Susan S. Hubbard

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EDUCATION

Ph.D.	Civil and Env. Engineering, UC Berkeley, 1998. Dissertation: 'Stochastic Characterization of Hydrogeological Properties using Geophysical Datasets'.
M.S.	Geophysics, Virginia Tech. "Integrated seismic reflection data processing and interpretation of Southern Appalachian tectonic history"
B.S.	Geology, University of California, Santa Barbara.
Cert.	Professional Certificate, Viticulture and Enology, UC Davis, 2009
Cert.	UCB Haas School of Business Leadership Program, 2011

PROFESSIONAL POSITIONS

2013-present	Earth Sciences Division Director, LBNL
2010-2013	Earth Sciences Division Deputy Director for Programs, LBNL
2010-present	Senior Geological Scientist, Lawrence Berkeley National Laboratory
2002-2010	Staff Geological Scientist, Lawrence Berkeley National Laboratory
1998-2002	Geological Scientist, Lawrence Berkeley National Laboratory
1990-1993	Geophysicist, ARCO Oil and Gas Co.
1985-1987	Geologist, U.S. Geological Survey, Menlo Park, CA.

RESEARCH LEADERSHIP POSITIONS

2011-present	Co-PI DOE Next Generation Ecosystems Experiment (NGEE-Arctic)
2010-2014	Modeling and Monitoring Lead, Energy Bioscience Institute Petroleum Microbiology Program
2009-present	Sr. Scientific Advisor, Advanced Simulation Capability for Environmental Management (ASCEM)
2008-present	Lead, LBNL DOE-BER Subsurface Biogeochemistry Scientific Focus Area
2007	Associate Director, Berkeley Water Center, UC Berkeley
2004-2013	Lead, Environmental Remediation and Water Resources Program, LBNL
2003-present	Lead, Environmental Geophysics Group, LBNL
2002-2006	Founder and First Chair, AGU Hydrogeophysics Technical Committee

EDITORIAL BOARDS

2010-present	Associate Editor, JGR-Biosciences
2007-2013	Co-Editor, Vadose Zone Journal
2007-2010	Associate Editor, Journal of Hydrology
2008	Special Editor, Vadose Zone Journal (GPR Methods)
2006	Special Editor, Water Resources Research (Hydrological Synthesis)
2006	Special Editor, Vadose Zone Journal (Hydrogeophysics)
2001-2005	Associate Editor, Water Resources Research

SCIENTIFIC ADVISORY BOARDS AND REVIEW COMMITTEES

2014	GPR2014 Advisory Committee
2013-present	Helmoltz Association Terrestrial Environment Program Review Committee
2012	Dept of Energy Resources Engineering Review Committee, Stanford
2011-present	SmartGeo NSF IGERT Colorado School of Mines Scientific Advisory Board
2010-present	DOE Biological and Environmental Research Advisory Committee (BERAC)
2010	DOE Environmental Management Technical Advisory Committee
2008-2010	EarthWater Global
2006	Forschungszentrum Julich German National Environmental Laboratory Review Committee

AWARDS AND RECOGNITIONS

2013	'Women @ Berkeley Lab' recognition
2011	Fellow, Geological Society of America
2010	Birdsall-Dreiss Distinguished Lecturer, Geological Society of America
2009	Frank Frischknecht Leadership Award, SEG Near Surface Geophysical Society
2009	'Excellence in Editing' Top Associate Editor Award, Journal of Hydrology
2008	'Most Influential Article', SEG Leading Edge recognition
1998	Dissertation Award in Water Processes, Univ. Council on Water Resources
1994	Jane Lewis Fellowship, UC Berkeley
1993	Antonia Fung Memorial Fellowship, UC Berkeley
1993	Maybelle B. Tucker and John T. Tucker Fellowship, UC Berkeley
1991	ARCO Award for Co-Worker Excellence
1990	Cooper Award for Appalachian Research Advances, Virginia Tech
1989	AMOCO Oil Fellowship, Virginia Tech
1988	ARCO Fellowship, Virginia Tech
1988	Aubrey E. Orange Award-scholastic achievement, Virginia Tech
1988	Chevron Fellowship, Virginia Tech
1986	Top Geological Sciences Undergraduate Major Award, UC Santa Barbara
1985	Outstanding Senior in Geological Sciences Chevron Award, UC Santa Barbara
1984	Outstanding Woman in Petroleum, Ventura Co. Scholarship, UC Santa Barbara
1984	Outstanding Junior in Geological Sciences Union Oil Award, UC Santa Barbara

