

CURRICULUM VITA

JAMES R. HUNT

Lawrence E. Peirano Professor of Environmental Engineering Emeritus  
121 Carrot Island Lane  
Beaufort, NC 28516  
Phone: 925 451 2761 Email: hunt@ce.berkeley.edu

Education:

B.S. in Civil and Environmental Engineering, University of California, Irvine, 1972  
M.S. in Environmental Engineering, Stanford University, 1973  
Ph.D. in Environmental Engineering Science, California Institute of Technology, 1980

Employment:

6/73-9/75 Environmental Engineer, Hydrocomp Inc., Palo Alto, California.  
7/80-6/87 Assistant Professor, Department of Civil Engineering, UC Berkeley  
7/87-6/94 Associate Professor, Department of Civil Engineering, UC Berkeley  
7/94-6/13 Professor, Department of Civil and Environmental Engineering, UC Berkeley  
7/89-6/92 Vice Chair, Academic Affairs, Department of Civil Engineering, UC Berkeley  
7/96-6/01 Acting Director and Director, Institute for Environmental Science & Engineering,  
formerly Environmental Engineering and Health Sciences Laboratory, UC  
Berkeley  
10/96-6/01 Associate Director, University of California Toxic Substances Research and  
Teaching Program  
7/99-6/01 Vice Chair for Undergraduate Affairs, Department of Civil and Environmental  
Engineering, UC Berkeley  
7/02-6/04 Associate Vice Provost for Academic Planning and Facilities, UC Berkeley  
7/07-12/10 Co-Director, Berkeley Water Center, UC Berkeley

Professional Activities:

Licensed Civil Engineer in California since 1975  
Associate Editor, Water Resources Research, 2002-2009.  
American Academy of Environmental Engineers, ABET program evaluator, 2005-2012  
Scientific Panel Reviewer, Threat Agent Science, Defense Threat Reduction Agency,  
2008-2010, 2012  
Panel Reviewer for National Science Foundation, Environmental Engineering Program,  
2010  
Panel Reviewer for National Science Foundation, Hydrology Program, 2011  
Panel Reviewer for National Institute for Environmental Health Sciences: Oceans and  
Human Health; and Global Environmental and Occupational Health, 2012  
Panel Reviewer for National Institute for Environmental Health Sciences: Superstorm  
Sandy special call, 2013.  
Panel Reviewer for National Institute for Environmental Health Sciences: Superfund  
Research Program Centers, 2013.  
Engineering Accreditation Commission, ABET, 2013-present.

Education Committee Working Group of the American Academy of Environmental Engineers and Scientists, 2014-present.

Panel Reviewer for National Institute for Environmental Health Sciences: Superfund Research Program on Biogeochemical Interactions Affecting Bioavailability for in situ Remediation of Hazardous Substances, April 3 – 4, 2014.

Planning Board, Town of Beaufort, North Carolina, 2016-2018.

Patent:

K. S. Udell, N. Sitar, J. R. Hunt, and L. D. Stewart (1991) Process for in situ decontamination of subsurface soil and groundwater, U. S. Patent No. 5,018,576.

Refereed Publications:

- J. R. Hunt (1980) Prediction of oceanic particle size distributions from coagulation and sedimentation mechanisms. In: *Particulates in Water: Characterization, Fate, Effects and Removal*, M. C. Kavanaugh and J. O. Leckie, editors, *Advances in Chemistry* 189, 243-257.
- J. R. Hunt (1982) Self-similar particle size distributions during coagulation; theory and experimental verification, *Journal of Fluid Mechanics*, 122, 169-185.
- J. R. Hunt (1982) Particle dynamics in seawater; implications for predicting the fate of discharged particles, *Environmental Science and Technology*, 16, 303-309.
- J. R. Hunt and J. D. Pandya (1984) Sewage sludge coagulation and settling in seawater, *Environmental Science and Technology* 18, 119-121.
- J. R. Hunt (1986) Particle aggregate breakup by fluid shear. In: *Estuarine Cohesive Sediment Dynamics*, A. Mehta, Editor, Springer-Verlag, pp 85-109.
- L. M. McDowell-Boyer, J. R. Hunt, and N. Sitar (1986) Particle transport through porous media, *Water Resources Research*, 22(13), 1901-1921.
- B. E. Logan and J. R. Hunt (1987) Advantages to microbes of growth in permeable aggregates in marine systems, *Limnology and Oceanography*, 32, 1036-1050.
- A. C. Molseed, J. R. Hunt, and M. W. Cowin (1987) Desalination of agricultural drainage return water I. Operational experiences with conventional and non-conventional pretreatment methods, *Desalination* 67, 249-262.
- B. E. Logan and J. R. Hunt (1988) Bioflocculation as a microbial response to substrate limitations, *Biotechnology and Bioengineering*, 31, 91-101.
- J. R. Hunt, N. Sitar, and K. S. Udell (1988) Nonaqueous phase liquid transport and cleanup I. Analysis of mechanisms, *Water Resources Research*, 24, 1247-1258.
- J. R. Hunt, N. Sitar, and K. S. Udell (1988) Nonaqueous phase liquid transport and cleanup II. Experimental studies, *Water Resources Research*, 24, 1259-1269.
- R. W. Buddemeier and J. R. Hunt (1988) Transport of colloidal contaminants in groundwater: radionuclide migration at the Nevada Test Site, *Applied Geochemistry*, 3, 535-548.
- J. R. Hunt (1990) Particle removal by coagulation and settling from a waste plume, In: *Oceanic Processes in Marine Pollution, Volume 6, Physical and Chemical Processes: Transport and Transformation*, D. Baumgartner and I. W. Duedall, editors, R. E. Krieger Publ. Co., Malabar, FL, pp. 109-119.
- R. G. Luthy, D. A. Bella, J. R. Hunt, J. H. Johnson, D. F. Lawler, C. R. O'Melia, and F. G. Pohland (1992) Future concerns in environmental engineering education, *J. Professional Issues in Engineering Education and Practice (ASCE)* 118(4), 361-380.
- J. T. Geller and J. R. Hunt (1993), Mass transfer from nonaqueous phase organic liquids in water-saturated porous media, *Water Resources Research* 29(4), 833-845.

