

Fatih Dogan

Professor

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Professional Preparation

- Technical University of Berlin, Germany, Ph.D., Materials Science and Engineering, 1989
- Technical University of Berlin, Germany, M.S./B.S., Materials Science and Engineering, 1984

Career History

- 2002-present: Professor, Department of Materials Science and Engineering, University of Missouri-Rolla; Director, the Center for Dielectric Studies, a NSF Multi-university Industry/University Cooperative Research Center (w/Penn State Univ.).
- 2000 - 2002: Research Associate Professor, Department of Materials Science and Engineering, University of Washington, Seattle
- 1994 - 2000: Research Assistant Professor, Department of Materials Science and Engineering, University of Washington, Seattle
- 1992 - 1994: Research Scientist, Department of Chemical Engineering and Princeton Materials Institute, Princeton University, Princeton, New Jersey
- 1990 - 1992: Research Scientist, Department of Materials Science and Engineering, University of Washington, Seattle

Research Interest

Ceramic processing science and technology; multifunctional ceramics and composites; nanoscale engineering and science; powder synthesis and thin films; solidification and crystal growth; high temperature superconducting materials, dielectrics, and piezoelectrics; thermophotovoltaic emitters, ionic conductors, fuel cells.

Publications

Refereed Journal Publications (over 1500 citations):

1. F. Dogan, "Continuous Solidification of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ by Isothermal Undercooling," in press *J. Europ. Ceram. Soc.* (2005).
2. T. Suzuki, P. Jasinski, H. U. Anderson and F. Dogan, "Performance of a Porous Electrolyte in Single Chamber Solid Oxide Fuel Cells," in press *J. Electrochem. Soc.*, 152 (3) (2005).
3. T. Suzuki, P. Jasinski, H. U. Anderson, and F. Dogan, "Role of Composite Cathodes in Single Chamber SOFC," *J. Electrochem. Soc.*, 151 (10) A1678-A1682 (2004).
4. T. Suzuki, P. Jasinski, H. U. Anderson, and F. Dogan, "Anode Supported Single Chamber Solid Oxide Fuel Cells in Methane - Air Mixture," *J. Electrochem. Soc.* 151 (9) A1473-A1476 (2004).
5. P. Jasinski, T. Suzuki, F. Dogan, and H. U. Anderson, "Impedance Spectroscopy of Single Chamber SOFC," *Solid State Ionics*, 175(1-4), 35-38 (2004).
6. T. Suzuki, P. Jasinski, F. Dogan, and H. U. Anderson, "Single Chamber Electrolyte Supported SOFC Module," *Solid State and Electrochemical Letters*, 7(11), A391-A393 (2004).
7. S.M. Hayden, H.A. Mook, P.C. Dai, T.G. Perring, and F. Dogan, "The Structure of the High-Energy Spin Excitations in a High-Transition-Temperature Superconductor," *Nature*, 429 (6991): 531-534 (2004).
8. T. Suzuki, P. Jasinski, V. Petrovsky, F. Dogan and H. U. Anderson, "The Microstructure Effect on the Electrical and Optical Properties of Undoped and Sr-doped SmCoO_3 Thin Films," *Solid State Ionics*, 175(1-4), 437-39 (2004).
9. H.A. Mook, P.C. Dai, S.M. Hayden, A. Hiess, S.H. Lee, F. Dogan, "Polarized Neutron Measurement of Magnetic Order in $\text{YBa}_2\text{Cu}_3\text{O}_{6.45}$," *Phys. Rev. B*, 69 (13): Art. No. 134509 (2004).
10. F. Dogan, S. Sofie, W. C. Hicks, , M. Strasik, A. C. Day, and K. E. McCrary, "Neodymium Oxide Doped Melt Textured $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Single Crystals," *IEEE T. Appl. Supercon.*, 13 [2], 3076-3078, (2003).
11. J.H. Chung, T. Egami, R.J. McQueeney, M. Yethiraj, M. Arai, T. Yokoo, Y. Petrov, H.A. Mook, Y. Endoh, S. Tajima, C. Frost, and F. Dogan, "In-Plane Anisotropy and Temperature Dependence of Oxygen Phonon Modes in $\text{YBa}_2\text{Cu}_3\text{O}_{6.95}$," *Phys. Rev. B*, 67 (1): art. no. 014517 (2003).
12. T. Egami, R. J. McQueeney, J. H. Chung, M. Yethiraj, H. A. Mook, M. Arai, Y. Inamura, Y. Endoh, S. Tajima, C. Frost, F. Dogan, "Lattice and Charge Effects in High-Temperature Superconductors," *Appl. Phys. A-Mater.* 74: Part 2, S1635-S1637 (2002).
13. J.H. Chung, T. Egami, R.J. McQueeney, M. Yethiraj, M. Arai, T. Yokoo, H.A. Mook, Y. Endoh, S. Tajima, C. Frost, and F. Dogan, "Phonon Dispersion Measurements of $\text{YBa}_2\text{Cu}_3\text{O}_{6.15}$ and $\text{YBa}_2\text{Cu}_3\text{O}_{6.95}$ by Time-of-Flight Neutron Spectroscopy," *J. Supercond.*, 15 (5): 327-330 (2002).
14. H.A. Mook and F. Dogan, "Phase Diagram for Stripes in $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ Superconductors," *J. Phys. Chem. Solids*, 63 (12): 2163-2166 (2002).
15. T. Egami, J.-H. Chung, R. J. McQueeney, M. Yethiraj, H. A. Mook, C. Frost, Y. Petrov, F. Dogan, Y. Inamura, M. Arai, S. Tajima and Y. Endoh, "Electron-Phonon Interactions in HTSC Cuprates," *Physica B*, 62, 316 (2002).

