

Alexei Belianinov

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Education

Case Western Reserve University	Cleveland Ohio	B.S. Chemistry	May 2007
Iowa State University	Ames, Iowa	Ph.D. Analytical Chemistry	March 2012

Professional Experience

2012 – Present	Postdoctoral Research Associate, Oak Ridge National Laboratory
2008 – 2012	QEW, Ames Laboratory
2007 – 2012	Research Assistant, Ames Laboratory, Ames Iowa
2007 – 2010	Teaching Assistant, Department of Chemistry, Iowa State University

Professional Activities

2010 – Present Member, Materials Research Society
2010 – Present Member, American Physical Society
2008 – Present Member, American Vacuum Society
2007 – Present Member, American Chemical society

Honors and Awards

Recipient of the Iowa State University 2012 Research Excellence Award
Recipient of the 2011 AVS Dorothy M. an Earl S. Hoffman Travel Grant
Recipient of the 1st Place Prize for the best poster at 67th Annual Physical Electronics Conference

Research Synopsis

- Growth, surface and electron structure of oxides in UHV via SPM and diffraction*
We are using UHV techniques such as VT-STM/AFM, XPS, Auger, UPS and PLD to get at an understanding of how vacancies and ions move in complex oxide materials. Particularly interesting is tip induced motion and subsequent associated physics and electrochemical phenomena.
- Band Excitation techniques in AFM*
Using various AFM modes such as PFM, ESM, BE to name a few; to study localized ferroelectricity and electrochemistry on surfaces. Simultaneously develop new approaches to collect, process and analyze large data sets to better understand the underlying scientific principles of interest.
- UHV studies of metals on oxides of NiAl compounds*
Exploring surface electronic structure of NiAl family oxides and thin film growth of Au and Ag on those surfaces.

4. *UHV SPM and diffraction of metallic and organic adsorbates on silicon*

Developing a thorough understanding of basic surface science by exploring interactions and structures of precious metals, such as Ag and Au, on low index Si surfaces. Additionally exploring organic adsorbates and on metal-silicon system, with a focus on surface catalytic activity.

Graduate and Postdoctoral Advisors:

Graduate Advisor: Dr. Patricia A. Thiel, Ames Laboratory Iowa State University

Postdoctoral Advisor: Dr. Sergei V. Kalinin, Oak Ridge National Laboratory