- M. A. Foda, J. R. Hunt, and H.-T. Chou (1993) A non-linear model for the fluidization of marine mud by waves, *Journal of Geophysical Research* 98(C4), 7039-7047.
- H.-T. Chou, M. A. Foda, and J. R. Hunt (1993) Rheological response of cohesive sediments to oscillatory forcing, In: *Nearshore and Estuarine Cohesive Sediment Transport*, Coastal Estuarine Ser. vol. 42, A. J. Mehta, ed., Chpt 8, pp 126-148, American Geophysical Union.
- J. R. Hunt, B.-C. Hwang, and L. M. McDowell-Boyer (1993), Solids accumulation during deep bed filtration, *Environmental Science and Technology* 27(6), 1099-1107.
- J. H. Kessler and J. R. Hunt (1994) Dissolved and colloidal contaminant transport in a partially clogged fracture, *Water Resources Research* 30(4), 1195-1206.
- G. E. Seely, R. W. Falta, and J. R. Hunt (1994) Buoyant advection of gases in unsaturated soil, *Journal of Environmental Engineering* 120(5) 1230-1247.
- J. R. Hunt, P. A. Holden, and M. K. Firestone (1995) Coupling transport and biodegradation of VOCs in surface and subsurface soils, *Environmental Health Perspectives* 103 (Supplement 5), 75-78.
- C. S. Kao, and J. R. Hunt (1996) Prediction of wetting front movement during one-dimensional infiltration into soils, *Water Resources Research* 32(1), 55-64.
- Committee on Contaminated Marine Sediments (1997) *Contaminated Sediments in Ports and Waterways, Cleanup Strategies and Technologies*, Marine Board, National Research Council, National Academy Press, Washington, DC.
- P. A. Holden, J. R. Hunt, and M. K. Firestone (1997) Toluene diffusion and reaction in unsaturated *Pseudomonas putida* biofilms, *Biotechnology and Bioengineering* 56 (6), 656-670.
- G. A. Loosmore and J. R. Hunt (2000) Dust resuspension without saltation, *Journal of Geophysical Research* 105(D16), 20,663-20,671.
- G. W. Su, J. T. Geller, K. Pruess, and J. Hunt (2000), Overview of preferential flow in unsaturated fractures, *Dynamics of Fluids in Fractured*, B. Faybishenko, P A. Witherspoon, and S. M. Benson, eds, *Geophysical Monograph Series 122*, American Geophysical Union, Wash. DC, pp. 147-155.
- C. S. Kao and J. R. Hunt (2001) Experimental validation and applications of a fluid infiltration model, *Journal of Environmental Engineering*, 127(2), 162-169.
- G. W. Su, J. T. Geller, K. Pruess, and J. R. Hunt (2001) Solute transport along preferential flow paths in unsaturated fractures, *Water Resources Research* 37(10), 2481-2491.
- W. Chu, J. R. Hunt, and C. T. Jafvert (2002) Modeling the sequential photodechlorination of hexachlorobenzene in surfactant micelles, *Water Research* 36, 843-850.
- J. Yow and J. R. Hunt (2002) Coupled processes in rock mass performance with emphasis on nuclear waste isolation, *International Journal of Rock Mechanics and Mining Sciences* 39, 143-150.
- A. H. Love, J. R. Hunt, M. L. Roberts, J. R. Southon, M. L. Chiarappa-Zucca, and K. H. Dingley (2002) Use of tritium accelerator mass spectrometry for tree ring analysis, *Environmental Science and Technology* 36(13), 2848-2852.
- V. K. Bhupathiraju, P. Krauter, H-Y. N. Holman, M. E. Conrad, P. F. Daley, A. S. Templeton, J. R. Hunt, M. Hernandez, and L. Alvarez-Cohen. (2002) Assessment of in-situ bioremediation at a refinery waste-contaminated site and an aviation gasoline contaminated site. *Biodegradation* 13, 79-90.
- A. H. Love, B. K. Esser, and J. R. Hunt (2003) Reconstructing contaminant deposition in a San Francisco Bay Marina, California, *Journal of Environmental Engineering*, 129(7), 659-666.
- M. A. Guell, and J. R. Hunt (2003) Groundwater transport of tritium and krypton 85 from a nuclear detonation cavity, *Water Resources Research* 39(7), 1175

