

## BIOGRAPHICAL SKETCH: JOHN H. BRADFORD

Research Professor  
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### Professional Preparation

- Ph.D. Environmental Geophysics, January 1999, Rice University, Houston, Texas  
*Dissertation: Characterizing Shallow Aquifers with Wave-Propagation Based Geophysical Methods: Imaging and Attribute Analysis*
- B.S. Physics, 1994, University of Kansas, Lawrence, Kansas (with Distinction, Departmental Honors)
- B.S. Engineering Physics (*concentration in chemical engineering*), 1994, University of Kansas, Lawrence, Kansas (with Highest Distinction)

### Awards

Named one of Houston's best and brightest: Technology Houston, 1999  
Torkild Rieber Award for academic excellence, Rice University, 1998  
U.S. EPA STAR Graduate Fellow, 1995-1997  
Schlumberger Fellowship (not accepted), Rice University, 1997  
Samuel P. Worden Award for innovation in geophysics, Rice University, 1997  
Outstanding Senior in Physics, University of Kansas, 1994  
Outstanding Senior in Engineering Physics, University of Kansas, 1994  
Stranathan Award for Outstanding Junior in Physics, University of Kansas, 1993  
Engineering Alumnus Scholar, University of Kansas, 1991-1994

### Appointments

6/01 - present Research Professor, Boise State University, Boise, ID  
4/99 - 6/01 Academic Professional Research Scientist, Univ. of Wyoming, Laramie, WY  
8/97 - 9/98 Research Scientist, Houston Advanced Research Center, The Woodlands, TX  
5/97 - 8/97 Research Associate, Houston Advanced Research Center, The Woodlands, TX  
5/95 - 8/95 Research Associate, Houston Advanced Research Center, The Woodlands, TX

### Five Relevant Publications

**Bradford, J.H.**, McNamara, J.P., Bowden, W., and Gooseff, M.N., *in press*, Measuring thaw depth beneath arctic streams using ground-penetrating radar: Hydrological Processes.

Harper, J.T., and **Bradford, J.H.**, 2003, Snow stratigraphy over a uniform depositional surface: Spatial variability and measurement tools: Cold Regions Science and Technology, **37**, 289-298.

**Bradford, J.H.**, 2002, Depth characterization of shallow aquifers with seismic reflection - Part I: The failure of NMO velocity analysis and quantitative error prediction: Geophysics, **67**, 89-97.

**Bradford, J.H.**, and Sawyer, D.S., 2002, Depth characterization of shallow aquifers with seismic reflection - Part II: Pre-stack depth migration and field examples: Geophysics, **67**, 98-109.

**Bradford, J.H.**, Sawyer, D.S., Zelt, C.A., and Oldow, J.S., 1998, Imaging a shallow aquifer in temperate glacial sediments using seismic reflection profiling with DMO processing: Geophysics, **63**, 1248-1256.

### **Five Additional Publications**

**Bradford, J.H.**, and J.T. Harper, *submitted*, Evidence for hydrostratification in a temperate glacier based on migration velocity analysis of ground-penetrating radar data, *Geophys. Res. Let.*

**Bradford, J.H.**, *submitted*, Ground-penetrating radar theory and application of thinbed offset dependent reflectivity, *Geophysics*.

**Bradford, J.**, Liberty, L., Lyle, M., Clement, B., and Hess, S., *in press*, Imaging complex structure in shallow seismic-reflection data using pre-stack depth migration, 74th Ann. Internat. Mtg., Soc. Expl. Geophys.: Expanded abstracts: Denver, CO, p. xxx-xxx.

Deeds, J.C., and **Bradford, J.H.**, 2002, Characterization of an aquitard and direct detection of LNAPL at Hill Air Force Base using GPR AVO and migration velocity analysis, *in* Kopenjan, S., and Lee, H., eds., *GPR 2002, 9<sup>th</sup> Internat. Conf. on Ground-Penetrating Radar, Volume 4758: Proceedings: Santa Barbara, CA, Intl. Soc. For Opt. Eng.*, 323-329.

**Bradford, J.H.**, and Wu, Y., 1997, Time-frequency representation of seismic signals via matching pursuit decomposition with complex Ricker wavelets: 1997 AGU Fall Meeting, EOS Supplement, **78**, no.46, 33.

### **Invited Lectures**

“LNAPL detection using GPR attribute analysis”, 2002, School of Civil Engineering, Purdue University

“LNAPL detection using GPR attribute analysis”, 2002, Department of Civil and Environmental Engineering, Utah State University

“Fundamentals of GPR Investigation”, 2000, Department of Geology and Geophysics, Rice University

### **Journal Reviewer**

*Geophysics*

*Environmental and Engineering Geoscience*

*Journal of Environmental & Engineering Geophysics*

*Geophysical Research Letters*

*Journal of Applied Geophysics*

*Groundwater*

### **Recent Collaborators**

Dale Sawyer, Rice University

John Oldow, University of Idaho

Manik Talwani, Rice University

Steve Holbrook, University of Wyoming

Dag Nummedal, University of Wyoming

Jim McNamara, Boise State University

Michael Gooseff, Utah State University

Mitch Lyle, Boise State University

Neil Humphrey, University of Wyoming

Colin Zelt, Rice University

Tad Pfeffer, University of Colorado

Bill Symes, Rice University

Scott Smithson, University of Wyoming

Igor Morozov, University of Saskatchewan

Breck Bowden, University of Vermont

Bill Clement, Boise State University

Joel Harper, University of Wyoming

### **Graduate Advisors**

Dale Sawyer, Professor, Rice University

Manik Talwani, Schlumberger Chair of Advanced Studies and Research, Rice University

### **Thesis Advisory Committee Member**

Jake Deeds, M.S. 2002, Chevron Inc.

Scott Hess, M.S., Boise State University

Raghavendra Gottumukkula Vijaya, Ph.D., Boise State University