Susan Hubbard, PhD

Curriculum Vitae

Associate Laboratory Director & Sr. Scientist
Lawrence Berkeley National Laboratory
Full Professor Adjunct, UC Berkeley
http://eesa.lbl.gov/profiles/susan-hubbard/

Associate Laboratory Director, Berkeley National Laboratory. Leads a premier Earth and Environmental Science organization focused on advancing insights and integrative solutions for pressing challenges of our time, including climate change and adaptation, water resources and ecosystem resiliency, and Earth solutions for sustainable energy, carbon management and storage, and critical minerals.

Senior Earth Scientist. Research focuses on quantifying terrestrial processes that govern water availability, water quality, carbon cycling, and agriculture through advancing geophysical methods and data fusion approaches. Recognized for contributing to the development of the field of hydrogeophysics. Member of the National Academy of Engineering, and elected Fellow of the American Academy of Arts and Sciences, the American Geophysical Union, and the Geological Society of America. Extensive service record for the scientific community, the Department of Energy and California.

Committed to fostering a diverse and inclusive culture, and to the proactive development of early-career scientists and organizational health.

Professional Positions

2015-present, Associate Berkeley Laboratory Director, Earth and Environmental Sciences Area
2015-present, UC Berkeley, Environmental Science, Policy and Mgmt., Full Professor Adjunct
2010-2015, Director, Deputy Director Earth Sciences Division, Berkeley Lab
2007-2010, Founding Associate Director, UC Berkeley Water Center
1998-present, Earth Scientist, Berkeley Lab
1990-1993, Geophysicist, ARCO Oil and Gas Co.
1985-1987, Geologist, U.S. Geological Survey, Menlo Park CA

Education

Ph.D., Civil and Environmental Engineering, Hydrogeology focus, UC Berkeley, 1998.
M.S., Geophysics, Virginia Tech.
B.S., Geology, University of California, Santa Barbara.

Awards and Recognitions (Select):

2020, Elected Member, National Academy of Engineering
2019, Elected Fellow, American Academy of Arts and Sciences
2019, American Institute of Hydrology Robert G. Wetzel Award on Water Quality
2019, Distinguished Alumni, UC Santa Barbara Earth Sciences Department
2019, Alameda County CA Women's Hall of Fame, Science Award
2017, Elected Fellow, American Geophysical Union
2016, Hal Mooney Award, Society of Exploration Geophysicists
2014, Distinguished Alumni, Civil and Environmental Engineering Academy, UC Berkeley
2014, Soc. for Technical Communication, Distinguished Technical Communication Award
2013, Outstanding Women @ Berkeley Lab recognition
2011, Elected Fellow, Geological Society of America
2010, Birdsall-Dreiss Distinguished Lecturer, Geological Society of America
2009, Frank Frischknecht Leadership Award, Society of Exploration Geophysicists

Professional Service (Select):

Editorial Boards:
2010-2015, Associate Editor JGR-Biosciences
2007-2013, Co-Editor Vadose Zone Journal
2007-2010, Associate Editor, Journal of Hydrology
2001-2005, Associate Editor Water Res. Research

Select Advisory Boards / Councils:
2020-present, Chair, Governance Board, National Alliance for Water Innovation (NAWI Hub)
2020, Review Committee, Manaaki Whenua Landcare, New Zealand Natl. Lab
2019, Review Committee, Virginia Tech Geosciences
2017-present, Advisory Board, International Soil Modeling Consortium
2017-present, Advisory Board, EPA Superfund Program 'Exposome' UCB
2017-2019, Partnership Board, DOE-BER Environmental System Science Cyberinfrastructure
2016-2019, Scientific Advisory Board, NSF Arctic Data Center UCSB
2016-2019, Advisory Board, Civil and Environmental Engineering Dept, UC Berkeley
2015-2020, Council member, California Council on Science and Technology (CCST)
2015-2019, Director's Council, University of California Water Science
2015-2018, Advisory Board, Interoperable design extreme scale software (IDEAS; DOE-BER)
2014-2018, Advisory Board, Radionuclide Waste Disposal, EPSCoR Program, South Carolina
2014-2017, Sr Advisor, DOE Advanced Simulation Capability for Env. Mgmt (ASCEM, DOE-EM)
2013, Helmholtz Association Terrestrial Program External Review Committee, Germany
2012, Stanford Dept of Energy Resources Engineering External Review Committee
2011, Advisory Board, SmartGeo NSF IGERT, Colorado School of Mines
2010-2015, DOE-BER Federal Advisory Committee (**BERAC**)
2010, DOE-EM Technical Advisory Committee
2006, Forschungszentrum Jülich National Laboratory Advisory Committee, Germany