- doi:10.1029/2001WR001249, pages 1-1 to 1-10.
- A. H. Love, J. R. Hunt, and J. P. Knezovich (2003) Reconstructing tritium exposure using tree rings at Lawrence Berkeley National Laboratory, California, *Environmental Science and Technology* 37(19), 4330-4335.
- T. J. Kneafsey and J. R. Hunt (2004) Non-aqueous phase liquid spreading during soil vapor extraction, *Journal of Contaminant Hydrology* 68, 143-164, doi:10.1016/S0169-7722(03)00147-5.
- A. H. Love, J.R. Hunt, J.S. Vogel, J.P. Knezovich (2004) Improving tritium exposure reconstructions using accelerator mass spectrometry, *Analytical and Bioanalytical Chemistry* 379, 198-203; DOI 10.1007/s00216-003-2425-9.
- G. W. Su, J. T. Geller, J. R. Hunt, and K. Pruess (2004) Small-scale features of gravity-driven flow in unsaturated fractures, *Vadose Zone Journal* 3, 592-601.
- D. C. Mays and J. R. Hunt (2005) Hydrodynamic aspects of particle clogging in porous media, *Environmental Science and Technology* 39(2), 577-584.  
<http://dx.doi.org/10.1021/es049367k>
- W. Chu, W. K. Choy, and J. R. Hunt (2005) Effects of nonaqueous phase liquids on the washing of soil in the presence of non-ionic surfactant. *Water Research* 39, 340-348.
- J. R. Hunt and A. F. B. Tompson (2005) Tracing long-term vadose zone processes at the Nevada Test Site, U.S.A., *Hydrological Processes* 19 (17), 3383-3394, 10.1002/hyp.5976.
- A. F. B. Tompson, G. B. Hudson, D. K. Smith, and J. R. Hunt (2006) Analysis of radionuclide migration through a 200-m vadose zone following a 16-year infiltration event, *Advances in Water Resources* 29, 281-292, doi:10.1016/j.advwatres.2005.02.015.
- T. C. Flowers and J. R. Hunt (2007) Viscous and gravitational contributions to mixing during vertical brine transport in water-saturated porous media, *Water Resources Research*, 43, W01407, doi:10.1029/2005WR004773, 18 pages.
- D. C. Mays and J. R. Hunt (2007) Hydrodynamic and chemical factors in clogging by montmorillonite in porous media, *Environmental Science and Technology* 41(16), 5666-5671.
- J. A. García-Aragón, E. Quentin, C. Díaz-Delgado, and J. R. Hunt (2007) Watershed level analysis of sediment filling in a Mexican highland reservoir, *Limnetica (Spain)*, 26(2), 209-218.
- B. E. Johnson, B. K. Esser, Dyan C. Whyte, P. M. Ganguli, C. M. Austin, and J. R. Hunt (2009) Mercury accumulation and attenuation at a rapidly forming delta with a point source of mining waste, *Science of the Total Environment* 407, 5056-5070.
- P. G. Koster van Groos, B. K. Esser, R. W. Williams, and J. R. Hunt (2014) Isotope effect of mercury diffusion in air, *Environmental Science and Technology*, 48 (1), pp 227–233, DOI: 10.1021/es4033666.

#### Recent Presentations

- S. M. Gladding, A. Brand, K. Hsu, J. R. Hunt, J. R. Lacy, M. T. Stacey (2010) Particle flocculation during tidal cycles on the shoals of the San Francisco Bay Estuary, *Eos Trans. AGU*, 91(26), Ocean Sci. Meet. Suppl., Abstract GO25A-01, 22-26 Feb.
- T. C. Moran, Y. Ryu, D. Agarwal, D. D. Baldocchi, J. R. Hunt, C. van Ingen, C (2010) Comparing annual evapotranspiration estimates at the watershed scale using geospatial satellite and rainfall-runoff data, Abstract B41C-0318, presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.