DOE and COMMUNITY SERVICE *(Partial list)*

2014	Session Chair, Rock and Fluid Physics Conference, Shell Technology Center, Amsterdam, 2014
2014	Conference Co-Chair, Complex Soil Systems SSSA/Bouyoucos Conference, Berkeley, 2014
	Session Chair, Geophysical Characterization of Permafrost Systems, Fall AGU, San Francisco, 2012.
2012	Lead Author, Technology Innovation Report, response to Dr. Bill Brinkman request to DOE-BERAC.
2010	DOE-SC "Grand Challenges for Biological and Environmental Research: A Long Term Vision" (DOE/SC-1035, 2010), Committee Member and co-author (http://genomicscience.energy.gov/program/beracltv.shtml#page=news)

2010	DOE-BER "Complex System Science for Subsurface Fate and Transport" (DOE/SC0123, 2010), Workshop co-chair and report co-author. http://genomicscience.energy.gov/pubs/SubsurfaceComplexitywithCover_03-05-10HR150dpi.pdf).
2010	DOE-EM Long-Range Deep Vadose Zone Program Plan (DOE/RL-2010-89, 2011), Session chair and co-author http://esd.lbl.gov/files/about/staff/susanhubbard/EM_Science_Opportunties_final.pdf
2010	Computational Methods in Water Res., Barcelona, June 2010, Session Chair
2010	Goldschmidt conference, Session Chair Knoxville, TN, June 2010.
2010	DOE-EM Scientific Opportunities to Reduce Risk in Groundwater and Soil Remediation (PNNL-18516). Report co-author http://esd.lbl.gov/files/about/staff/susanhubbard/EM_Science_Opportunties_final.pdf
2008	Co-organizer, Computational Methods in Water Resources Conference, San Francisco
2008	Chapman Conference Co-Organizer, Biogeophysics, Portland Maine
2006	Presenter and contributor to report, DOE BES Basic Research Needs for Geosciences: Facilitating 21st Century Energy Needs
2002-2006	Chair, AGU Hydrogeophysics Technical Committee
2002	Founder, AGU Hydrogeophysics Technical Committee
2002-2006	US representative, Internat. Ass. Hydrological Sci. "2020 "Working Group
2004	Panelist, DOE BES workshop noninvasive monitoring, Houston Tx
2005	Panelist, DOE EM Geop.Characterization and monitoring workshop.
2005	Chair, Watershed Characterization Special Session, Fall AGU, San Fran.
2004	Chair, Hydrogeophysics Special Session, Fall AGU, San Francisco.
2003	Chair, Hydrogeophysics Special Session, Fall AGU, San Francisco
2003	Organizer, Coupled Processes DOE Workshop, Berkeley CA, LBNL
2003	Chair, Coupled Processes DOE Subsurface Science Session, EMSP,WA
2002	Co-Organizer, Hydrogeophysics Advanced Study Inst., Czech Republic
2000	Chair, Breakthroughs in Field Scale Bacterial Transport, Fall AGU, S.F.