16. H.A. Mook, P.C. Dai, S.M. Hayden, A. Hiess, J.W. Lynn, S.H. Lee, and F. Dogan, "Magnetic Order in $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ Superconductors," *Phys. Rev. B*, 66 (14): art. no. 144513 (2002).
17. K. S. Katti, M. X. Qian, F. Dogan, and M. Sarikaya, "Dopant Effect on Local Dielectric Properties in Barium Titanate Based Electroceramics Determined by Transmission EELS," *J. Am. Ceram. Soc.*, 85 (9), 2236-2243 (2002).
18. L.M. Dieng, A.Y. Ignatov, T.A. Tyson, M. Croft, F. Dogan, C.Y. Kim, J.C. Woicik, and J. Grow, "Observation of Changes in the Atomic and Electronic Structure of Single Crystal $\text{YBa}_2\text{Cu}_3\text{O}_{6.6}$ Accompanying Bromination," *Phys. Rev. B*, 66 (1), art. no. 014508, (2002).
19. T. Egami, J.H. Chung, R.J. McQueeney, M. Yethiraj, H.A. Mook, C. Frost, Y. Petrov, F. Dogan, Y. Inamura, M. Arai, S. Tajima, and Y. Endoh, "Electron-Phonon Interactions in HTSC Cuprates," *Physica B*, 316, 62-68 (2002).
20. S. W. Sofie and F. Dogan, "Effect of Carbon on the Microstructure and Superconducting Properties of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Melt Textured Crystals," *Supercond. Sci. Tech.*, 15 (5), 735-740 (2002).
21. F. Dogan and S. W. Sofie, "Microstructural Control of Complex-Shaped Ceramics Processed by Freeze Casting," *CFI-Ceram. Forum Int.*, 79 (5), E35-E38, (2002).
22. Daniel Haskel, Edward A. Stern, Victor Polinger, and Fatih Dogan, "Ni-Induced Local Distortions in $\text{La}_{1.85}\text{Sr}_{0.15}\text{Cu}_{1-y}\text{Ni}_y\text{O}_4$ and Their Relevance to T_c Suppression: An angular-resolved XAFS study," *Phys. Rev. B*, 64, 104510-1-10 (2001).
23. Yoshinobu Fujishiro, Masanobu Awano, and Fatih Dogan, "In-Situ Microscopic Observation of the Formation Process of Pinning Centers in Nd-Ba-Cu-O Superconductor," *Physica C*, 357, 738-742 (2001).
24. H. A. Mook, Pengcheng Dai, and F. Dogan, "Charge and Spin Structure in $\text{YBa}_2\text{Cu}_3\text{O}_{6.35}$," *Phys. Rev. Lett.*, 88 (9) art. no. 097004 (2002).
25. H. A. Mook, Pengcheng Dai, and F. Dogan, "Observation of Magnetic Moments in the Superconducting State of $\text{YBa}_2\text{Cu}_3\text{O}_{6.6}$," *Phys. Rev. B*, 64, 012502-1-4, (2001).
26. H. A. Mook, and F. Dogan, "Charge Fluctuations in $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ Superconductors," *Physica C*, 364, 553-557 (2001).
27. L. G. Ferguson and F. Dogan, "Spectral Analysis of Transition Metal-Doped MgO Matched Emitters for Thermophotovoltaic Energy Conversion," *J. Mater. Sci.*, 37, 1301-1308 (2002).
28. Stephen W. Sofie and Fatih Dogan, "Freeze Casting of Aqueous Alumina Slurries with Glycerol," *J. Am. Ceram. Soc.*, 84 [7] 1459-64 (2001).
29. W. C. Hicks, F. Dogan, M. Strasik, A. C. Day, and K. E. McCrary, "Processing of Erbium Doped High- T_c Superconductor $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Single Crystals for Improved Flux Pinning," *IEEE T. Appl. Supercon.*, 11 [1], 3724-3727, (2001).
30. Lucian G. Ferguson and Fatih Dogan, "A Highly Efficient NiO-doped MgO Matched Emitter for Thermophotovoltaic Energy Conversion," *Mater. Sci. Eng. B-Solid*, 83, 35-41 (2001).
31. Jeong-Min Cho and Fatih Dogan, "Colloidal Processing of Lead Lanthanum Zirconate Titanate Ceramic," *J. Mater. Sci.*, 36, 2397-2403, (2001).