- D. Agarwal, C. van Ingen, M. Humphrey, M. Goode, J. Li, Y. Ryu, A. Shoshani, B. Faybishenko, A. Romosan, J. R. Hunt, T. Moran (2010) Developing data analysis infrastructure to support regional and global scale synthesis, Abstract H23L-08, presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.
- J. R. Hunt (2011) Mass transfer rates of chemical warfare agents from porous and permeable surfaces (invited), Exploring Multidisciplinary Approaches to Chemical and Biological Defense, Defense Threat Reductions Agency and Israel Institute for Biological Research, Eilat, Israel, 19-23 June.
- J. R. Hunt, A. Wiedmer, T. C. Moran (2011) Groundwater data synthesis for water resource management, California's Water Future Goes Underground, 28th Biennial Groundwater Conference and 20th GRA Annual Meeting, Groundwater Resources Association of California, Sacramento, 5-6 Oct.
- J. R. Hunt, A. H. Love, B. E. King (2011) Predicting mass transfer rates of chemical warfare agents through mechanistic modeling and scaling experiments, poster presentation at Chemical and Biological Defense Science and Technology Conference, Defense Threat Reduction Agency, Las Vegas, 14-18 Nov.
- D. Agarwal, C. van Ingen, D. Papale, M. Reichstein, M. Humphrey, K. D. Johnson, L. E. Koteen, N. Beekwilder, L. E. Nave, M. Goode, K. R. Jackson, D. D. Baldocchi; C. Swanston, J. W. Harden, M. S. Torn, J. R. Hunt (2011) Enabling data synthesis at fluxdata.org: lessons learned (Invited), Abstract IN11C-1303, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
- M. S. Hahn, D. D. Baldocchi, Y. Ryu, C. van Ingen, J. R. Hunt (2011) Bias and variance in coarse resolution evapotranspiration flux models using MODIS data, Abstract H21F-1212, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
- T. C. Moran, D. Agarwal, J. R. Hunt, C. van Ingen (2011) Automated water balance estimates of yearly watershed evapotranspiration across California, Abstract B41C-0223, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
- N. L. Butler, J. R. Hunt, M. R. Tompkins (2011) One-dimensional advection diffusion modeling of upwelled hyporheic stream temperature along Deer Creek, Vina, California, Abstract H41E-1088, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
- A. Wiedmer and J. R. Hunt (2012) Tritium inventory in the subsurface at the F-area seepage basins at SRS: A tracer for radionuclide migration, Poster presented at LBNL Retreat on Sustainable Systems Scientific Focus Area, 12-13 Jan 12-13, Berkeley, CA.
- D. Agarwal, A. Wiedmer, B. Faybishenko, T. Whiteside, J. Hunt, G. Kushner, A. Romosan, and A. Shoshani (2012) A methodology for management of heterogeneous site characterization and modeling data, XIX International Conference on Water Resources, University of Illinois at Urbana-Champaign, June 17-22
- J. R. Hunt, T. C. Moran, C. van Ingen, and D. Agarwal (2012) Predicting landscape hydrology through the scaling of watershed data, Microsoft eScience Workshop, Chicago, October 8-9
- N. L. Butler and J. R. Hunt (2012) Modeling daily average stream temperature from air temperature and watershed area, Abstract H53E-1583 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., Dec. 3-7
- A. Wiedmer, J.R. Hunt, D. Agarwal, and B. Faybishenko (2012) Data-driven modeling of radionuclide inventory at the Savannah River Site F-area seepage basins and implications for long-term behavior predictions, Abstract H34C-07 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., Dec 3-7
- J. R. Hunt (2013) Redefining remediation goals with long-term monitoring data, presented at Sustainable Remediation Forum (SURF), Berkeley, CA, February 26-27, 2013.
- J. R. Hunt and A. H. Love (2013) Predictive modeling of transport processes at environmental

interfaces following chemical contamination, US EPA Decontamination Conference, Nov. 2013, Research Triangle Park, NC.

J. Park and J. R. Hunt (2013) Interpreting sediment transport data with channel cross section analysis, poster presentation, EP53B-0797, American Geophysical Union, Fall Meeting, San Francisco, CA, Dec. 2013.

N. L. Butler and J. R. Hunt (2013) Characterization of pool thermal stratification in the San Joaquin River system, poster presentation, H33F-1461, American Geophysical Union, Fall Meeting, San Francisco, CA, Dec. 2013.