MEMBERSHIPS

2009+	GSA. Primary Affiliation: Hydrogeology. GSA Fellow
1987+	AGU. Primary Affiliation: Hydrology. Secondary Affiliations: Near Surface Geophysics, Biogeosciences

INVITED PRESENTATIONS, KEYNOTES or SEMINARS *(Partial List)*

1. Hubbard S.S. et al., Characterizing controls on terrestrial environment functioning across scales using geophysical datasets, Invited presentation, Abstract H41L-04, American Geophysical Union Fall Meeting, San Francisco, CA, December 9-13, 2013.
2. Hubbard, S., Geophysical quantification of ecosystem processes across scales and system compartments, ESPM UC Berkeley seminar series, April 2014
3. Hubbard et al., Identifying ecosystem controls through joint use of above and below ground datasets, Invited speaker, Subsurface Biogeochemistry and Terrestrial Ecosystems Meeting, Maryland, May 2014

4. Hubbard et al., Characterizing Controls on Terrestrial Environment Functioning Across Scales using Geophysical Datasets, H41L-04., AGU, San Francisco, Dec. 2013
5. Hubbard S. et al., Advanced modeling and monitoring of microbially-mediated petroleum reservoir processes, Energy Biosciences Seminar Series, Berkeley, CA April 15, 2013
6. Hubbard S., Keynote Presentation, Washington Hydrology Symposium, Tacoma, WA March 2013
7. Hubbard S., Stanford Environmental fluid mechanics and hydrology colloquium, Feb 2013
8. Hubbard S. et al., Advanced approaches for characterizing and exploiting micro-terroir, Invited presentation, H53F-1586 AGU, San Francisco, CA, 3-7 Dec. 2012.
9. Hubbard, S., Quantifying physicochemical heterogeneity and critical transitions that influence plume behavior using geophysical approachesand reactive transport modeling, Invited Abstract H33N-01, presented at 2012 Fall Meeting, AGU, San Francisco, CA, 3-7 Dec. 2012.
10. Hubbard, Strategies to observe hydro-biogeochemical states and processes across scales and compartments**,** New Perspectives in Integrated Monitoring, Assessment and Management in the Water Sector, Water Research Horizon Conference, Berlin, July 8-10, 2012
11. Quantifying and Relating Subsurface and Land-Surface Variability in Permafrost Environments using Surface Geophysical and LIDAR Datasets, European Geophysical Union, Vienna, April 2012
12. Characterization of the Distribution of Hydraulic Fractures and introduced Amendments using Geophysical Approaches, Battelle Chlorinated Conference Keynote platform presentation May 23-27, 2012, Monterey CA
13. Geophysical Signatures of Subsurface Microbially Mediated Processes: Toward Quantifying In-Situ Ecosystem Functioning, Invited Scientific Presentation, DOE BERAC, 2011
14. New Frontiers in Engineering Science for Sustainability, Texas A&M NSF Water Scholar Seminar', Invited, Nov 2011
15. UNLV, Feb 2, 2011
16. Duke, Feb 23, 2011
17. Advanced DOE Simulation Capability Workshop, ASCEM overview invited Presentation, Wash DC, Jan 2011
18. Rensselaer, NY, May 4, 2011
19. NSF Water scholar seminar series keynote, Texas A&M, College Station, November 2011
20. Univ of Wisconsin, Madison Sept 2010
21. Argonne National Laboratory Sept 2010
22. Northern Illinois University, Dekalb, Sept 2010
23. Michigan state, East Lansing, Oct 2010
24. Grand Valley University, Michigan, Oct 2010
25. Groundwater Research Association, Sacramento, August 2010
26. Inland Geological Society, Riverside, CA, July 2010
27. Computational Methods in Water Resources Keynote Barcelona June 2010
28. UC Davis Hydrological Seminar Series, June 2010
29. National Groundwater Summit Keynote, Denver, CO April 2010
30. UC Berkeley Civil and Environmental Eng. Seminar Series, April 2010
31. DOE ERSP Annual PI meeting Invited speaker, March, Wash DC 2010