32. Lucian G. Ferguson and Fatih Dogan, "Spectrally Selective, Matched Emitters for Thermophotovoltaic Energy Conversion Processed by Tape Casting," *J. Mater. Sci.*, 36, 137-146 (2001).
33. Jian-Huei Feng, Lucian G. Ferguson and Fatih Dogan, "Processing of Buffer Sheets for Sintering of PLZT Tapes," *J. Mater. Process. Tech.*, 110, 47-52 (2001).
34. P. Dai, H. A. Mook, R. D. Hunt, and F. Dogan, "Evolution of the Resonance and Incommensurate Spin Fluctuations in Superconducting $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$," *Phys. Rev. B*, 63, 054525-1-054525-19, (2001).
35. D. Haskel, E. A. Stern, F. Dogan, and A. R. Moodenbaugh, "Dopant Structural Distortions in High Temperature Superconductors: An Active or a Passive Role?," *J. Synchrotron Radiat.*, 8, 186-190 (2001).
36. Jian-Huei Feng and Fatih Dogan, "Aqueous Processing and Mechanical Properties of PLZT Green Tapes," *Mater. Sci. Eng. A-Struct.*, 283, 56-64 (2000).
37. Jian-Huei Feng and Fatih Dogan, "Effects of Solvent Mixtures on Dispersion of PLZT Tape Casting Slurries," *J. Am. Ceram. Soc.*, 83, 1681-1686 (2000).
38. P. Dai, H. A. Mook, G. Aeppli, S. M. Hayden, and F. Dogan, "Resonance as a Measure of Pairing Correlations in the High T_c Superconductor $\text{YBa}_2\text{Cu}_3\text{O}_{6.6}$," *Nature*, 406, 965 (2000).
39. H. A. Mook, P. Dai, F. Dogan, and R. D. Hunt, "One-Dimensional Nature of the Magnetic Fluctuations in $\text{YBa}_2\text{Cu}_3\text{O}_{6.6}$," *Nature*, 404, 729-731 (2000).
40. H. A. Mook, F. Dogan, and B. C. Chakoumakos, "Magnetic and Charge Fluctuations in High- T_c Superconductors", p. 315 in *Stripes and Related Phenomena: Selected Topics in Superconductivity*, ed. by A. Bianconi, Naurang and L. Sain, Kluwer Academic/Plenum Publishers, (2000).
41. D. Haskel, E. A. Stern, F. Dogan and A. R. Moodenbaugh, "XAFS Study of the Low-Temperature Tetragonal Phase of $\text{La}_{2-x}\text{Ba}_x\text{CuO}_4$: Disorder, Stripes, and T_c Suppression at $x=0.125$," *Phys. Rev. B*, 61, 7055-7076 (2000).
42. H. A. Mook and F. Dogan, "Charge Fluctuations in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ High-Temperature Superconductors," *Nature*, 401, 145-148 (1999).
43. D. Haskel, E. A. Stern, V. Polinger, and F. Dogan, "Why does Ni Suppress Superconductivity in $\text{La}_{1.85}\text{Sr}_{0.15}\text{Cu}_{1-y}\text{Ni}_y\text{O}_4$?", *J. Synchrotron Radiat.*, 6, 758-760 (1999).
44. D. Haskel, E. A. Stern, F. Dogan, and A. R. Moodenbaugh, "Structural Disorder and the Origin of High T_c Suppression in $\text{La}_{1.875}\text{Ba}_{0.125}\text{CuO}_4$," *J. Synchrotron Radiat.*, 6, 755-757 (1999).
45. P. Dai, H. A. Mook, S. M. Hayden, G. Aeppli, T. G. Perring, R. D. Hunt, and F. Dogan, "The magnetic Excitation Spectrum and Thermodynamics of High- T_c Superconductors," *Science*, 284, 1344-1347 (1999).
46. W. C. Hicks, F. Dogan, M. Strasik, A. C. Day, and K. E. McCrary, "The Effect of Platinum and Excess 211 Phase on the Loss of Liquid Phase in Melt Textured $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$," *IEEE T. Appl. Superconductivity*, 9 [2], 2062-2065, (1999).
47. G. Aeppli, S. M. Hayden, P. Dai, H. A. Mook, R. D. Hunt, T. G. Perring, and F. Dogan, "The Weight of Various Features in the Magnetic Spectra of Cuprates," *Phys. Status Solidi B*, 215, 519-522 (1999).

