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Education:
University of Tennessee B.A. 1996 Mechanical Engineering
University of Tennessee M.S. 2000 Mechanical Engineering
University of Tennessee Ph.D. 2004 Materials Science

Research Experience:

2008–present	R&D Associate, Center for Nanophase Materials Sciences, ORNL
2004–2016	Postdoctoral Research Associate, Imaging Functionality Group, Center for Nanophase Materials Sciences, ORNL

Professional Activities, Honors, Awards:
UT-Battelle Scientific Research Team Award: Electrochemical Strain Microscopy 2011
Microscopy Today Innovation Award: Electrochemical Strain Microscopy 2011
Roland B. Snow Award, American Ceramics Society: Electrochemical Strain Microscopy 2010
R&D 100 Award, 2010
Microscopy Today Innovation Award, 2010
Southeast FLC Excellence in Technology Transfer, 2008
Materials Research Society Best Poster Award, 2008
R&D 100 Award, 2008
Cosslett Award, 2008
ORNL Director's Award, 2006

Professional Memberships:
Materials Research Society, Electrochemical Society

Selected Peer-Reviewed Publications: (total ~ 210, h-index = 42 (google scholar))

A. Belianinov, S.V. Kalinin, S. Jesse, "Complete information acquisition in dynamic force microscopy", Nature Communications, 6 (2015)

AV Ievlev, S Jesse, AN Morozovska, E Strelcov, EA Eliseev, YV Pershin, A Kumar, VYa Shur, SV Kalinin "Intermittency, quasiperiodicity, and chaos during scanning probe microscopy tip-induced ferroelectric domain switching", *Nature Physics* 10 (2014)

A Kumar, F Ciucci, AN Morozovska, SV Kalinin, S Jesse, "Measuring oxygen reduction/evolution reactions on the nanoscale" *Nature Chemistry* 3 (9), 707-713 (2011)

Balke, N.; Jesse, S.; Kim, Y.; Adamczyk, L.; Tselev, A.; Ivanov, I. N.; Dudney, N.; Kalinin, S. V., "Real Space Mapping of Li-ion Transport in Amorphous Si Anodes with Nanometer Resolution," *Nano Letters*, **10**, 3420 (2010).

Balke, N.; S. Jesse, A.N. Morozovska, E. Eliseev, D.W. Chung, Y. Kim, L. Adamczyk, R.E. Garcia, N. Dudney, and S.V. Kalinin, *Nanometer-scale electrochemical intercalation and diffusion mapping of* Li-*ion battery materials*, Nature Nanotechnology, published on-line

P. Bintachitt, S. Jesse, D. Damjanovich, S. Trolier-McKinstry, and S.V. Kalinin, *Collective dynamics underpins Rayleigh behavior in disordered polycrystalline ferroelectrics*, PNAS **107**, 7219 (2010).

N. Balke, S. Choudhury, S. Jesse, M. Huijben, Y.H. Chu, A.P. Baddorf, L.Q. Chen, R. Ramesh, and S.V. Kalinin, *Deterministic control of ferroelastic switching in multiferroic materials*, Nature Nanotechnology **4**, 868 (2009).

P. Maksymovych, S. Jesse, P. Yu, R. Ramesh, A.P. Baddorf, and S.V. Kalinin, *Polarization Control of Electron Tunneling into Ferroelectric Surfaces*, Science **324**, 1421 (2009).

S. Jesse and S.V. Kalinin, *Principal component and spatial correlation analysis of spectroscopic imaging data in scanning probe microscopy*, Nanotechnology **20**, 085714 (2009).

P. Maksymovych, S. Jesse, M. Huijben, R. Ramesh, A. Morozovska, S. Choudhury, L.Q. Chen, A.P. Baddorf and Sergei V. Kalinin, *Intrinsic Nucleation Mechanism and Disorder in Polarization Switching on Ferroelectric Surfaces*, Phys. Rev. Lett. **102**, 017601 (2009).

S. Jesse, B.J. Rodriguez, A.P. Baddorf, I. Vrejoiu, D. Hesse, M. Alexe, E.A. Eliseev, A.N. Morozovska, and S. V. Kalinin, *Direct imaging of Spatial and Energy distribution of Nucleation Centers in Ferroelectric Materials*, Nature Materials **7**, 209 (2008)

S. Jesse, M. Nikiforov, L. Germinario, and Sergei V. Kalinin, *Local Thermomechanical Characterization of Phase Transitions in Polymers using Band Excitation Atomic Force Acoustic Microscopy with Heated Probe*, Appl. Phys. Lett. **93**, 073104 (2008).

S. Jesse, P. Maksymovych, and Sergei V. Kalinin, *Rapid Multidimensional Data Acquisition in Scanning Probe Microscopy Applied to Local Polarization Dynamics and Voltage Dependent Contact Mechanics*, Appl. Phys. Lett., **93**, 112903 (2008)

Collaborators:
M. Alexe, Max-Planck Institute of Microstructure Physics, Halle, Germany
S. Ducharme, University of Nebraska
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M. Kachanov, Tufts University, Medford, MA
S. Toilier-McKinstry, V. Gopalan, and L. Q. Chin, Penn. State University
A. Vertegel, Clemson University

Graduate and Postdoctoral Advisors:
Graduate Advisor: Anthony J. Pedraza, University of Tennessee
Postdoctoral Advisor: Art Baddorf, ORNL

Total Graduate Students Advised: 0
Total Postdoctoral Scholars Advised: 0