Select Scientific Community and DOE Service:

2020-present, Chair-Elect, AAAS Atmospheric and Hydrospheric Section

2020-present, Program Committee of the Board of Directors,, California Council of Science and Technology (CCST)

2020-present, Search Committee, National Academy of Engineering

2020 Review, Select National Lab Diversity Program and Plan

2019-2020, Nominations Committee, American Geophysical Union

2019-2020, Steering Committee, Interagency Conference on Research in Watersheds (ICRW)

2018- 2020, Macelwane Award Committee, American Geophysical Union

2018- 2020, Nominations Committee, Geological Society of America

2018-2019, California AB1281 Produced Water Executive Committee, CCST

2018, California Water-Data AB1755 Governance & Funding Executive Committee

2017, Fall meeting session co-chair, American Geophysical Union

2018, Organizer, Collaborative Watershed Science Workshop, Crested Butte CO

2017, Organizer, Open and Transparent California Water Data Capstone Workshop, Berkeley,

2017, Writer, DOE-BER Grand Challenges in Biological and Environmental Sci. Chapter Report

2017, Co-Organizer, Environmental Knowledgebase Workshop, BIDS, Berkeley

2016, Co-Chair, DOE-BES Basic Research Needs Workshop Water-Energy, Wash DC

2015, Panel Lead and Writer, DOE-BES Basic Research Needs for Environmental Mgmt.

2015, Technical lead for DOE Subsurface Science, National Laboratory Engagement Day, Washington DC

2015, Committee member and Writer, UC-DOE Basic Research Needs for Water-Energy

2014-2016 UC Global Food Initiative, Berkeley Lab Representative

2014-2018, Co-lead, National Subsurface DOE 'crosscut' Initiative; Cross DOE strategy to transform the adaptive control of the subsurface for environmentally responsible energy production and waste storage

2014, Session Chair, Subsurface fracture control, Rock and Fluid Physics Conference, Shell Technology Center, Amsterdam, 2014

2014, Conference Co-Chair, Complex Soil Systems SSSA/Bouyoucos Conference, Berkeley

2013, Birdsall Dreiss Search Committee Chair

2012, Session Chair, Geophysical Characterization of Permafrost Systems, Fall AGU, San Francisco

2012, Contributor/writer, DOE-BER Technology Innovation 'Virtual Laboratory' Report (DOE/SC-0156)

2010, Contributor/writer DOE-BER "Grand Challenges for Biological and Environmental Research: A Long-Term Vision" (DOE/SC-1035, 2010)

2010, Co-author and workshop co-lead, DOE-BER "Complex System Science for Subsurface Fate and Transport" (DOE/SC0123, 2010)

2010, Writer, DOE-EM Long-Range Deep Vadose Zone Program Plan (DOE/RL-2010-89)

2010, Session chair, Computational Methods in Water Res., Barcelona, June 2010,

2010, Session Chair, Goldschmidt conference, Session Chair Knoxville, TN, June 2010.

2010, Co-author, DOE-EM Scientific Opportunities to Reduce Risk in Groundwater and Soil Remediation (PNNL-18516).