32. Distinguished Environmental lecture, Florida International University, Feb 2010
33. University of Florida Spring Seminar Series, Feb. 2010
34. Delaware Environmental Institute Distinguished Lecture, March 5, 2010
35. UMass Environmental lecture Series, March 9, 2010
36. K. Douglas Nelson Lecture Series, Syracuse University, March 11, 2010
37. Semi-Annual Dawdy Lecture, Department of Geos., San Francisco SU Sept 15th 2009.
38. Oregon State University Geoscience Seminar Series, Jan 21, 2010
39. Portland Environmental Geology Seminar Series Jan 2010
40. New Mexico Tech Hydrology Seminar, Dec 10, 2010
41. LANL' Frontiers in Geosciences' Distinguished Colloquium, 12.09
42. AGU Fall 2009 Dec 15, 2009
43. American Geophysical Union, Spring 2009, Toronto Canada
44. Stanford Environmental and Fluid Mechanics Seminar Series, Invited Seminar, 11/08
45. Association for Env. Health and Sciences Invited platform speaker, San Diego, 303/09
46. U.S.G.S. Water Research Division Seminar Series, 09/2008
47. Gordon Conference, Flow in Porous Media, Oxford England, 07/08
48. NRC Workshop on Uncertainty/parameter estimation for multimedia environmental modeling, 7/07
49. American Geophysical Union, Fall Meeting 2007, San Francisco
50. UC Davis Engineering Seminar Series, 5/07
51. American Geophysical Union, Fall Meeting 2006, San Francisco
52. Geological Society of America, Philadelphia, 11/06
53. Groundwater Resources of California, Long Beach, 10/06
54. Oregon State University 'World-Class Women in Water' seminar series, 05/06
55. UCB Seismological Laboratory Spring 06 Seminar Series, 3/06
56. Computational Methods in Water Resources (CMWRC), Copenhagen, 06/06
57. Invited Keynote, IWAGPR Conference, Delft, Netherlands, 5/05
58. UC Merced Environmental Seminar Series 9/04
59. PGE Distinguished Shell Speaker, UT Austin, 11/04.
60. Waste Management Conference Keynote, 2004
61. American Geophysical Union 'Union Frontier' Lecture, Spring Meeting 2005, Montreal
62. Keynote DOE Characterization and Monitoring Workshop, Salt Lake City, 2004
63. Univ of Buffalo, UB Geology Pegrem Speaker Series 3/04
64. University of Kansas at Lawrence, Seminar Speaker, 4/04
65. USGS Water Resources Seminar, Menlo Park, CA 5/04
66. Heiland Distinguished Lecturer, Colorado School of Mines, Golden, Co, 2/03
67. Vadose zone characterization Series, University of Arizona at Tucson, 3/03
68. NRC-180 Precision Agriculture Conference, UC Davis; 2/03
69. American Geophysical Union, Spring Meeting 2002, Washington DC.
70. Geological Society of America, Annual Meeting 2001, Boston
71. UC Berkeley Environmental Engineering Series, 11/01
72. American Geophysical Union, Fall Meeting 2001, San Francisco
73. IAHS Kovacs Colloquium Speaker: Groundwater Resources at Risk, Paris, 06/02
74. American Geophysical Union, Spring Meeting 2001
75. Boise State Geology Seminar Series, Aquifer characterization, 11/00
76. UC Davis Hydrology Seminar Series, 12/00

PUBLICATIONS (Hubbard citation metrics provided at http://scholar.google.com/citations?user=kAeN9nUAAAAJ&hl=en and http://www.researcherid.com/rid/E-9508-2010

Journal Papers:

1. Gangodagamage et al., Extrapolating Active Layer Thickness Measurements across Arctic Polygonal Terrain Using LiDAR and NDVI Datasets, in press, Water Resources Research, 2014
2. Wainwright, H. et al, Bayesian Hierarchical Approach and Geophysical Datasets for Estimation of Reactive Facies over Plume Scales, in press Water Resources Research.
3. Wu, Y., Surasani, V.K., Li, L., Hubbard, S.S**.,** Geophysical monitoring and reactive transport simulations of bioclogging processes induced by *Leuconostoc mesenteroides*, Geophysics, Vol. 79, No. 1. doi: 10.1190/GEOP2013-0121.1, 2014
4. Dafflon, B., Hubbard, S.S., Ulrich, C., Peterson, J., Electrical conductivity imaging of active layer and permafrost in an Arctic ecosystem, through advanced inversion of electromagnetic induction data, doi:10.2136/vzj2012.0161, Vadose Zone Journal, 2013
5. Surasani, V.K., Li, L., Ajo-Franklin, J., Hubbard, C.G., Hubbard, S,S**.,** Wu, Y., Bioclogging and Permeability Alteration by *L. mesenteroides* in a Sandstone Reservoir: A Reactive Transport Modeling Study, Energy and Fuels, doi: 10.1021/ef401446f, 2013
6. Revil et al., Geochemical and geophysical responses during the infiltration of fresh water into the contaminated saprolite of the Oak Ridge Integrated Field Research Challenge site, Tennessee, Water Resources Research, 49(8): 4952-4970 Published: AUG 2013, DOI: 10.1002/wrcr.20380
7. Vilcáez, J., Li. L., Hubbard, S.S**.**, A new model for the biodegradation kinetics of oil droplets: Application to the Deepwater Horizon oil spill in the Gulf of Mexico, Geochemical Transactions, 2013 Oct 20;14(1):4, doi: 10.1186/1467-4866-14-4
8. Chen, J., S. Hubbard and K. Williams, Data-driven approach to identify field-scale biogeochemical transitions using geochemical and geophysical data and hidden Markov models: development and application at a uranium-contaminated aquifer, Water Resources Research, 2013
9. Dafflon, B., Hubbard, S.S., Ulrich, C., Peterson, J., Electrical conductivity imaging of active layer and permafrost in an Arctic ecosystem, through advanced inversion of electromagnetic induction data, doi:10.2136/vzj2012.0161, June 2013, Vadose Zone Journal
10. Bea, S., Wainwright, H., Spycher, N., Faybishenko, B., Hubbard, S.S., Denham, M., Identifying key controls on the behaviour of an acidic-U(VI) plume in the Savannah River Site using reactive transport modeling, doi:10.1016/j.conhyd.2013.04.005.
11. Truex, M.J., Johnson, T.C., Strickland, C.E, Peterson, J.E. and Hubbard, S.S., Monitoring Vadose Zone Desiccation with Geophysical Methods, in press, Vadose Zone Journal, 2013
12. Vilcáez, J., Li. L., Hubbard, S.S. 2012. Reactive Transport Modeling of Induced Selective plugging by L. Mesenteroides in Carbonate Formations, Geomicrobiology Journal, DOI:10.1080/01490451.2013.774074
13. Revil, A., Skold, M., Hubbard, S.S., Wu, Y., Watson, D., Karaoulis, M., Petrophysical properties of saprolites from the Oak Ridge Integrated Field Research Challenge site, Tennessee, Geophysics 78(1), p d21-d40, DOI 10.1190/GEO2012-0176.1.
14. Trautz, R.C., Pugh, J.D., Varadharajan, C., Zheng, L., Bianchi, M., Nico, Peter, Spycher, N., Newell, D.L., Esposito, R., Wu, Y., Dafflon, B., Hubbard, S.S., Birkholzer, Jens., Effect of dissolved CO_2 on a shallow groundwater system: A controlled release field experiment, dx.doi.org/10.1021/es301280t | Environ. Sci. Technol. 2013, 47, 298−305, 2013.

