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EDUCATION AND TRAINING

2006 Ph.D., Geophysics, Boise State University
2001 B.S., Civil Engineering, Boise State University
1999 B.S., Geophysics, Boise State University

RESEARCH AND PROFESSIONAL EXPERIENCE

2013-present, **Staff Scientist IV**, Pacific Northwest National Laboratory. *Research and development on coupled hydrogeophysical inversion for groundwater flow and transport model calibration*
2010-2013, **Staff Scientist III**, Pacific Northwest National Laboratory. *Research and development on numerical methods for high performance subsurface electrical imaging and monitoring in challenging environments (e.g., metallic infrastructure and transient internal boundaries)*
2008-2010, **Staff Scientist II**, Idaho National Laboratory. *Developed parallel computing code for subsurface electrical imaging and monitoring; developed/applied parallel joint hydrogeophysical inversion code*
2007-2008, **Postdoctoral Research Associate**, Idaho National Laboratory. *Developed parallel computing code for subsurface electrical imaging and monitoring*
2006-2007, **Staff Engineer**, American Geotechnics, Boise Idaho. *Performed geotechnical analysis and design for retaining wall and roadway systems*

SELECTED PUBLICATIONS (*h-index of 6 from 27 publications*)

- Johnson TC, R Versteeg, J Thomle, G Hammond, X. Chen, and J Zachara. (2015). "Autonomous time-lapse 3D electrical resistivity tomography monitoring of river bank storage using a transient mesh-warping water table boundary with conditional solution constraints." *Water Resources Research* (submitted)
- Singha. K, F.D. Day-Lewis, T.C. Johnson, and L.D. Slater. 2013. Advances in interpretation of subsurface processes with time-lapse electrical imaging. *Hydrogeology Journal* (invited submission, submitted).
- Johnson TC, M Oostrom, MJ Truex, JN Thomle, and TW Wietsma. 2013. "Determination of water saturation using gas phase partitioning tracers and time-lapse electrical conductivity measurements." *Vadose Zone Journal* 12(2), doi:10.2136/vzj2012.0142.
- Wallin EL, TC Johnson, WJ Greenwood, and JM Zachara. 2013. "Imaging high stage river-water intrusion into a contaminated aquifer along a major river corridor using 2D time-lapse surface electrical resistivity tomography." *Water Resources Research* 49(3):1693-1708. doi:10.1002/wrcr.20119.
- Truex MJ, TC Johnson, CE Strickland, JE Peterson, and SS Hubbard. 2013. "Monitoring Vadose Zone Desiccation with Geophysical Methods." *Vadose Zone Journal* 12(2), doi:10.2136/vzj2012.0147.
- Johnson TC, L Slater, D Ntarlagiannis, FD Day-Lewis, and M Elwaseif. 2012. "Monitoring groundwater-surface water interaction using time-series and time-frequency analysis of transient three-dimensional electrical resistivity changes." *Water Resources Research* 48:Article No. W07506. doi:10.1029/2012WR011893.
- Johnson TC, RJ Versteeg, ML Rockhold, LD Slater, D Ntarlagiannis, WJ Greenwood, and JM Zachara. 2012. "Characterization of a contaminated wellfield using 3D electrical resistivity tomography implemented with geostatistical, discontinuous boundary, and known conductivity constraints." *Geophysics* 77(6):Article No. EN85. doi:10.1190/geo2012-0121.1.

- Wellman DM, MD Freshley, TC Johnson, and AL Miracle. 2012. "Contaminants in Vadose Zone Environments." *Vadose Zone Journal* 11(4):Article No. 0159. doi:10.2136/vzj2012.0159.
- Revil A, M Karaoulis, TC Johnson, and A Kemna. 2011. "Review: Some Low-Frequency Electrical Methods for Subsurface Characterization and Monitoring in Hydrogeology." *Hydrogeology Journal* 20(4):617-658. doi:10.1007/s10040-011-0819-x.
- Johnson TC, MJ Truex, DM Wellman, and J Marble. 2011. "Characterization and monitoring of subsurface processes using parallel computing and electrical resistivity imaging." *AGU Hydrology Section Newsletter* (December 2011):24-28.
- Dafflon B, W Barrash, MA Cardiff, and TC Johnson. 2011. "Hydrological parameter estimations from a conservative tracer test with variable-density effects at the Boise Hydrogeophysical Research Site." *Water Resources Research* 47:Article No. W12513. doi:10.1029/2011WR010789.

SYNERGISTIC ACTIVITIES

- American Geophysical Union, Society of Exploration Geophysics
- Co-technical lead for the DOE-EM Deep Vadose Zone Applied Field Research Initiative
- PNNL Subsurface Science and Remediation Subsector core scientific team member