2008, Co-organizer, Computational Methods in Water Resources Conference, San Francisco

2008, Co-organizer, Chapman Conference, Biogeophysics, Portland Maine

2006, Contributor, 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, International Ass. Hydrological Sci. "2020 "Working Group
2004, Panelist, DOE-BES workshop noninvasive Earth 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-BER Workshop, Berkeley CA, LBNL
2003, Chair, Coupled Processes DOE-BER Subsurface Science Session, DOE EMSP,WA
2002, Co-Organizer, NATO Hydrogeophysics Advanced Study Inst., Czech Republic
2000, Chair, Breakthroughs in Field Scale Bacterial Transport, Fall AGU, S.F.

Large Initiative and Team Project Leadership (Select)

2020-present Negative Emissions Technology NET) Labwide Initiative. Primary ALD
2019-present NAWI (National Alliance for Water Innovation) Hub. Co-Sr. Advisor and Current Chair of Governance Board,
2015-present Water-Energy Resilience Initiative Berkeley Lab, Founding Labwide Lead, currently Co-Sr. Advisor
2014-2017 DOE SubTER (Subsurface Technology and Engineering Research, Development and Demonstration) National Crosscut, co-chair
2013-present Microbes to Biomes (M2B) Initiative, Berkeley Lab, Co-Sr. Advisor
2011-Present Next Generation Ecosystem Experiment-Arctic (NGEE-Arctic), co-PI
2007-present Watershed Function Scientific Focus Area, PI
2007-2010 Berkeley Water Center. Founding Associate Director

Invited Speaking Engagements (Select)

2020, American Geophysical Union
2020, Interagency Conference on Research in Watersheds
2020, AAAS Panel Moderator, Wildfire Resilience through Science and Technology
2019, Commencement Speech, Virginia Tech, Geoscience Department
2019, American Geophysical Union Fall Meeting, San Francisco
2019, Stanford University, Geophysics Dept Seminar
2019, CA Contemporary Groundwater Issues Council Panelist, UC Davis
2019, Moderator, Wildfire Panel for CA Legislators, CCST, Sacto CA
2019, University of Wyoming, Laramie, WY
2019, Soil Science Society of America, San Diego, CA
2018, American Geophysical Union Fall Meeting, San Francisco, CA
2018, Tsinghua University, China
2018, Peking University, China