15. Wu, Y, S.S. Hubbard, C. Ulrich, S. Wullschleger Remote Quantification of Freeze Thaw Transition Using Complex Resistivity Method, doi:10.2136/vzj2012.0062, Vadose zone Journal, 2012.
16. Hubbard, S.S., C. Gangodagamage, B. Dafflon, H. Wainwright, J. E. Peterson, A. Gusmeroli, C. Ulrich, Y. Wu, C. Wilson, J. Rowland, C. Tweedie and S.D. Wullschleger, Quantifying and relating land-surface and subsurface variability in permafrost environments using LiDAR and surface geophysical datasets, in press, Hydrogeology.
17. Gasperikova, E., Hubbard, S.S., Watson, D., Baker, G., Peterson, J., Kowalsky, M., Smith, M., Brooks, S., Long-term electrical resistivity monitoring of recharge-induced contaminant plume behavior, Journal of Contaminant Hydrology, V 142-143, p. 33-49, 2012
18. Dafflon, B., Wu, Y., Hubbard, S.S., Birkholzer, J., Thomas, D., Pugh, J., Peterson, J., Trautz, B., Monitoring CO2 transition and associated geochemical transformations in a shallow groundwater system using complex electrical methods, Environmental Science and Technology, DOI 0.1021/es301260e, 2012
19. Meyer, J., E. W. Bethel, S. S. Hubbard, J. L. Horsman, H. Krishnan, A. Romosana, P. Weber, E. Keating, T. C. Johnson, I. Gorton, L. Monroe, P. Moore, G. Flach, D. Schep, Visual Data Analysis and Exploration as an Integral Part of Environmental Management, IEEE Transactions on Visualization and Computer Graphics, October 2012
20. Mingliang, L., Yang, D., Chen, J., Hubbard, S.S., Calibration of a distributed flood forecasting model with input uncertainty using a Bayesian framework, Water Resources Research, Vol. 48, W08510, doi: 10.1029/2010WR010062, 2012.
21. Jadoon, K., L. Weihermüller, B. Scharnagl, M. B. Kowalsky, M. Bechtold, S.S. Hubbard, H. Vereecken, and S. Lambot, Full-waveform hydrogeophysical inversion of time-lapse ground-penetrating radar data to estimate the unsaturated soil hydraulic properties, doi:10.2136/vzj2011.0177, Vadose Zone Journal, 2011.
22. Wan, J., Tokunaga, T., Dong, W., Denham, M., Hubbard, S.S., Persistent source influences on the trailing edge of a groundwater plume, and natural attenuation timeframes: The F-Area Savannah River Site, Environmental Science and Technology, web released, dx.doi.org/10.1021/es204265q, 2012.
23. Li, M., D. Yang, J. Chen, and S. S. Hubbard, Calibration of a Distributed Flood Forecasting Model with Input Uncertainty Using a Bayesian Framework, VOL. 48, W08510, 20 PP., doi:10.1029/2010WR010062, Water Resources Research, 2012
24. Wu, Y., S.S. Hubbard, D. Wellman, Geophysical Monitoring of Foam Based Remediation Methods for Metals and Radionuclides in the Deep Vadose Zone, Vadose Zone Journal, DOI 10.2136/vzj2011.0160, 2011
25. Kowalsky, M., S. Finsterle, M. Commer, K. H. Williams, C. Murray, D. Newcomer, A. Englert, C. I. Steefel, S. S. Hubbard, On parameterization of the inverse problem for estimating aquifer properties using tracer data, in press Water Resources Research, doi:10.1029/2011WR011203, 2012.
26. Sassen, D., S. S. Hubbard, S. Bea, N. Spycher, J. Chen and M. Denham, Reactive facies: An approach for parameterizing field-scale reactive transport models using geophysical methods, in press, WRR.
27. Wu,Y. J.B. Ajo-Franklin, N. Spycher, S. S. Hubbard, G. Zhang, K. H. Williams, J. Taylor, Y. Fujita, R. Smith, Geophysical Monitoring and Reactive Transport Modeling of Ureolytically Driven Calcium Carbonate Precipitation, Geochem Trans. 2011; 12: 7, 2011
28. Chen, J., S. S. Hubbard, K. Williams, A. Flores Orozco, and A. Kemna, Estimating Spatio-temporal Distribution of Geochemical Parameters Associated with Biostimulation Using Spectral Induced Polarization Data and Hierarchical Bayesian Models, Water Resources Research, v. 48, W05555, 25p, 2012
29. Kowalsky, M., S. Finsterle, M. Commer, K. H. Williams, C. Murray, D. Newcomer, A. Englert, C. I. Steefel, S. S. Hubbard, On parameterization of the inverse problem for estimating aquifer properties using tracer data, Water Resources Research, doi:10.1029/2011WR011203, 2012.

