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Research Areas

I am currently focused on the development of the scientific programs at the Center for Nanoscale Materials. My on-going research interests include,

- Nanoscale phenomena in complex oxides
- Development of novel concepts for integration of oxide heterostructures, establishing a fundamental understanding of polar interfaces, and exploring how these interfaces may be manipulated to influence electronic and chemical function
- Chemical vapor deposition of complex oxide and electroluminescent materials
- *In-situ* synchrotron x-ray scattering studies

Recent Related Publications

- D. D. Fong, A. M. Kolpak, J. A. Eastman, S. K. Streiffer, P. H. Fuoss, G. B. Stephenson , C. Thompson, D. M. Kim, K. J. Choi, C. B. Eom, I. Grinberg, A. M. Rappe, "Stabilization of Monodomain Polarization in Ultrathin $PbTiO_3$ Films," *Physical Reviews Letters* **96**, 27601/1-4 (2006).
- T. Wu, M. A. Zurbuchen, S. Saha, R.-V. Wang, S. K. Streiffer, and J. F. Mitchell, "Observation of Magnetoelectric Effect in Epitaxial Ferroelectric Film/Manganite Crystal Heterostructures," *Physical Review B* **73**, 134416/1-6 (2006).
- M. A. Zurbuchen, T. Wu, S. Saha, J. Mitchell, and S. K. Streiffer, "Multiferroic Composite Ferroelectric-Ferromagnetic Films," *Applied Physics Letters* **87**, 232908 1-3 (2005).
- D. D. Fong, C. Cionca, Y. Yacoby, G. B. Stephenson, J. A. Eastman, P. H. Fuoss, S. K. Streiffer, C. Thompson, R. Clarke, R. Pindak, and E. A. Stern, "Direct Structural Determination in Ultrathin Ferroelectric Films by Analysis of Synchrotron X-Ray Scattering Measurements," *Physical Review B* **71**, 144112 1-11 (2005)