2018, Chinese Academy of Sciences, Tibetan Research Inst Beijing, China
2018, Chinese Academy of Sciences, Env. and Ecosys. Science, Beijing Normal University, China
2017, CA Department of Water Resources, Sacto CA
2017, American Chemical Society, California Water Resiliency, Washington DC
2017, American Geophysical Society Union Fall Meeting, Session H32D, New Orleans, LA
2017, American Geophysical Society Union Fall Meeting, Session H31J, New Orleans, LA
2017, Urbana Champaign Illinois University, Distinguished seminar, Urbana Champaign, Ill
2018, OZCAR France Critical Zone meeting, Frejus, France
2018, Colorado School of Mines Heiland Distinguished Speaker, Golden CA
2018, National Academies Review, Washington DC
2017, UC Berkeley Civil and Environmental Engineering Seminar, Berkeley CA
2017, 27th Annual Intern. Conf. on Soil, Water, Energy, & Air, San Diego, CA
2017, University of Southern California Distinguished Seminar, Los Angeles, CA
2016, American Geophysical Union Fall Meeting, San Francisco
2016, France National Polytechnical Institute, Bordeaux, Distinguished Seminar
2016, University of Saskatchewan Saskatoon Distinguished Lecturer series, Saskatoon, Canada
2016, UC Merced Distinguished Seminar, Merced CA
2016, CUAHSI Big Data Workshop, Shepherdstown, WV
2016, Geotech/Geoengineering Distinguished Lecture, UC Berkeley, CA
2016, KOPRI Polar Science Symposium, Plenary Speaker, Seoul Korea
2016, Waterloo Distinguished 'Watertalks' Lecture Series, Waterloo, Ontario, Canada
2015, Water Resource Sustainability Issues on Tropical Islands Conference, Hawaii
2015, American Geophysical Union Fall Meeting, B52C-04, San Francisco, CA
2015, American Geophysical Union Fall Meeting, Union Session Invited San Francisco, CA
2015, European Geophysical Union Invited Speaker, Vienna Austria
2014, CUAHSI Big Data Bi-Annual Conference, Shepherdstown, WV
2014, University of Wyoming Geology and Geop. Distinguished Lecturer Series, Laramie, WY
2014, Complex Soils Systems 2014 Conference, Berkeley, CA
2014, Jason Group, 'State of Stress in the Engineered Subsurface', Los Angeles, CA
2014, US Energy Association, Research needs in Subsurface Energy Science, Arlington, VA
2014, Shell Subsurface Complexity Workshop, Amsterdam, Netherlands
2014, Env. Science and Policy Mgmt UCB Berkeley Seminar Series, Berkeley CA
2014, DOE Subsurface Biogeochemistry and Terrestrial Ecosystems PI Meeting, Maryland
2013, American Geophysical Union Fall Meeting, San Francisco, CA
2013, Energy Biosciences Institute Seminar Series, Berkeley, CA
2013, Keynote Presentation, Washington Hydrology Symposium, Tacoma, WA
2013, Stanford Environmental Fluid Mechanics and Hydrology Colloquium
2012, American Geophysical Union H53F-1586 AGU, San Francisco, CA
2012, American. Geophysical Union, H33N-01 Fall Meeting, AGU, San Francisco, CA,
2012, Water Research Horizon Conference, Berlin, Germany
2012, European Geophysical Union Vienna, Austria
2012, Battelle Chlorinated Conference Keynote, Monterey CA
2011 Dept of Energy Biological and Env Advisory Committee, Washington DC
2011, New Frontiers in Engineering Science for Sustainability, Texas A&M Water Scholar Seminar

2011, University of Nevada, Seminar Speaker, Las Vegas Nevada
2011, Duke University Distinguished Seminar, North Carolina
2011, Advanced Dept of Energy Simulation Capability Workshop, Washington, DC
2011, Rensselaer University Invited Seminar, NY
2011, NSF Water Scholar Seminar Series Keynote, Texas A&M, College Station TX
2010, University of Wisconsin, Madison Invited Seminar, Wisconsin
2010, Argonne National Laboratory Distinguished Speaker, Illinois
2010, Northern Illinois University, Dekalb, Distinguished Seminar, Illinois
2010, Michigan State, East Lansing Michigan
2010, Grand Valley University, Michigan
2010, Groundwater Research Association Distinguished Speaker, Sacramento, CA
2010, Inland Geological Society Invited Speaker, Riverside, CA
2010, Computational Methods in Water Resources Keynote, Barcelona Spain
2010, UC Davis Hydrological Seminar Series, Davis CA
2010, National Groundwater Summit Keynote, Denver, CO
2010, UC Berkeley Civil and Environmental Eng. Seminar Series, Berkeley CA
2010, Dept of Energy Env Remediation Science Program Platform Presentation, Washington, DC,
2010, Distinguished Environmental Lecture, Florida International University, Miami FLA
2010, University of Florida Spring Seminar Series, Gainesville, FLA
2010, Delaware Environmental Institute Distinguished Lecture
2010, UMass Environmental Lecture Series, Amherst, Massachusetts
2010, K. Douglas Nelson Lecture Series, Syracuse University, New York
2009, Semi-Annual Dawdy Invited Lecture, Department of Geos., San Francisco State University
2010, Oregon State University Geoscience Seminar Series
2010, Portland Environmental Geology Seminar Series, Oregon
2009, New Mexico Tech Hydrology Seminar, Socorro, NM
2009, Frontiers in Geosciences' Distinguished Colloquium, Los Alamos Natl Laboratory
2009, American Geophysical Union Fall Meeting, San Francisco
2009, American Geophysical Union Spring Meeting, Toronto, Canada
2009, Association for Env. Health and Sciences Invited platform speaker, San Diego
2008, Stanford Environmental and Fluid Mechanics Invited Seminar
2008, U.S.G.S. Water Research Division Seminar Series, Menlo Park, CA
2008, Gordon Conference Flow in Porous Media, Oxford England
2007, NRC Workshop on Uncertainty, sensitivity and parameter estimation Wash DC
2007, American Geophysical Union Fall Meeting, San Francisco, CA
2007, UC Davis Engineering Seminar Series, Davis CA
2006 American Geophysical Union, Fall Meeting San Francisco, CA
2006 Geological Society of America, Philadelphia, PA
2006, Groundwater Resources of California, Long Beach, CA
2006, Oregon State University 'World-Class Women in Water' seminar series, Corvallis, OR
2006, Seismological Laboratory Seminar Series, Berkeley CA
2006, Computational Methods in Water Resources (CMWRC), Platform Speaker, Copenhagen
2005, IWAGPR Conference Keynote, Delft, Netherlands
2004, UC Merced Environmental Seminar Series, Merced CA