48. H. A. Mook, P. Dai, S. M. Hayden, G. Aeppli, T. G. Perring, and F. Dogan, "Spin Fluctuations in $\text{YBa}_2\text{Cu}_3\text{O}_{6.6}$," *Nature*, 395, 580-582 (1998).
49. P. Dai, M. Yethiraj, H. A. Mook, T. B. Lindemer, and F. Dogan, "Dai et al. Reply," *Phys. Rev. Lett.*, 80, 1794 (1998).
50. P. Dai, H. A. Mook, and F. Dogan, "Incommensurate Magnetic Fluctuations in $\text{YBa}_2\text{Cu}_3\text{O}_{6.6}$," *Phys. Rev. Lett.*, 80, 1738-1741 (1998).
51. H. A. Mook, P. Dai, R. D. Hunt, and F. Dogan, "Neutron Scattering Studies of the Magnetic Fluctuations in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$," *J. Phys. Chem. Solids*, 59, 2140-2144 (1998).
52. S. Skanthakumar, J. W. Lynn, and F. Dogan, "Spin Dynamics of Er^{3+} in $\text{ErBa}_2\text{Cu}_3\text{O}_{7-x}$," *J. Appl. Phys.*, 81, 4934-4936 (1997).
53. S. M. Hayden, G. Aeppli, T. G. Perring, H. A. Mook, and F. Dogan, "High Frequency Spin Waves in $\text{YBa}_2\text{Cu}_3\text{O}_{6.15}$," *Phys. Rev. B*, 54, R6905-6908 (1996).
54. P. Dai, M. Yethiraj, H. A. Mook, T. B. Lindemer, and F. Dogan, "Magnetic Dynamics in Underdoped $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$: Direct Observation of a Superconducting Gap," *Phys. Rev. Lett.*, 77, 5425-5428, (1996).
55. H. A. Mook, P. Dai, K. Salama, D. Lee, F. Dogan, G. Aeppli, A. T. Boothroyd, and M. E. Mostoller, "Incommensurate One-Dimensional Fluctuations in $\text{YBa}_2\text{Cu}_3\text{O}_{6.93}$," *Phys. Rev. Lett.*, 77, 370-373 (1996).
56. B. Ravel, N. Sicron, Y. Yacoby, E. A. Stern, F. Dogan, and J. J. Rehr, "Order-Disorder Behavior in the Phase Transition of PbTiO_3 ," *Ferroelectrics*, 164, 265-277 (1995).
57. D. Reznik, B. Keimer, F. Dogan and I. A. Aksay, " q Dependence of Self-Energy Effects of the Plane Oxygen Vibration in $\text{YBa}_2\text{Cu}_3\text{O}_7$," *Phys. Rev. Lett.* 75, 2396-2399 (1995).
58. H. F. Fong, B. Keimer, P. W. Anderson, D. Reznik, F. Dogan and I. A. Aksay, "Phonon and Magnetic Neutron Scattering at 41 meV in $\text{YBa}_2\text{Cu}_3\text{O}_7$," *Phys. Rev. Lett.*, 75, 316-319 (1995).
59. B. Keimer, H. F. Fong, D. Reznik, F. Dogan and I. A. Aksay, "Resonant Neutron Scattering from $\text{YBa}_2\text{Cu}_3\text{O}_7$," *J. Phys. Chem. Solids*, 56, 1927-9 (1995).
60. D. Reznik, B. Keimer, F. Dogan and I. A. Aksay, "High Resolution Inelastic Neutron Scattering Study of Phonon Self-Energy Effects in YBCO," *Physica C*, 235-240, 1733-4 (1994).
61. B. Keimer, W. Y. Shih, F. Dogan, I. A. Aksay, R. W. Erwin, and J. W. Lynn, "Vortex Lattice Symmetry and Electronic Structure in $\text{YBa}_2\text{Cu}_3\text{O}_7$," *Phys. Rev. Lett.*, 73, 3459-62 (1994).
62. N. Sicron, B. Ravel, Y. Yacoby, E. A. Stern, F. Dogan, and J. J. Rehr, "Nature of the Ferroelectric Phase Transition in PbTiO_3 ," *Phys. Rev. B*, 50, 13168-80, (1994).
63. B. Keimer, J. W. Lynn, R. W. Erwin, F. Dogan, W. Y. Shih, and I. A. Aksay, "Vortex Structures in $\text{YBa}_2\text{Cu}_3\text{O}_7$," *J. Appl. Phys.*, 76, 6778-6783 (1994).
64. B. Keimer, F. Dogan, I. A. Aksay, R. W. Erwin, J. W. Lynn, and M. Sarikaya, "Inclined-Field Structure, Morphology, and Pinning of the Vortex Lattice in Microtwinning $\text{YBa}_2\text{Cu}_3\text{O}_7$," *Science*, 262, 83-86 (1993).

