Steven H. Overbury
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Education/Training:

University of New Mexico, Albuquerque	B.S.	1972	Chemistry/Mathematics
University of California, Berkeley	Ph.D.	1976	Physical Chemistry

Research and Professional Experience:

2009-present Thrust leader, FIRST Center an Energy Frontier Research Center
2006–2010 Catalysis Theme Leader, Center for Nanophase Materials Sciences, ORNL
2003-present PI, Fundamentals of Catalysis and Chemical Transformations, ORNL
1994–1995 Section Head (acting), Materials Chemistry, Chemical Sciences Division , ORNL
1985–present Leader, Surface Chemistry and Catalysis Group, Chemical Sciences Division, ORNL

Selected Publications:

Beste, A.; Overbury, S. H., Pathways for Ethanol Dehydrogenation and Dehydration Catalyzed by Ceria (111) and (100) Surfaces, *J. Phys. Chem C* **2015,** *119*, 2447−2455.

Calaza, F. C.; Chen, T.-L.; Mullins, D. R.; Xu, Y.; Overbury, S. H., Reactivity and reaction intermediates for acetic acid adsorbed on CeO_2(111), *Catalysis Today* **2015,** *253*, 65-76.

Mann, A. K. P.; Wu, Z. L.; Overbury, S. H. (2015). The Characterization and Structure-dependent Catalysis of Ceria with Well-defined Facets; in Catalysis by Materials with Well-Defined Structures (edition 1). Z. Wu and S. H. Overbury, Elsevier.

Nelson, N. C.; Manzano, J. S.; Sadow, A. D.; Overbury, S. H.; Slowing, I. I., Selective Hydrogenation of Phenol Catalyzed by Palladium on High-Surface-Area Ceria at Room Temperature and Ambient Pressure, *ACS Catalysis* **2015,** *5*(4), 2051-2061.

Wu, Z.; Mann, A. K. P.; Li, M.; Overbury, S. H., Spectroscopic Investigation of Surface-Dependent Acid–Base Property of Ceria Nanoshapes, *Journal of Physical Chemistry C* **2015a,** *119*(13), 7340-7350.

Zhang, L.; Wu, Z.; Nelson, N.; Sadow, A.; Slowing, I.; Overbury, S. H., The role of CO_2 as a soft oxidant for dehydrogenation of ethylbenzene to styrene over a high-surface-area ceria catalyst, *ACS Catalysis* **2015,** *5*, 6426−6435.

Zhou, H.; Uysal, A.; Anjos, D. M.; Cai, Y.; Overbury, S. H.; Neurock, M.; McDonough, J. K.; Gogotsi, Y.; Fenter, P., Understanding Defect-Stabilized Noncovalent Functionalization of Graphene, *Adv. Mater. Interfaces* **2015**, 1500277.

Bauer, J. C.; Toops, T. J.; Oyola, Y.; Parks, J. E.; Dai, S.; Overbury, S. H., Catalytic activity and thermal stability of Au-CuO/SiO2 catalysts for the low temperature oxidation of CO in the presence of propylene and NO, *Catalysis Today* **2014,** *231*, 15-21.

Jiang, D.E. .; Overbury, S. H.; Dai, S. On the Structure of Au15(SR)13 and its Implication on the Origin of the Nucleus in Thiolated Gold Nanoclusters, *Journal of the American Chemical Society* **2013** *135*, 8786−8789.

Wu, Z.; Schwartz, V.; Li, M.; Rondinone, A.; Overbury, S. H. Support Shape Effect in Metal Oxide Catalysis: Ceria Nanoshapes Supported Vanadia Catalysts for Oxidative Dehydrogenation of Isobutane, *Journal of the American Chemical Society* **2012**, *3*, 1517−1522.

Wu, Z.; Li, M.; Overbury, S. H., "Probing the Surface Sites of Ceria Nanoshapes via Methanol Adsorption and Reaction," *ACS Catalysis*, 2, 2224 – 2234 (2012).

Chathoth, S. M.; Anjos, D. M.; Mamontov, E.; Brown, G. M.; Overbury, S. H. Dynamics of Phenanthrenequinone on Carbon Nano-Onion Surfaces Probed by Quasielastic Neutron Scattering, *Journal of Physical Chemistry B* **2012**, *116*, 7291−7295.

Calaza, F. C.; Xu, Y.; Mullins, D. R.; Overbury, S. H. Oxygen Vacancy-Assisted Coupling and Enolization of Acetaldehyde on CeO2(111), *Journal of the American Chemical Society* **2012**, *134* (43), 18034-18045.

Synergistic Activities:

- Symposium Co-organizer, *Catalysis by Materials with Well-defined Structures*, March ACS Meeting, 2013;
- Symposium Co-organizer *Catalysis for Fuel Chemistry*, March ACS Meeting, 2009
- Workshop Co-Organizer, *Neutrons for Catalysis: Workshop on Neutron Scattering Techniques for Studies in Catalysis*, 2010
- Editorial board for *Catalysis Letters, Catalysis Communications, Topic in Catalysis*, 2009
- Director, Southeastern Catalysis Society, 2010-present

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