2004, Univ of Texas at Austin, Austin, TX
2004, Waste Management Conference Keynote, Tuscon AZ
2005, American Geophysical Union Frontier Lecture, Spring Meeting Montreal, Canada
2004, Dept of Energy Characterization and Monitoring Workshop Keynote, Salt Lake City
2004, Univ of Buffalo, UB Geology Pegrem Speaker Series, New York
2004, University of Kansas at Lawrence, Seminar Speaker, Lawrence Kansas
2004, USGS Water Resources Seminar, Menlo Park, CA
2003, Heiland Distinguished Lecturer, Colorado School of Mines, Golden, CO
2003, Vadose zone characterization Series, University of Arizona, Tuscon, AZ
2003, NRC-180 Precision Agriculture Conference, UC Davis, CA
2002, American Geophysical Union Spring Meeting Washington DC
2001, Geological Society of America Annual Meeting, Boston, MA
2001, UC Berkeley Environmental Engineering Series, Berkeley CA
2001, American Geophysical Union Fall Meeting, San Francisco
2001, Kovacs Colloquium Speaker: Groundwater Resources at Risk, IAHS, Paris, France
2001, American Geophysical Union Spring Meeting, Washington, DC
2000, Boise State Geology Seminar Series, Boise, ID
2000, UC Davis Hydrology Seminar Series, Davis, CA

Memberships

National Academy of Engineering
American Geophysical Union
American Academy of Arts and Sciences
Geological Society of American
Society of Exploration Geophysicists
American Association for the Advancement of Science
American Association for Women in Science
Soil Science Society of America

Publications

Researcher ID E-9508-2010; Metrics and publications available HERE

1. Hubbard, S.S., C. Varadharajan, Y. Wu, H. Wainwright and D. Dwivedi, Emerging technologies and radical collaboration to advance predictive understanding of watershed hydro-biogeochemistry (2020), Hydrological Processes, 2020, 1-8.
2. Peruzzo, L. et al., Imaging of Plant Current Pathways for Non-invasive Root Phenotyping using a newly developed Electrical Current Source Density Approach (2020), Plant and Soil, https://doi.org/10.1007/s11104-020-04529-w
3. Mary, B., Peruzzo, L., Boaga, J., Cenni, N., Schmutz, M., Wu, Y., Hubbard, S.S., and Cassiani, G., 2020, Time-lapse monitoring of root water uptake using electrical resistivity tomography and mise-à-la-masse: a vineyard infiltration experiment (2020), Soil, v. 6, p. 95–114, doi: 10.5194/soil-6-95-2020.