65. K. Y. Blohowiak, D. F. Garrigus, T. S. Luhman, K. E. McCarty, M. Strasik, I. A. Aksay, F. Dogan, W.B. Hicks, J. Liu, and M. Sarikaya, "Evaluation of $\text{YBa}_2\text{Cu}_3\text{O}_7$ Bulk Superconductors for High Field Magnet Applications," *IEEE T. Appl. Supercon.*, 3 [1] 1049-52 (1993).
66. B. Ravel, E.A. Stern, Y. Yacoby, and F. Dogan, "Lead Titanate is not a Classic Case of a Displacive Ferroelectric Phase Transition," *Jpn. J. Appl. Phys.*, 32 Suppl., 782-84 (1992).

Publications in Conference Proceedings:

67. Oratai Jongprateep and Fatih Dogan, "Time-dependent Compositional and Morphology Change of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Semisolid Phase," Proc. of the 8th Conference of the European Ceramic Society, *Key Engineering Materials*, Part 2, pp. 1135-1140 (2004).
68. Fatih Dogan, Harlan U. Anderson, Clive A. Randall, Michael Lanagan, and Alex Schwarzkopf, "The Center for Dielectric Studies (CDS): A National Science Foundation Industry/University Cooperative Research Center," *Key Engineering Materials*, Part 2, pp. 1329-1332 (2004).
69. Toshio Suzuki, Piotr Jasinski, Fatih Dogan, Harlan U. Anderson, "Role of Cathode in Single Chamber SOFC," *Ceramic Engineering and Science Proceedings*, 25(3), 257-261 (2004).
70. T. Suzuki, P. Jasinski, F. Dogan, and H. U. Anderson, "Single Chamber Fuel Cell: A Power Source for High Temperature Electronics," Proceedings of IMAPS International Conference on High Temperature Electronics (HiTEC 2004), pp. 1-4, (2004).
71. O. Jongprateep and F. Dogan, "Effect of Y_2BaCuO_5 Morphology and Size in Semisolid Melt on Growth Rate of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Single Crystals," in *Ceramic Transactions*, Vol. 149, Fabrication of Long-Length and Bulk High Temperature Superconductors, edited by R. Meng, A. Goyal, W. Wong-Ng, H. C. F. and K. Matsumoto, The American Ceramic Society, Westerville, OH, pp. 145-149 (2004).
72. H.U. Anderson, X.D. Zhou, and F. Dogan, "Defect Chemistry of Mixed Ionic/Electronic p-type Oxides," *Proceedings of the NATO Advanced Research Workshop on Mixed Ionic Electronic Conducting (MIEC) Perovskites for Advanced Energy Systems*; Kiev, Ukraine, edited by N. Orlovskaya and N. Browning, NATO Science Series, 173., 303-312 (2003).
73. T. Suzuki, P. Jasinski, F. Dogan, and H. U. Anderson "Comparison of Anode and Electrode Support Configuration of Single Chamber Solid Oxide Fuel Cell," *Electrochemical Society Proc.*, "Solid Oxide Fuel Cells VIII" PV 2003-07, 1101 (2003).
74. P. Jasinski, T. Suzuki, X.D. Zhou, F. Dogan, H.U. Anderson, "Single Chamber Solid Oxide Fuel Cell: Investigation of Cathodes," *Ceramic Engineering and Science Proceedings*, 24, 3, pp.293-8 (2003).
75. H. U. Anderson, X.-D. Zhou, F. Dogan, "Intermediate Solid Oxide Fuel Cells, Challenges and Opportunities for the Materials Scientist" *Proceedings - Electrochemical Society*, 2002-26 (Solid-State Ionic Devices III), 16-27 (2003).
76. Y. Ye, S. Z. Zhang, F. Dogan, E. Schamiloglu, J. Gaudet, P. Castro, M. Roybal, M. Joler, and C. Christodoulou, "Influence of Nanocrystalline Grain Size on the Breakdown Strength of Ceramic Dielectrics," *PPC-2003: 14th IEEE International Pulsed Power Conference*, Dallas, TX, pp. 719-722, (2003).
77. Y. Ye, S. C. Zhang, H. U. Anderson, W. Huebner, and F. Dogan, "Electrical Breakdown Strength of Nanocrystalline Titanium Oxide," *11th US-Japan Seminar on Dielectric and Piezoelectric Ceramics*, Sapporo, Japan 55-56 (2003).