30. Li, L., N. Gawande, M. B. Kowalsky, C.I. Steefel, S. S. Hubbard, Physiochemical heterogeneity controls on Uranium Bioreduction Rates at the Field scale, DOE: 10.1021/es201111y, Environ. Sci. Technol., 2011, 45 (23), pp 9959–9966, 10.1021/es201111y, 2011
31. Scheibe, T.D., S. S. Hubbard, T. C. Onstott, M. F. DeFlaun, Lessons Learned from Bacterial Transport Research at the South Oyster Site, Groundwater, Vol 49, no. 5, pages 745–763, September/October 2011
32. Williamson, M., J.Meza, D. Moulton, I. Gorton, M. Freshley, P. Dixon, R. Seitz, C. Steefel, S. Finsterle, S. Hubbard, M. Zhu, K. Gerdes, R. Patterson and Y. Collazo, Advanced simulation capability for environmental management (ASCEM): an overview of initial results, Technology and Innovation, Vol. 13, pp. 175–199, 1949-8241/11, DOI: 10.3727/194982411X13085939956625, 2011.
33. Kowalsky, M. B., E. Gasperikova, S. Finsterle, D. Watson, G. Baker, and S. S. Hubbard , Coupled modeling of hydrogeochemical and electrical resistivity data for exploring the impact of recharge on subsurface contamination, Water Resour. Res., 47, W02509, doi:10.1029/2009WR008947, 2011
34. Flores Orozco, A., K. H. Williams, P. E. Long, S. S. Hubbard, and A. Kemna, Using complex resistivity imaging to infer biogeochemical processes associated with bioremediation of an uranium-contaminated aquifer, J. Geophys. Res., 116, G03001, doi:10.1029/2010JG001591, 2011.
35. Commer, M., G. A. Newman, K.H. Williams, S.S. Hubbard, 3D induced-polarization data inversion for complex resistivity, Geophysics, 76(3), F157-F171, 2011.

36. Hubbard, S, J. Peterson, P. Freese, J. Wolf, A. Hubbard and Y. Rubin, Statistical Integration of Advanced Characterization Datasets to Guide Vineyard Development, Practical Winery and Vineyard, 2011.
37. Chen, J., S. S. Hubbard, V. Korneev, D. Gaines, G. Baker, and D. Watson, Stochastic inversion of seismic refraction data for estimating watershed-scale aquifer geometry: development and application to a contaminated aquifer. Water Resources Research, VOL. 46, W11539, 16 PP., doi:10.1029/2009WR008715 , 2010
38. Hubbard, S.S. Understanding Vineyard Soils, Vadose Zone Journal 1107–1108, doi: 10.2136/vzj2010.0084br, 2010.
39. Grote, K., C. Anger, B. Kelly, S. Hubbard, and Y. Rubin, Characterization of soil water content variability and soil texture using GPR groundwave techniques, Journal of Environmental and Engineering Geophysics, 15(3), 93-110, 2010.
40. Williams, K.H., A.L. N'Guessan, J. Druhan, P.E. Long, S.S. Hubbard, D.R. Lovley, and J.F. Banfield, Electrodic voltages accompanying stimulated bioremediation of a uranium-contaminated aquifer. JGR-Biogeosciences, doi:10.1029/2009JG001142, 2010.
41. Zhang, Y., S. Hubbard and S. Finsterle, A Numerical Study on Sustainable Groundwater Pumping near Rivers , Ground Water, DOI: 10.1111/j.1745-6584.2010.00743.x, 2010
42. Wu, Y., S.S. Hubbard, K.H. Williams, and J. Ajo-Franklin, On the complex conductivity signatures of calcite precipitation, *JGR-Biosciences*, Vol. 115, G00G04, 10 PP., doi:10.1029/2009JG001129, 2010.
43. Revil, A., C.A. Mendonca, E.A. Atekwana, B. Kulessa, S.S. Hubbard and K. Bohlen, Understanding biogeobattereis: where geophysics meets microbiology, *Journal of Geophysical Research*, V. 115 G00G02, 2010
44. Li, L., C.I. Steefel, M.B. Kowalsky, A. Englert, S. Hubbard, Effects of physical and geochemical heterogeneities on mineral transformation and biomass accumulation during biostimulation experiments at Rifle, Colorado, *Journal of Contaminant Hydrology*, 112, 45-63, 2010.
45. Chen, J., S. S. Hubbard, K. H. Williams, S. Pride, L. Li, Carl Steefel, and L. Slater, A state-space Bayesian framework for estimating biogeochemical transformations using time-lapse geophysical data, *Water Resources Researc*h, 45, W08420, doi:10.1029/2008WR007698.