4. Arora, B. et al., Differential C-Q Analysis: A new approach to inferring lateral transport and hydrologic transients within multiple reaches of a mountainous headwater catchment, Frontiers in Water (2020), https://doi.org/10.3389/frwa.2020.00024
5. Wan, J., Tokunaga, T.K., Williams, K.H., Dong, W., Brown, W., Henderson, A.N., Newman, A.W., and Hubbard, S.S. (2019), Predicting sedimentary bedrock subsurface weathering fronts and weathering rates: Scientific Reports, v. 9, doi: 10.1038/s41598-019-53205-2.
6. Wainwright, H.M., C. Steefel, S. Trutner, A. Henderson, E. Nikolopoulos, K. Chadwick, Katherine; N. Falco, C. Wilmer, H. Steltzer, K. Williams, S. Hubbard, K. Schaettle, J. Brown, B. Enquist, 2020, Satellite-derived Foresummer Drought Sensitivity of Plant Productivity in Rocky Mountain Headwater Catchments: Spatial Heterogeneity and Geological-Geomorphological Control, Env. Research Letters, 15, 084018
7. Sorensen, P.O et al., The Snowmelt Nice Differentiates Three Microbial Life Strategies that Influence Soil Nitrogen Availability During and After Winter (2020), Frontiers in Microbiology, doi: 10.3389/fmicb.2020.00871
8. Varadharajan, C. et al., (2019) Challenges in Building an End-to-End System for Acquisition, Management, and Integration of Diverse Data from Sensor Networks in Watersheds: Lessons from a Mountainous Community Observatory in East River, Colorado , IEEE Access, IEEE Access, vol. 7, pp. 182796-182813,
9. Arora, B., Wainwright, H.M., Dwivedi, D., Vaughn, L.J., Curtis, J.B., Torn, M.S., Dafflon, B., and Hubbard, S.S. (2019) Evaluating temporal controls on greenhouse gas (GHG) fluxes in an Arctic tundra environment: An entropy-based approach: Science of The Total Environment, v. 649, p. 284–299, doi: 10.1016/j.scitotenv.2018.08.251.
10. Tokunaga, T., Wan, J., Williams, K.H., Brown, W., Henderson, A., Kim, Y., Tran, A.P., Conrad, M.E., Bill, M., Carroll, R.W.H., Dong, W., Xu, Z., Lavy, A., Gilbert, B., Romero, S., Christensen, J.N., Faybishenko, B., Arora, B., Siirila-Woodburn, E., Versteeg, R., Raberg, J.H., Peterson, J. and Hubbard, S.S. (2019), Depth- and time-resolved distributions of snowmelt-driven hillslope subsurface flow and transport, and their contributions to surface waters, Water Resources Research, https://doi.org/10.1029/2019WR025093
11. Léger, E., Dafflon, B., Robert, Y., Ulrich, C., Peterson, J.E., Biraud, S., Romanovsky, V.E., and Hubbard, S.S. (2019), Distributed Temperature Profiling System Provides Spatially Dense Measurements and Insights about Permafrost Distribution in an Arctic Watershed: The Cryosphere Discussions, p. 1–24, doi: 10.5194/tc-2018-264.
12. Alexandratos, S.D., Barak, N., Bauer, D., Davidson, F.T., Gibney, B.R., Hubbard, S.S., Taft, H.L., and Westerhof, P. (2019), Sustaining Water Resources: Environmental and Economic Impact: ACS Sustainable Chemistry & Engineering, doi: 10.1021/acssuschemeng.8b05859.
13. Falco, N., Wainwright, H., Dafflon, B., Léger, E., Peterson, J., Steltzer, H., Wilmer, C., Rowland, J.C., Williams, K.H. and Hubbard, S.S. (2019), Investigating Microtopographic and Soil Controls on a Mountainous Meadow Plant Community Using High-Resolution Remote Sensing and Surface Geophysical Data, JGR Biosciences, doi.org/10.1029/2018JG004394
14. Tran A.P., Rungee J., Faybishenko, B., Dafflon., B, Hubbard, S.S. (2019) Assessment of Spatiotemporal Variability of Evapotranspiration and Its Governing Factors in a Mountainous Watershed. Water. 2019; 11(2):243, doi: 10.3390/w11020243. (article)

