

**Staff Scientist & Fuel Cell Technologies Program Manager**

Oak Ridge National Laboratory  
Materials Science and Technology Division  
P.O. Box 2008, MS 6083  
Oak Ridge, TN 37831-6083

Phone: (865) 574-1157  
Fax: (865) 241-4034  
email: [wooddl@ornl.gov](mailto:wooddl@ornl.gov)

**Education**

- Ph.D. Chemical Engineering, University of New Mexico, Albuquerque, NM, 2007
- M.S. Chemical Engineering, University of Kansas, Lawrence, KS, 1998
- B.S. Chemical Engineering, North Carolina State University, Raleigh, NC, 1994

**Appointments and Professional Experience**

- Fuel Cell Technologies Program Manager, Oak Ridge National Laboratory, Oak Ridge, TN, 2012-Pres.
- Staff Scientist, Oak Ridge National Laboratory, Oak Ridge, TN, 2009-Pres.
- Post-Doctoral Research Associate, Los Alamos National Laboratory, Los Alamos, NM, 2008-2009
- Senior Scientist, Cabot Corporation, Albuquerque, NM, 2007-2008
- Staff Research Assistant, Los Alamos National Laboratory, Los Alamos, NM, 2003-2007
- Key Account & Technical Service Manager, SGL Carbon Group, St. Marys, PA, 2000-2002
- R&D Project Engineer, General Motors Corporation, Honeoye Falls, NY 1997-2000
- Graduate Teaching & Research Assistant, University of Kansas, Lawrence, KS, 1995-1997
- Co-op Engineer, Glaxo Wellcome, Inc., Greenville, NC, 1994-1995

**Honors and Awards**

- ORNL Supplemental Performance Award (2011).
- ORNL Significant Event Award for Advanced Characterization and Processing for Lithium Ion Battery Materials (2011).
- ORNL Early Career Award for Engineering Accomplishment (2011).
- ORNL Partnerships Key Contributor Award (2010).
- DOE Hydrogen Program R&D Award – LANL fuel cell (FC) impurities team for Outstanding Contribution in Determining the Effects of Impurities on FC Performance and Durability (2009).
- Samuel W. Bodman Award for Excellence presented to Cabot Corporation DMFC team (2008).
- DOE Hydrogen Program R&D Award – LANL FC durability team for Outstanding Achievement in R&D of PEMFC Durability (2005).
- Honorable mention for Dr. Bernard S. Baker Student Award for Fuel Cell Research (2005).
- Winner of inaugural Fuel Cell Seminar Best Poster Award Contest (2004).
- United States Fuel Cell Council (USFCC) Co-Executive Member for SGL Carbon Group (2002).
- Selected into SGL Carbon Group “Nachfolgeplanung” (Successor Planning) program for ensuring the future availability of highly skilled leaders and management of critical corporate functions (2002).
- Graduate Representative to KU Dept. of Chemical & Petroleum Engineering Advisory Board (1997).
- North Carolina Scholar Award and Charlotte-Mecklenburg Scholar Award (1990).

**Patents and Invited Book Chapters**

1. J. Li, C. Daniel, and D.L. Wood, “Cathode Processing for Lithium-Ion Batteries,” in *Handbook of Battery Materials*, C. Daniel and J.O. Besenhard, Editors, 2<sup>nd</sup> Edition, pp. 939-960, Wiley-VCH, Weinheim, Germany (2011).
2. D.L. Wood and R.L. Borup, “Durability Aspects of Gas-Diffusion and Microporous Layers,” in *Polymer Electrolyte Fuel Cell Durability*, F.N. Büchi, M. Inaba, and T.J. Schmidt, Editors, pp. 159-195, Springer, New York (2009).

3. M. Mathias, R. Darling, and D.L. Wood, "Proton Exchange Membrane Fuel Cell," Filed November 24<sup>th</sup>, 2003, U.S. Patent No. 7,157,178 (General Motors Corporation), 2007.
4. M.F. Mathias, J. Roth, B. Sompalli, M. Schoeneweiss, and D. Wood, "Diffusion Media, Fuel Cells, and Fuel Cell Powered Systems," Filed October 14<sup>th</sup>, 2003, U.S. Patent No. 7,303,835 (General Motors Corporation), 2007.
5. D.L. Wood, S.A. Grot, and G. Fly, "Composite Gas Distribution Structure for Fuel Cell," Filed September 24<sup>th</sup>, 1999, U.S. Patent No. 6,350,539 (General Motors Corporation), 2002.