78. P. Dai, H.A. Mook, S.M. Hayden, A. Hiess, S.H. Lee, and F. Dogan, "Magnetism and Superconductivity in $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ Superconductors," *Int. J. Mod. Phys. B*, 16 (20-22): 3147-3147 (2002).
79. J-H. Feng and F. Dogan, "Effect of PbO Loss on Microstructural Development and Properties of PLZT Ceramics," in *Dielectric Materials and Devices*, edited by K.M. Nair, Amar S. Bhalla, Tapan K. Gupta, Shin-Ichi Hirano, Basavaraj V. Hiremath, J. Ho Jean, and R. Pohanka, The American Ceramic Society, Westerville, OH, pp.69-76, (2002).
80. P. Dai, H.A. Mook, S.M. Hayden, A. Hiess, S.H. Lee, and F. Dogan, "Magnetism and Superconductivity in $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ Superconductors," *Proceedings of Physical Phenomena at High Magnetic Fields - IV*. World Scientific, Singapore, pp.249 (2002).
81. D. Haskel, E. A. Stern, V. Polinger, and F. Dogan, "Suppression of Superconductivity in $\text{La}_{1.85}\text{Sr}_{0.15}\text{C}_{1-y}\text{Ni}_y\text{O}_4$: the Relevance of Local Lattice Distortions," *AIP. American Institute of Physics Conference Proceedings*, no.554, pp.154-68 (2001).
82. F. Dogan, J-H. Feng and L. G. Ferguson, "Processing of Piezoelectric 2-2 Composites: Challenges and Promises," THERMEC'2000-Proceedings International Conference on Processing and Manufacturing of Advanced Materials, Las Vegas, USA, December 2000: CDRom, Section A1, Vol 117/3 "Special Issue: *Journal of Materials Processing Technology*, Eds. T. Chandra, K. Higashi, C. Suryanarayana & C. Tome, Elsevier Science, UK (2001).
83. F. Dogan, J. D. Reding, and M. Awano, "Segregation of BaZrO_3 in Melt Textured $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$," in *Ceramic Transactions*, Vol 118, Grain Boundary Engineering in Ceramics, -From Grain Boundary Phenomena to Grain Boundary Quantum Structures, edited by T. Akuma, L. P. Sheppard, and Y. Ikuhara, The American Ceramic Society, Westerville, OH, pp.201-206, (2000).
84. J.D. Reding and F. Dogan, "The Effect of BaCeO_3 and Pt Dopants on the Semi-Solid Microstructure of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$," in *Ceramic Transactions*, Vol. 104, Perovskite Oxides for Electronic, Energy Conversion, and Energy Efficiency Applications, edited by W. Wong-Ng, T. Holesinger, G. Riley and R. Guo; The American Ceramic Society, Westerville, OH, pp.261-266, (2000).
85. L.G. Ferguson, F. Dogan, and T.G. Stoebe, "New Spectrally Selective Emitters for Thermophotovoltaics Using Tape Cast Ceramics," in *Ceramic Transactions*, Vol. 104, Perovskite Oxides for Electronic, Energy Conversion, and Energy Efficiency Applications, edited by W. Wong-Ng, T. Holesinger, G. Riley and R. Guo; The American Ceramic Society, Westerville, OH, pp. 243-252, (2000).
86. W.C. Hicks, F. Dogan, M. Strasik, A.C. Day, and K.E. McCrary, "Growth and Properties of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ single Crystal Doped with Rare Earth Oxides," in *Ceramic Transactions*, Vol. 104, Perovskite Oxides for Electronic, Energy Conversion, and Energy Efficiency Applications, edited by W. Wong-Ng, T. Holesinger, G. Riley and R. Guo; The American Ceramic Society, Westerville, OH, pp. 149-154, (2000).
87. Stephen W. Sofie and Fatih Dogan, "Shape Forming of Aqueous Alumina Slurries by Freeze-Drying," in *Ceramic Transactions*, Vol.115, Innovative Processing and Synthesis of Ceramics, Glasses, and Composites IV, edited by N. Bansal and J. P. Singh; The American Ceramic Society, Westerville, OH, pp. 227-235, (2000).
88. W. C. Hicks, F. Dogan, M. Strasik, A. C. Day, and K. E. McCrary, "Effect of Er_2O_3 Doping on the Superconducting Properties of Single Domain $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$," in *Ceramic Transactions*, Vol. 115, Innovative Processing and Synthesis of Ceramics, Glasses, and Composites IV, edited by N. Bansal and J. P. Singh; The American Ceramic Society, Westerville, OH, pp. 491-497, (2000).