15. Hubbard et al., (2018) The East River, CO Watershed: A Mountainous Community Testbed for Improving Predictive Understanding of Multi-Scale Hydrological-Biogeochemical Dynamics, Vadose Zone Journal, doi:10.2136/vzj2018.03.0061
16. Mary, B., Peruzzo, L., Boaga, J., Schmutz, M., Wu, Y., Hubbard, S.S., and Cassiani, G., (2018), Small scale characterization of vine plant root water uptake via 3D electrical resistivity tomography and Mise-à-la-Masse method: Hydrology and Earth System Sciences Discussions, p. 1–30, doi: 10.5194/hess-2018-238.
17. Wan, J., T. K. Tokunaga, W. Dong, K. H. Williams, Y. Kim, M. E. Conrad, M. Bill, W. J. Riley, and S. S. Hubbard (2018), Deep Unsaturated Zone Contributions to Carbon Cycling in Semiarid Environments, Journal of Geophysical Research: Biogeosciences, 123(9), 3045–3054, doi:10.1029/2018jg004669.
18. Christensen, J.N., Dafflon, B., Shiel, A., Tokunaga, T., Wan, J., Faybishenko, B., Dong, W., Williams, K.H. Hobson, C., Brown, S.T., Hubbard, S.S. (2018), Isotopic Measurement of the Spatial Variation of Vadose Infiltration to the Aquifer at the Rifle Site, CO, STOTEN
19. Lavy, A., D.G McGrath, P.M. Carnevali, J. Wan, W. Dong, T. Tokunaga, B.C. Thomas, K. Williams, S.S. Hubbard, J. F. Banfield, (2018) Microbial communities across a hillslope-riparian transect shaped by proximity to the stream, groundwater table, and weathered bedrock, ISME, 2018 https://doi.org/10.1101/423368
20. Taş, N., Prestat, E., Wang, S., Wu, Y., Ulrich, C., Kneafsey, T., Tringe, S.G., Torn, M.S., Hubbard, S.S., and Jansson, J.K., 2018, Landscape topography structures the soil microbiome in arctic polygonal tundra: Nature Communications, v. 9, doi: 10.1038/s41467-018-03089-z.
21. Peruzzo, L., Schmutz, M., Franceschi, M., Wu, Y., and Hubbard, S.S. (2018), The Relative Importance of Saturated Silica Sand Interfacial and Pore Fluid Geochemistry on the Spectral Induced Polarization Response: Journal of Geophysical Research: Biogeosciences, v. 123, p. 1702–1718, doi: 10.1029/2017jg004364.
22. Wu, Y., Ulrich, C., Kneafsey, T., Lopez, R., Chou, C., Geller, J., Mcknight, K., Dafflon, B., Soom, F., Peterson, J., and Hubbard, S.S. (2018), Depth-Resolved Physicochemical Characteristics of Active Layer and Permafrost Soils in an Arctic Polygonal Tundra Region: Journal of Geophysical Research: Biogeosciences, v. 123, p. 1366–1386, doi: 10.1002/2018jg004413.
23. Newcomer, M.E., Hubbard, S.S., Fleckenstein, J.H., Maier, U., Schmidt, C., Thullner, M., Ulrich, C., Flipo, N., and Rubin, Y. (2018), Influence of hydrological perturbations and riverbed sediment characteristics on hyporheic zone respiration of CO2 and N2: Journal of Geophysical Research: Biogeosciences, doi: 10.1002/2017jg004090.
24. Tran, A.P., Dafflon, B., Bisht, G., and Hubbard, S.S. (2018), Spatial and temporal variations of thaw layer thickness and its controlling factors identified using time-lapse electrical resistivity tomography and hydro-thermal modeling: Journal of Hydrology, v. 561, p. 751–763, doi: 10.1016/j.jhydrol.2018.04.028.
25. Wu, Y., Cheng, Y., Hubbard, C.G., Hubbard, S., and Ajo-Franklin, J.B. (2018), Biogenic sulfide control by nitrate and (per)chlorate – A monitoring and modeling investigation: Chemical Geology, v. 476, p. 180–190, doi: 10.1016/j.chemgeo.2017.11.016.
26. Wu, Y., Nakagawa, S., Kneafsey, T.J., Dafflon, B., and Hubbard, S. (2017), Electrical and seismic response of saline permafrost soil during freeze - Thaw transition: Journal of Applied Geophysics, v. 146, p. 16–26, doi: 10.1016/j.jappgeo.2017.08.008.

