

DOUGLAS A. BLOM

Education and Training:

Bachelor of Science, Materials Science & Engineering June 1993
Massachusetts Institute of Technology, Cambridge, MA

Doctor of Science, Ceramics, Department of Materials Science & Engineering June, 1998
Massachusetts Institute of Technology, Cambridge, MA

Postdoctoral Research Associate July 1999-July 2001
Oak Ridge National Laboratory, Oak Ridge, TN

Professional Experience:

Research Assistant Professor June, 2007 – present
University of South Carolina, Columbia, SC
Responsible for research using and training of graduate students and post-docs on the JEOL 2100F aberration-corrected STEM/TEM in the USC EM Center.

Research and Development Staff January 2002-June, 2007
Oak Ridge National Laboratory, Oak Ridge, TN
Member of Microscopy Group. Materials Analysis User Center Staff. Primarily involved in transmission electron microscopy studies of emission catalyst systems. Principal operator aberration-corrected STEM/TEM. Part of design team for ORNL Advanced Microscopy Laboratory housing 4 aberration-corrected STEMs

Research and Development Associate August, 2001-December, 2001
Oak Ridge National Laboratory, Oak Ridge, TN
Part of the Materials Analysis User Center at the High Temperature Materials Laboratory. Research projects include: characterizing the size, shape and chemistry of particulate matter from motor vehicle exhaust; studying the distribution and aging of Pt catalyst particles in proton exchange membrane fuel cells, and assisting users in their research projects at the HTML.

Publications:

1. S. J. Mejía-Rosales, C. Fernández-Navarro, E. Pérez-Tijerina, D. A. Blom, L. F. Allard and M. José-Yacamán, "On the Structure of Au/Pd Bimetallic Nanoparticles," *J. Phys. Chem.C*, **111**, 1256, 2007.
2. D. A. Blom, L. F. Allard, S. Mishina and M. A. O'Keefe, "Early Results from an Aberration Corrected JEOL 2200FS at Oak Ridge National Laboratory," *Microsc. and Microanal.*, **12**, 483, 2006.
3. Y. Li, J. Xiang, F. Qian, S. Gradečák, Y. Wu, D. A. Blom and C. M. Lieber, "Dopant-Free GaN/AlN/AlGaIn Radial Nanostructure Heterostructures as High electron Mobility Transistors," *Nanoletters*, **6**, 1468, 2006.
4. M. A. O'Keefe, L. F. Allard and D. A. Blom, HRTEM Imaging of Atoms at Sub-Ångström Resolution," *J. Electron Micr.*, **54**, 169, 2005.
5. Z. Zhang, D. A. Blom and S. Dai, "Organizing one-dimensional molecular wires in ordered mesoporous silica", *Studies in Surface Science and Catalysis*, **141**, 183, 2002.
6. T. G. Schaaff and D. A. Blom, "Deposition of Au-Nanocrystals on TiO₂ Crystallites", **2**, 507, 2002.
7. D. A. Blom, S. A. Bradley, W. Sinkler, and L. F. Allard, "observation of Pt Atoms, Clusters and Rafts on Oxide supports, by Sub-Ångström Z-Contrast Imaging in an Aberration-Corrected STEM/TEM," *Microsc. and Microanal.*, **12(suppl. 2)**, 50, 2006.
8. V. A. Bhirud, M. J. Moses, D. A. Blom, L. F. Allard, T. Aoki, S. Mishina, C. K. Narula and B. C. Gates, "Alumina-supported Tri-rhenium Clusters Revealed by Aberration-corrected Electron Microscopy," *Microsc. and Microanal.*, **11(suppl. 2)**, 1574CD, 2005.

Professional Activities:

Secretary/Treasurer of Focus Interest Group Materials Research in an Aberration-Free Environment 2005-2007
Co-organizer Porous Materials Symposium, Microscopy and Microanalysis 2002
Co-organizer Nanotechnology Symposium, Microscopy and Microanalysis 2004
Co-organizer High Resolution Electron Microscopy Symposium, Microscopy and Microanalysis 2007