89. Gregory J. St. Pierre and Fatih Dogan, "Templated Reaction-Joining of Single-Domain YBCO Superconductors," in *Ceramic Transactions*, Vol. 115, Innovative Processing and Synthesis of Ceramics, Glasses, and Composites IV, edited by N. Bansal and J. P. Singh; The American Ceramic Society, Westerville, OH, pp. 353-363, (2000).
90. L. G. Ferguson and F. Dogan, "Thermal Shock Performance of Magnesia Tapes for Thermophotovoltaic Applications," in *Ceramic Transactions*, Vol. 115, Innovative Processing and Synthesis of Ceramics, Glasses, and Composites IV, edited by N. Bansal and J. P. Singh; The American Ceramic Society, Westerville, OH, pp. 635-642, (2000).
91. S. Sofie and F. Dogan, "Shape Forming by Freeze Drying of Non-Aqueous Slurries," in *Ceramic Transactions*, Vol. 108, Innovative Processing and Synthesis of Ceramics, Glasses, and Composites III, edited by J.P. Singh, Narottam P. Bansal, and Koichi Niihara; The American Ceramic Society, Westerville, OH, pp. 235-243, (2000).
92. F. Dogan, "Hydrothermal Synthesis and Formation Mechanisms of Shape Anisotropic BaTiO₃ Particles," in *Ceramic Transactions*, Vol. 83, Ceramic Processing Science, edited by G. L. Messing, F. F. Lange, and S. Hirano; The American Ceramic Society, Westerville, OH, 35-41, (1998).
93. J. D. Reding and F. Dogan, "Microstructural Evolution of Melt Textured YBa₂Cu₃O_{7-x} Doped with Pt or CeO₂," in *Ceramic Transactions*, Vol. 83, Ceramic Processing Science, edited by G. L. Messing, F. F. Lange, and S. Hirano; The American Ceramic Society, Westerville, OH, pp.509-515, (1998).
94. F. Dogan and J. D. Reding, "Effect of Y₂BaCuO₅ Particle Size on Undercooling and Solidification Rate of YBa₂Cu₃O_{7-x}," in *Ceramics Transactions*, Vol. 84, Impact of Recent Advances in Processing of Ceramic Superconductors, edited by U. Balachandran, W. Wong-Ng and A. Bhalla; The American Ceramic Society, Westerville, OH, pp. 23-30, (1998).
95. P. Dai, H. A. Mook, and F. Dogan, "Pseudogap and Incommensurate Magnetic Fluctuations in YBa₂Cu₃O_{6.6}," *Physica B*, 241-243, 524-527 (1998).
96. F. Dogan, "Growth of Stoichiometric YBa₂Cu₃O_x Large Single Crystals without Y₂BaCuO₅ by Melt Texturing Technique," *1997 International Workshop on Superconductivity (The 3rd Joint ISTE/MRS Workshop). Program and Extended Abstracts*, ISTE-Int. Supercond. Technol. Center, Tokyo, Japan; 205-207 (1997).
97. G. Danko, D. Popovich, and F. Dogan, "Piezoelectric Fibers Produced by the Fibrous Monolith Technique," *Ceram. Eng. & Sci. Proc.*, 18, 87-94 (1997).
98. F. Dogan, S. O'Rourke, M-X Qian, and M. Sarikaya, "Low Temperature Hydrothermal Synthesis of Nanophase BaTiO₃ and BaFe₁₂O₁₉ Powders," in *Nanophase and Nonocomposite Materials II*, Eds.: S. Komarneni, J. C. Parker, H. J. Wollenberger, *Mat. Res. Soc. Symp. Proc.*, 69-74 (1997).
99. S. M. Hayden, G. Aeppli, P. Dai, H.A. Mook, T.G. Perring, S.-W. Cheong, Z. Fisk, F. Dogan, and T. E. Mason, "Absolute Measurements of the High-Frequency Magnetic Dynamics in High-T_c Superconductors," *Physica B*, 241-243, 765-767 (1997).
100. N. Siconolfi, Y. Yacoby, E. A. Stern, and F. Dogan, "XAFS Study of the Antiferroelectric Phase Transition in PbZrO₃," *J. De Physique IV*, 7, pp. C2-1047-1049 (1997).
101. F. Dogan and M. Sarikaya, "Mechanisms of Hydrothermal Barium Titanate Thin Film Formation," *Polycrystalline Thin Films*, Eds.: H. J. Frost, C. A. Ross, M. A. Parker, and E. A. Holm, *Mat. Res. Soc. Symp. Proc.*, 403, 95-99 (1996).

