEEE-UFFC Ferroelectrics International Advisory Committee for 17th International Symposium on the Applications of Ferroelectrics and 2008 Meetings of the Electronics Division of the Am. Ceram. Soc., Feb. 24 - 27, 2008, Santa Fe, New Mexico
- Co-Chair, *Technical Group on Optical Materials and Optics Fabrication*, SPIE The International Society for Optical Engineering (2001-2007).
- Member, Optical Engineering and Applications Technical Committee, International Society of Optical Engineering, 2000 – present.
- Symposium Co-Organizer, “International Symposium on Advanced Dielectric Materials and Electronic Devices, Materials Science and Technology,” MS&T Conference and 110th ACerS Annual Meeting, Exposition, and Technology Fair, Oct. 5-9, 2008, Pittsburg, PA
- Symposium Organizer, “International Symposium on Advanced Dielectric Materials: Design, Preparation, Processing, Properties and Applications,” MS&T Conferences and 109th ACerS Annual Meeting, Exposition, and Technology Fair, Aug. 26-29, 2007, Detroit, MI
- Symposium Co-Organizer, “International Symposium on Advanced Dielectric Materials: Design, Preparation, Processing, Properties and Applications,” MS&T Conferences and 108th ACerS Annual Meeting, Exposition, and Technology Fair, Oct. 15-19, 2006, Cincinnati, OH
- Symposium Co-Organizer, “Focused International Symposium on Advanced Dielectric Materials: Design, Preparation, Processing, Properties and Applications,” 107th ACerS Annual Meeting, Exposition, and Technology Fair, April 10-13, 2005, Baltimore, MD.
- Symposium Co-Organizer, “Focused Session on Novel Applications of Perovskite Materials,” 106th ACerS Annual Meeting, April 2004, Indianapolis, Indiana.
- Symposium Co-Organizer, “International Symposium on Advanced Electronic Materials and Devices,” 106th ACerS Annual Meeting, April 2004, Indianapolis, Indiana.
- Chair, Nominating Committee, Electronics Division, ACerS, 2003-04
- Chair, Past Division Chairs’ Committee, Electronics Division, ACerS, 2003-04
- Symposium Co-Organizer, “Optoelectronic Materials and Technology in Information Age,” 105th ACerS Annual Meeting, April 2003, Nashville, Tennessee; 104th ACerS Annual Meeting, April 2002, St. Louis, Missouri, and 104th Annual Meeting, ACerS, St. Louis, Missouri (Apr. 2002).

- Focused Session Co-Organizer: “Perovskite Electronic Ceramics,” 104th ACerS Annual Meeting, April 2002, St. Louis, Missouri.
- Symposium Co-Organizer, “Optoelectronic Materials and Technology in Information Age”
- Program Chair, Electronics Division Program in 2001 Annual Meeting (2000-01)
- Lead-Organizer, Focused Session on “Morphotropic Phase Boundary Phenomena and Perovskite Materials,” 104th Annual Meeting, ACerS, St. Louis, Missouri (Apr. 2002)
- Panel Co-organizer, “Nano Science and Tech.,” 103rd Annual Meeting, ACerS, Indianapolis, IN (Apr. 2001).
- Co-Organizer, Focused Session “High Strain Piezoelectrics,” 103rd ACerS Annual Meeting, April 2001, Indianapolis, IN.
- Organizer: Electronics Division Meeting– Oct. 2000, Clemson, S. Carolina
- Chair, Awards and Scholarships Committee, Electronics Division, ACerS (1997-1999)
- Member, Steering Committee and Technical Committee, Electronic Division (1991-present).
- Symposium Co-Organizer, “Frequency Agile Materials for Electronics,” 102nd ACerS Annual Meeting, April 2000, St. Louis, Missouri
- Symposium Co-Organizer: “Perovskite Oxides for Electronic, Energy Conversion and Energy Efficiency” 1999 101st Annual Meeting, ACerS, Indianapolis, Indiana
- Symposium Co-Organizer: “Current Issues on Crystal Growth of Novel Electronic Materials Symposium,” 1995 ACerS Annual Meeting
- UFFC:Ferroelectrics Web Editor (2005 – present)
- Member: IEEE UFFC Ferroelectrics Committee (1998 – present)
- Member, “IEEE Standard Definitions of Primary Ferroelectric Terms” (1996-2007)
- Program Coordinator, the Ninth IEEE International Symposium on Application of Ferroelectrics, Univ. Park, PA (1994)
- Program Committee: Asian Meetings on Ferroelectrics, August 2008, Taipei, Taiwan.
- Program Committee: Asian Meetings on Electronic Ceramics, July 2005, Hangzhou, China.
- Organizing Committee: Asian Meeting on Ferroelectrics, Dec. 2003, Bangalore, India.
- Member, ICDD (International Crystal Diffraction Database) Ferroelectric subcommittee, Oct. 2000 – 2003.
- International Scientific Committee: Microwave Materials and Their Application (MMA 2000), Aug. 2000, Bled Slovenia
- Organizing Committee: Asian Meeting on Ferroelectrics, Dec. 2000, Hong Kong
- Symposium Co-organizer: Ceramic Functional Materials: The Second Symposium of Young Chinese Scholars on Materials Science and Technology, Oct. 8-12, 1999, Hangzhou, China
- Organization Committee, The Second Asian Meeting on Ferroelectrics, Dec. 1998, Singapore.

