Exponent
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# Noah D. Budiansky, Ph.D.
**Manager**

## Professional Profile

Dr. Noah D. Budiansky is a Manager in Exponent's Materials and Corrosion Engineering practice. Dr. Budiansky's expertise is in metallurgical and electrochemical engineering, including extensive experience in corrosion analysis. His specialties include using AC and DC electrochemical techniques to investigate corrosion mechanisms of metal alloys.
Dr. Budiansky's expertise concentrates on the investigation of localized corrosion mechanisms using advanced novel techniques. Dr. Budiansky has extensive experience in determining the long-term corrosion protection of polymer coated metal alloys using Electrical Impedance Spectroscopy. He is also well versed in a variety of materials characterization and microscopic techniques, including scanning electron microscopy and electron-dispersive spectroscopy as well as confocal laser scanning microscopy.

Prior to joining Exponent and graduate school, Dr. Budiansky held a position as a senior research technician at W.R. Grace Construction Products developing and evaluating corrosion inhibitors for rebar steel in concrete. His research yielded patents focused on special delivery systems for corrosion inhibitors in high strength durable concrete. Additionally, Dr. Budiansky conducted extensive research on and developed shrinkage reducing admixtures for concrete as well as fire proofing materials.

## Academic Credentials and Professional Honors

Ph.D., Materials Science and Engineering, University of Virginia, 2007
M.S., Materials Science and Engineering, University of Virginia, 2003
B.S., Environmental Sciences, University of Massachusetts (*cum laude*), 1997

Marcel Pourbaix Second Place Prize for Best Poster in Corrosion Science "Material Parameters Associated With Cooperative Spreading Of Localized Corrosion on Heterogeneous Materials," CORROSION/06 Conference Student Poster Session, National Association of Corrosion Engineers, San Diego, CA, 2006

Electrochemical Society Corrosion Division Student Travel Grant for the 3rd International Symposium on Pits and Pores: Formation, Properties and Significance for Advanced Materials, The Electrochemical Society, Honolulu, HI, 2004

Marcel Pourbaix First Place Prize for Best Poster in Corrosion Science, "Origins of Persistent Interactions Among Localized Corrosion Sites Investigated Using Experimental Electrode Arrays," CORROSION/02 Conference Student Poster Session, National Association of Corrosion Engineers, Denver, CO, 2002

**Patents**

Patent 6,277,191: Air Entrainment with Polyoxyalkylene Copolymers for Concrete Treated With Oxyalkylene SRA, August 21, 2001.

Patent 6,648,962: Micro-Granulose Particulates, November 18, 2003.

**Publications**

Cong H, Bocher F, Budiansky ND, Hurley MF, Scully JR. Use of coupled multi-electrode arrays to advance the understanding of selected corrosion phenomena. Journal of ASTM International 2007; 4(10).

Cong H, Budiansky ND, Scully JR. Use of coupled electrode arrays to elucidate copper pitting as a function of potable water chemistry. CORROSION/07, Paper #07392, Nashville, TN, 2007.

Budiansky ND, Bocher F, Cong H, Hurley MF, Scully JR. Use of coupled multi-electrode arrays to advance the understanding of selected corrosion phenomena. CORROSION/06, Paper #06677, NACE, San Diego, CA, 2006.

Cooper KR, Smith M, Budiansky ND. Development of a multielectrode array impedance analyzer for corrosion science and sensors. CORROSION/06, Paper #06674, NACE, San Diego, CA, 2006.

Scully JR, Budiansky ND, Organ L, Mikhailov AS, Hudson JL. Cooperative spreading of pit sites as a new explanation for critical threshold potentials. Passivity-9, Elsevier B.V, Paris France, 2005.

Budiansky ND, Organ L, Hudson JL, Scully JR. Detection of interactions among localized pitting sites on stainless steel using spatial statistics. Journal of Electrochemical Society 2005; 152(4):B152.

Budiansky ND, Organ L, Mikhailov AS, Hudson JL, Scully JR. Cooperative spreading of pit sites as an additional explanation for critical thresholds. Proceedings, 3rd International Symposium on Pits and Pores: Formation, Properties and Significance for Advanced Materials, The Electrochemical Society, Honolulu, HI, 2004.

Punckt C, Bolsher M, Rotermund HH, Mikhailov AS, Organ L, Budiansky ND, Scully JR, Hudson JL. Sudden onset of pitting corrosion on stainless steel as a critical phenomenon. Science 2004; 305:1133–1136.

Budiansky ND, Hudson JL, Scully JR. Origins of persistent interactions among localized corrosion sites. Journal of the Electrochemical Society 2004; 151(4):B233.

Budiansky ND, Hudson JL, Scully JR. Origins of persistent interactions among localized corrosion sites. Critical factors in localized corrosion IV. Symposium in Honor of Hans Böhni, Virtanen S, Schmuki P, Frankel GS (eds), Electrochemical Society Proceedings, Vol. 2002–24, pp. 133, 2002.

**Invited Talks and Lectures**

Budiansky ND, Bocher F, Cong H, Hurley MF, Scully JR. Use of coupled multi-electrode arrays to advance the understanding of selected corrosion phenomena. Corrosion/06, National Association of Corrosion Engineers, Paper #06677, San Diego, CA, 2006.

Budiansky ND, Organ L, Mikhailov AS, Hudson JL, Scully JR. Cooperative spreading of pit sites as an additional explanation for critical thresholds. 3rd International Symposium on Pits and Pores: Formation, Properties and Significance for Advanced Materials, The Electrochemical Society. Honolulu, HI, October 3–8, 2004.

Budiansky ND, Organ L, Hudson J, Scully J. Cooperative interactions during localized corrosion processes: Experiments, analysis and modeling. DOE Contractor Meeting, Ohio State University, September 2003.

Budiansky ND, Hudson JL, Scully JR. Origins of persistent interactions amongst localized corrosion sites. W.R. Grace, Inc., MA, May 2003.

Budiansky ND, Hudson JL, Scully JR. Origins of persistent interactions among localized corrosion sites. Critical factors in localized corrosion IV symposium in honor of Hans Bohni, Electrochemical Society, Salt Lake City, UT, October 21, 2002.

**Poster Sessions**

Budiansky ND. Material parameters associated with cooperative spreading of localized corrosion on heterogeneous materials. CORROSION/06, National Association of Corrosion Engineers, San Diego, CA, 2006.

Budiansky ND Scully JR. Initiation and propagation of IGC by cooperative interactions on sensitized stainless steel. Gordon Research Conference on Aqueous Corrosion, Colby-Sawyer College, New London, NH, 2004.

Budiansky ND and Scully JR. Origins of persistent interactions among localized corrosion sites investigated using experimental electrode arrays. Gordon Research Conference on Aqueous Corrosion, Colby-Sawyer College, New London, NH, 2002.

Budiansky ND. Origins of persistent interactions among localized corrosion sites investigated using experimental electrode arrays. National Association of Corrosion Engineers, Denver, CO, 2002.

## Prior Experience

Senior Research Technician, W.R. Grace Construction Products Division, 1997–2000
Geotechnical Laboratory Technician, American Reclamation Inc./Materials Technology Center, 1995–1997

## Professional Affiliations

- Electrochemical Society (active member)
- National Association of Corrosion Engineers (active member)

## Trials and Arbitrations

*Brody v Simpson Development Corp. et al.*, United States District Court for the District of Vermont, State of Vermont, Civil Action No. 2:05-cv-293, October 2007.