27. Dafflon, B., Oktem, R., Peterson, J., Ulrich, C., Tran, A. P., Romanovsky, V. and Hubbard, S. S. (2017), Coincident above- and below-ground autonomous monitoring to quantify co-variability in permafrost, soil and vegetation properties in Arctic Tundra, Journal of Geophysical Research: Biogeosciences, doi: 10.1002/2016jg003724.
28. Leger, E., Dafflon, B., Soom, F., Peterson, J., Ulrich, C., and Hubbard, S. (2017), Quantification of Arctic Soil and Permafrost Properties Using Ground-Penetrating Radar and Electrical Resistivity Tomography Datasets, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, p. 1–12, doi: 10.1109/jstars.2017.2694447.
29. Tran, A.P., Dafflon, B., and Hubbard, S. S. (2017), Coupled Land Surface-Subsurface Hydrogeophysical Inverse Modeling to Estimate Soil Organic Content and explore associated Hydrological and Thermal Dynamics in an Arctic Tundra, The Cryosphere Discussions, p. 1–42, doi: 10.5194/tc-2017-1.
30. Tran, A.P., Dafflon, B., and Hubbard, S.S. (2017) Coupled land surface–subsurface hydrogeophysical inverse modeling to estimate soil organic carbon content and explore associated hydrological and thermal dynamics in the Arctic tundra: The Cryosphere, v. 11, p. 2089–2109, doi: 10.5194/tc-11-2089-2017
31. Tsang, C., Lippmann, M., Dobson, P., Tsang, Y., Faybishenko, B., Benson, S., Birkholzer, J., Finsterle, S., Hawkes, D., Hubbard, S., Kneafsey, T., Liu, H., Oldenburg, C., Pruess, K., et al. (2017) Commemorating Dr. Gudmundur "Bo" Bodvarsson (1951–2006), a Leader of the Deep Unsaturated Flow and Transport Investigations: Water, v. 10, p. 18, doi: 10.3390/w10010018.
32. Dafflon, B., Oktem, R., Peterson, J., Ulrich, C., Tran, A. P., Romanovsky, V. and Hubbard, S. S. (2017), Coincident above- and below-ground autonomous monitoring to quantify co-variability in permafrost, soil and vegetation properties in Arctic Tundra, Journal of Geophysical Research: Biogeosciences, doi: 10.1002/2016jg003724.
33. Dafflon, B., Leger, E., Soom, F., Ulrich, C., Peterson, J., and Hubbard, S. (2016), Quantification of Arctic soil and permafrost properties using ground penetrating radar, 2016 Extended abstract, 16th International Conference on Ground Penetrating Radar (GPR), doi: 10.1109/icgpr.2016.7572663.
34. Wainwright, H. M., Liljedahl, A. K., Dafflon, B., Ulrich, C., Peterson, J. E., and Hubbard, S. S. (2016), Mapping snow depth within a tundra ecosystem using multiscale observations and Bayesian methods, The Cryosphere Discussions, p. 1–56, doi: 10.5194/tc-2016-168.
35. Anantharaman, K., Brown, C. T., Hug, L. A., Sharon, I., Castelle, C. J., Probst, A. J., Thomas, B. C., Singh, A., Wilkins, M. J., Karaoz, U., Brodie, E. L., Williams, K. H., Hubbard, S. S. and Banfield, J. F. (2016), Thousands of microbial genomes shed light on interconnected biogeochemical processes in an aquifer system, Nature Communications, v. 7, p. 13219, doi: 10.1038/ncomms13219
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