Session Chair/Organizer (partial list – not kept up to date)

- Session Chair, Intern'l Symp on Materials for Intelligent/Smart Systems and Adaptive Structure., PAC Rim Meeting, 1993
- Session Chair, Relaxor Ferroelectrics, The 8th International Meeting on Ferroelectrics, 1993
- Session Chair, First Asian Meetings on Ferroelectrics, Oct. 3-7, 1995, Xi'an, China
- Session Chair, 1995 AcerS Annual Meeting, May 1-3, 1995, Cincinnati, Ohio
- Session Chair, Sol-Gel and Composites, AcerS Annual Meeting, 1996
- Session Chair, International Symposium on Dielectric Ceramics: Applications, AcerS Annual Meeting, 1997
- Session Chair, International Symposium on Dielectric Ceramic, May 3-6, 1998, Cincinnati, Ohio
- Session Chair, 1998, 1999, 2000 Navy Transducer Materials and Transducers Workshops, State College, PA
- Session Chair, Second Asian Meeting on Ferroelectrics, Dec. 7-11, 1998, Singapore
- Session Chair, Ceramic Functional Materials – The Second Symposium of Young Chinese Scholars on Materials Science and Technology, Oct. 8-12, 1999, Hangzhou, China
- Session Chair, 12th International Symposium on Application of Ferroelectrics, July-Aug. 2000, Oahu, Hawaii.
- Session Chair, U.S. NAVY Workshop on Acoustic Transduction Materials and Devices, May 14-16, 2001, Baltimore, MD
- Session Chair, 103rd Annual Meeting and Exposition, American Ceramic Society, April 22-25, 2001, Indianapolis, IN.

- Session Chair, ACerS 104th ACerS Annual Meeting, April 2002, St. Louis, Missouri
- Session Chair, Symp. N. Advanced Electronic Materials, IUMRS-ICEM2002, June 10-14, 2002, Xian, China
- Session Chair, Solid State Growth of Crystals Transducer Materials, 2002 U.S. Navy Workshop on Acoustic Transduction, May 2002, Baltimore, Maryland
- Session Chair, 11th International Meeting on Ferroelectricity, September 5-9, 2005, Cataratas del Iguazú /Foz do Iguaçu, Argentina / Brazil, September 2005
- Session Chair, Conference on Photorefractive Fiber and Crystal Devices: Materials, Optical Properties, and Applications XI, SPIE's 50th Annual Meeting, Optics and Photonics 2005, 31 July - 4 August 2005, San Diego, California, USA, 2005.
- Session Chair, US Navy Workshop on Acoustic Transduction Materials and Devices, May 9-12, 2005, State College, Pennsylvania, May 2005
- Session Chair, 107th Annual Meeting & Exposition of the American Ceramic Society, Baltimore, Maryland, April 2005.
- Session Chair, Materials Science and Technology 2006 Conference and Exhibition, Oct. 15-19, 2006, Cincinnati, Ohio, October 2006
- Session Chair, SPIE Conference on Photorefractive Fiber and Crystal Devices: Materials, Optical Properties, and Applications XII, Aug. 13-17, 2006, San Diego, CA, August 2006
- Session Chair, 2006 U.S. Navy Workshop on Acoustic Transduction Materials and Devices, May 9-11, 2006, State College, PA, May 2006
- Session Chair: Advances in Materials Synthesis, Property, and Characterization, Conference in , Photonic Fiber and Crystal Devices: Advances in Materials and Innovations in Device Applications, SPIE Optics and Photonics, Aug. 2007, San Diego, California
- Session Chair: Ferroelectric Relaxors, Single Crystals, and Novel Compositions, in Electronic and Magnetic Properties: International Symposium on Dielectric Materials: Design, Preparation and Applications, American Ceramics Society, Sept. 2007, Detroit, Michigan
- Session Chair, "Novel Materials and Devices: Theoretical and Experimental Approaches I", Photonic Fiber and Crystal Devices: Advances in Materials and Innovations in Device Applications II, SPIE Optics+Photonics, Aug., 2008, San Diego, CA
- Session Chair: Relaxor and Multiferroics, The Sixth Asian Meetings on Ferroelectrics, Aug. 2-6, 2008, Taipei, Taiwan
- Session Chair, "Synthesis and Properties," International Symposium on Advanced Dielectric Materials & Electronic Devices, Materials Science and Technology 2008 Conference and Exhibition, Oct. 2008, Pittsburgh, Pennsylvania