46. Williams, K.H., A. Kemna, M. Wilkins, J. Druhan, E. Arntzen, L. N'Guessan, P. E. Long, S. S. Hubbard, and J. F. Banfield, Geophysical monitoring of microbial activity during stimulated subsurface bioremediation, DOI 10.1021/es900855j, *Environ. Sci. Technol., 2009.*
47. Englert, A., S.S. Hubbard, K.H. Williams, L. Li, C.I. Steefel, Spatiotemporal distribution of bromide, electron donor and reaction products associated with sequential field scale biostimulation experiments *Environ. Sci. Technol.*, *43* (14), pp 5197–5204, 2009.
48. Li Li, C. I. Steefel, K. H. Williams, M. J. Wilkins, S. S. Hubbard, Mineral Transformation and Biomass Accumulation During Uranium Bioremediation at Rifle, Colorado, *Environ. Sci. Technol.*, *43* (14), pp 5429–5435, 2009.
49. Faybishenko, B., T.C. Hazen P. E. Long, E.L. Brodie, M.E. Conrad, S.S. Hubbard, J. N. Christensen, D. Joyner, S. E. Borglin, R. Chakraborty, K. H. Williams, J. E. Peterson, J. Chen, S. T. Brown, T. K. Tokunaga, J. Wan, M. Firestone, D. R. Newcomer, C. T. Resch, K. J. Cantrell, A. Willett and S. Koenigsberg, In Situ Long-Term Reductive Bioimmobilization of Cr(VI) in Groundwater Using Hydrogen Release Compound, *Environ. Sci, & Technol.*, *42* (22), 8478-8485, 2008.
50. Chen, J.S., A. Kemna, and S. S. Hubbard, A comparison between Gauss-Newton and Markov-chain Monte Carlo-based methods for inverting spectral induced-polarization data for Cole-Cole parameters, *Geophysics,* 73(6), F247-F259, DOI 10.1190/1.2976115, 2008.
51. Druhan, J.L., M.E. Conrad, D.H. Williams, L. N'Guessan, P.E. Long and S.S. Hubbard, Sulfur Isotopes as Indicators of Bacterial Sulfate Reduction Processes during Field Scale Uranium Bioremediation, *Environ. Sci. and Technol.*, 42, 7842-7849, 2008
52. Hubbard, S.S., K. Williams, M. Conrad, B. Faybishenko, J. Peterson, J. Chen, P. Long and T. Hazen, Geophysical monitoring of hydrological and biogeochemical transformations associated with Cr(VI) Biostimulation, *Environ. Sci. & Technol.*, DOI 10.1021/es071702s, 2008.
53. Linde, N., A. Tryggvason, J.E. Peterson and S.S. Hubbard, Joint inversion of crosshole radar and seismic traveltimes acquired at the South Oyster Bacterial Transport Site, *Geophysics,* V. 73(4), P. G29-G37, 10.1190/1.2937467, 2008.
54. Hubbard, S.S., The Evolution of Hydrogeophysics, Invited Retrospective on one of the 'Most Influential TLE Papers of Last 25 Years by S. Hubbard, 1997, The Leading Edge of Exploration, SEG, Vol.27, No2., 2008.
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