### Selected Publications

1. J. Li, C. Rulison, J. Kiggans, C. Daniel, and D.L. Wood, "Superior Performance of LiFePO<sub>4</sub> Cathode Dispersions via Corona Treatment and Surface Energy Optimization," *Energy & Environmental Science*, Submitted, 2012.
2. J. Li, B.L. Armstrong, J. Kiggans, C. Daniel, and D.L. Wood, "Optimization of LiFePO<sub>4</sub> Nanoparticle Suspensions with Polyethyleneimine for Aqueous Processing," *Langmuir*, Accepted, 2012.
3. J. Li, C. Daniel, and D.L. Wood, "Materials Processing for Lithium-Ion Batteries," *J. Power Sources*, **196**, 2452–2460 (2011). [**2, Web of Science**]
4. D.L. Wood and R.L. Borup, "Estimation of Mass-Transport Overpotentials During Long-Term PEMFC Operation," *J. Electrochem. Soc.*, **157**, B1251–B1262 (2010). [**1, Web of Science**]
5. D.L. Wood, C. Rulison, and R.L. Borup, "Surface Properties of PEMFC Gas Diffusion Layers," *J. Electrochem. Soc.*, **157**, B195–B206 (2010). [**4, Web of Science**]
6. D.L. Wood, J. Chlistunoff, J. Majewski, and R.L. Borup, "Nafion Structural Phenomena at Platinum and Carbon Interfaces," *J. Am. Chem. Soc.*, **131**, 18096–18104 (2009). [**7, Web of Science**]
7. R. Borup, J. Meyers, B. Pivovar, Y.S. Kim, N. Garland, D. Myers, R. Mukundan, M. Wilson, F. Garzon, D. Wood *et al.*, "Scientific Aspects of Polymer Electrolyte Fuel Cell Durability and Degradation," *Chem. Rev.*, **107**, 3904–3951 (2007). [**405, Web of Science**]
8. R. Borup, J. Davey, F. Garzon, D. Wood, and M. Inbody, "PEM Fuel Cell Electrocatalyst Durability Measurements," *J. Power Sources*, **163**, 76–81 (2006). [**119, Web of Science**]
9. J. Xie, D.L. Wood, K.L. More, P. Atanassov, and R.L. Borup, "Microstructural Changes of Membrane Electrode Assemblies During PEFC Durability Testing at High Humidity Conditions," *J. Electrochem. Soc.*, **152**, A1011–A1020 (2005). [**110, Web of Science**]
10. J. Xie, D.L. Wood, D.M. Wayne, T.A. Zawodzinski, P. Atanassov, and R.L. Borup, "Durability of PEFCs at High Humidity Conditions," *J. Electrochem. Soc.*, **152**, A104–A113 (2005). [**155, Web of Science**]
11. D.L. Wood, J.S. Yi, and T.V. Nguyen, "Effect of Direct Liquid Water Injection and Interdigitated Flow Field on the Performance of Proton Exchange Membrane Fuel Cells," *Electrochim. Acta*, **43**, 3795–3809 (1998). [**124, Web of Science**]

### Post-Doctoral Scholars

- Jianlin Li, Oak Ridge National Laboratory, 2009-2012
- Sergiy Kalnaus, Oak Ridge National Laboratory, 2011-2012
- Debasish Mohanty, Oak Ridge National Laboratory, 2011-Present

### Session Chair

- "Rechargeable Lithium and Lithium-Ion Batteries," at 218<sup>th</sup> Meeting of The Electrochemical Society, Las Vegas, Nevada, October 12, 2010.

### Journal Reviewer

*Journal of The Electrochemical Society, Journal of The American Chemical Society, Electrochimica Acta, Journal of Colloid and Interface Science, Fuel Cells, Materials Letters, Applied Materials & Interfaces*