Reviewer for Journals

Ferroelectrics (1991 – present);
Ferroelectrics Letters (1991 – present);
J. Applied Physics (1992 – present);
J. Materials Research (1992 – present);
Materials Letter (1993-present);
IEEE Transactions on Components, Packaging, and Manufacturing Technology (1995 – present);
IEEE Transactions on Ultrasonic, Ferroelectrics, and Frequency Controls (1999 – present)
J. American Ceramic Society (1991 – present);
Powder Diffraction (1997 – present);
J. Phys. & Chem. of Solids (1998 – 2001);
Applied Physics Letters (1995-present),
Journal of Optical Memory and Neural Networks (Information Optics) (2000 – present)
Journal of holography and speckle (2000-present)

Review Panels (for grants)

- Expert reviewer for Virginia's Center for Innovative Technology (2001)
- Expert reviewer for EPSCoR Program, Department of Energy (2004)
- US Expert reviewer, Dept. of States, U.S. Civilian Research and Development Foundation (CRDF)
- Peer Reviewer and Panelist, NSF proposals, DMR, ECCS, CMMI, CAREER, IGERT, SBIR/STTR (phase I & II), MIR, etc. (1995 – present)

Continuing Education Seminars Given

- (Mini Course/Workshop) Ruyan Guo, “Nonlinear Dielectric Materials and Devices,” National Chiao Tung University, Taiwan January 2006

4. Community Service

Hosted several laboratory visits by local high school students, by ONR program directors, by Dell Inc. (Jeff Clarke), by representatives of Georgia Tech Res Inst. (GTRI), and by Senator Hutchinson's staff.

B. Committees:

1. **Department** (specify if Chair)

2007-2008 Faculty Search Committee, Computer Engineering and Network Security, **Chair**
 2008-2009 Faculty Search Committee, Computer Engineering and Network Security, **Chair**
 2007-2009 Electronic Materials and Devices Area Committee, **Chair**
 2008-2009 Faculty Search Committee, Energy Research
 2008-2009 Post-tenure faculty performance evaluation committee
 2008-2009 Dept External Advisory Council
 2007-2009 Graduate Program Committee
 2007-2009 Undergraduate Curriculum Committee
 2007-2009 Scholarship and Awards Committee
 2008-2009 ABET PEO Assessment Committee
 2008-2009 Safety Committee
 2008-2009 TA Application Review Committee

2. **College of Engineering** (specify if Chair)

2007-2008 College Faculty Review Advisory Committee (CFRAC), **Chair**
 2008-2009 College Faculty Review Advisory Committee (CFRAC)
 2008-2010 College Curriculum Committee
 2008-2010 College Faculty Advisor Committee

3. **University** (specify if Chair)

2008 Selection Committee, Collaborative Research Seed Grant Program (CRSGP), Office of VP for Research
 2008 Selection Committee, Tenure-Track Research Award (TRAC), Office of VP for Research
 Feb. 2008, President Romo's UTSA 2016 Strategic Planning (Project Innovation – Faculty Research Session), Office of the President
 2007-2008 Library Liaison for the Department of Electrical and Computer Engineering
 2007 Selection Committee, Collaborative Research Seed Grant Program (CRSGP), Office of VP for Research

4. **Other**

Fall 2008 – present, Faculty Advisor, SWE (Society of Woman Engineers) UTSA Section
 Fall 2008 – present, Faculty Member, Center for Excellence in Engineering Education (CE3)
 Fall 2008, correspondent of laser lab planning activities for Engineering Building II
 Fall 2007 Women's studies Institute, UTSA

COMMITTEE SERVICE AT PENN STATE (IN THE RECENT YEARS PRIOR TO FALL 2007):

College of Engineering Administrative Review Committee, 2006-2007

Director, NSF-Site Program on Research Experience for Undergraduates in Electrical Engineering, Dept. Electrical Engineering (2003-2008); **Co-Director** (2008 - present).

Undergraduate Curriculum Development Committee, Dept. Electrical Engineering (1999-2003)

Faculty member, **Electrooptics Center**, Dept. Electrical Engineering

Faculty member, **NSF Center for Dielectric Study**, Materials Research Inst.

Faculty member, **International Center for Actuators and Transducers**, Materials Res. Inst.

Faculty member, **Pennsylvania Center for Optical Technology** (Lehigh University and Penn State University)

C. Administrative Responsibilities:

1. Department

Year, Title

(Repeat as necessary)

2. College

Year, Title

(Repeat as necessary)

3. University

Year, Title

(Repeat as necessary)

4. Staff Currently Supervised (not including students):

V. OTHER INFORMATION

A. Patents Pending/Issued:

B. Media Coverage

C. Other

Co-Founder, Multifunctional Electronic Materials and Devices Research Lab (~2,250 sqft, >\$2M)