102. H. A. Mook, P. Dai, F. Dogan, K. Salama, G. Aeppli and M. E. Mostoller, "Neutron scattering measurements on $\text{YBa}_2\text{Cu}_3\text{O}_7$," *Proceedings of the 10th Anniversary HTS Workshop on Physics, Materials and Applications*, Eds.: B. Batlogg, C. W. Chu, W. K. Chu, D. U. Gubser, and K. A. Müller, World Scientific Publishing Company, Singapore, New Jersey, London, and Hong Kong; 345-8 (1996).
103. N. Sicron, B. Ravel, Y. Yacoby, E. A. Stern, F. Dogan, and J. J. Rehr, "The Ferroelectric Phase Transition in PbTiO_3 from a Local Perspective," *Physica B*, 208-209, 319-320 (1995).
104. S. Sevinctav, T. Baykara, F. Dogan, and I. A. Aksay, "Monolithic α -Alumina through Pressure Filtration of Seeded Boehmite Gels," in *Proc. of the Third Euro-Ceramics*, Vol. 3, edited by P. Duran and J. F. Fernandez (Faenza Editrice Ibérica, San Vicente, Spain, 1993), pp. 687-90.
105. H. Erkalfa, Z. Misirli, T. Baykara, F. Dogan, and I. A. Aksay, "Mechanical Properties of Colloidally Processed Alumina with Cr_2O_3 and MnO_2 Additives," in *Proc. of the Third Euro-Ceramics*, Vol. 3, edited by P. Duran and J. F. Fernandez (Faenza Editrice Ibérica, San Vicente, Spain, 1993), pp. 549-53.
106. F. Dogan, J. Liu, M. Sarikaya, and I. A. Aksay, "A Study on the Formation of Hydrothermally Prepared BaTiO_3 Particles," in *Proc. 50th Ann. Meeting of the EMSA*, edited by G. W. Bailey, J. Bentley, and J. A. Small (San Francisco Press, San Francisco 1992), pp. 304-05.
107. F. Dogan and H. Hausner, "Preparation of Spherical Ceramic Powders by the Aerosol-Technique," *Ceramic Powder Processing Science*, edited by H. Hausner, G. L. Messing, and S. Hirano, Deutsche Keramische Gesellschaft, Cologne, West Germany, 245-252 (1989).
108. F. Dogan and H. Hausner, "The Role of Freeze-Drying in Ceramic Powder Processing," in Ceramic Powder Science II, *Ceramic Transactions*, Vol. 1, eds. G. L. Messing, E. R. Fuller, Jr, and H. Hausner, The American Ceramic Society, Westerville, OH, 127-134 (1988).
109. F. Dogan, A. Roosen, and H. Hausner, "Influence of Hydroxide-Precursor Processing on the Densification of Yttrium Oxide Powders," in Ceramic Powder Science, *Advances in Ceramics*, Vol. 21, edited by G. L. Messing, K. S. Mazdhyasni, J. W. McCauley, and R. A. Haber, The American Ceramic Society, Westerville, OH, 681-689 (1987).
110. F. Dogan, A. Roosen, and H. Hausner, "Agglomerate Formation, Compact Characteristics and Sintering Behavior of Ceramic Powders," *Science of Ceramics, J. De Physique*, 13, [C1], 231-235 (1985).

Other Publications:

111. K. Salama, D. Cardwell, M. Murakami, and F. Dogan "Special Edition of SUST on the 3rd International PASREG Workshop – Preface," *Supercond. Sci. Tech.*, 15 (5), U3 (2002).

Named as inventor in two United State Patents

K. Y. Blohoviak, D. F. Garrigus, T. S. Luhman, K. E. McCrary, M. Starsik, I. Aksay, F. Dogan, W. C. Hicks, C. B. Martin, "Making Large, Single Crystal, 123 YBCO Superconductors," U.S. Patent 6,046,139; April 4, 2000.

F. Dogan, J-H Feng, L. G. Ferguson "Method for Sintering Ceramic Tapes Using Setter Powder Deposition Sheets," U.S. Patent 6,447,712 B1; September 10, 2002.

(Pending) T. Suzuki, P. Jasinski, V. Petrovsky, F. Dogan, and H. Anderson "Solid Oxide Fuel Cell with Porous Electrolyte" US Patent Application.