CURRICULUM VITA

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Education:

Stanford University, 1976-1981
Ph.D., 1981 (Hydrology, Hydraulics, and Hydromechanics)
M.S., 1977 (Hydrology, Hydraulics, and Hydromechanics)

Dartmouth College, 1967-1972
A.B., 1972 (Engineering Science)
B.E., 1972 (Environmental Engineering)

Employment History:

2007 – present	Senior Fellow (by courtesy), Woods Institute for the Environment, Stanford University
2000 – present	Associate Professor (by courtesy), Department of Geological and Environmental Sciences, Stanford University
1998 – present	Senior Fellow (by courtesy), Center for Environmental Science and Policy, Freeman Spogli Institute for International Studies, Stanford University
1988 - present	Associate Professor, Department of Civil and Environmental Engineering, Stanford University
1988 - 1992	Associate Dean for Undergraduate Education, School of Engineering, Stanford University
1980 - 1988	Assistant Professor, Department of Civil Engineering, Stanford University
1972 - 1975	Engineer, Project Engineer, and Project Manager, Water Resources Management Department, Anderson-Nichols and Co., Inc., Boston, Massachusetts

Teaching Experience (Course titles):

Stochastic Hydrology; Watershed Hydrology; Soil Moisture and Groundwater; Hydrologic Modeling; Water Resources Development; Introductory Fluid Mechanics; Hydrology & Water Resources; Multiphase Flow in the Subsurface; Environmental & Water Resources Engineering Design; Watershed and Wetlands Hydrology; Watersheds and Wetlands; Floods and Droughts, Dams and Aqueducts; Water Resources and Water Hazards Field Trips; Advanced Topics in Hydrology and Water Resources; Water Policy Seminar; Interschool Honors Program in Environmental Science, Technology, and Policy; The Nature of Engineering (frosh seminar).

Current Research Areas:

Hydrology of wetland ecosystems; valuation of hydrologic ecosystem services; recharge to ground water through tropical soils; reservoir sedimentation; the exchange of water between reservoirs and their trapped sediments; the fate of old, sediment-impacted dams and the prediction of responses to their removal; the pedagogy of fluid mechanics, engineering design, and distance learning.

Research Experience, Grants, and Contracts:

Co-principal investigator (with 3 others), Woods Institute for the Environment, Stanford University, Environmental Ventures Project, "An Economic Incentives Models for California Water Markets", 2005-08.

Principal investigator, City of Daly City, "Potential Research Needs Related to Groundwater Quality: Westside Groundwater Basin, San Francisco and San Mateo Counties, CA, 2005-06".

Co-principal investigator, Singapore Science and Engineering Research Council, National Science and Technology Board, "Clean Water Programme", 2003-06.

Principal investigator (with one other), Packard Foundation, "Long-term Conservation of Open Water Habitat in Searsville Lake," 1998-2000.

Principal investigator (with one other), U.S. Environmental Protection Agency, "Diffusional Rate Limitations in Heterogeneous Porous Media: Model Structure, Scale, and Geologic Characterization," 1995-1999.

Principal investigator, U.S. Army Corps of Engineers, "Watershed Data Structure" and "Grid-Network Hydrologic Model," 1992-93.

Principal investigator (with 4 others), San Francisco Estuary Project (EPA), "Freshwater Flows in the San Francisco Estuary: Impact of Variability upon Estuarine Fluid Dynamics and Some Ecological Processes," 1991-1992.

Principal investigator (with one other), California Water Resources Center, "Adaptive Grid Refinement for Groundwater Contaminant Transport Simulation", 1989-91.

Principal investigator (with one other), Electric Power Research Institute, "FASTCHEM Applications and Sensitivity Analysis", 1989-1991.

Principal investigator, NSF Presidential Young Investigator Award, "Mathematical Modeling of Groundwater Transport in Complex Environments", 1985-1990.

Co-principal investigator, U.S. - Spain Joint Committee for Scientific and Technological Cooperation, "Water Resources Management for Reducing Environmental Pollution", 1984-1989.

Co-principal investigator, U.S. EPA Cooperative Agreement "Evaluation of Ground Water Contamination Risks Resulting from Hazardous Waste Disposal", 1981-85.

Dissertation: "Models of Surface-Subsurface Flow Interaction in an Ephemeral Channel."

Consulting Experience:

Sea Water Intrusion and Water Supply, Marina, CA; Groundwater Contamination Studies, Santa Clara Valley, CA and Glen Avon, CA; Flood Insurance Studies; Flood Plain Information Reports; Basin-wide Flood Hydrology, Delaware River Basin; Systems Analysis of Reservoir Flood Damage Mitigation, Susquehanna River Basin; Nonstructural Flood Plain Management Techniques

Honors and Awards:

A.B., Magna Cum Laude, with Distinction in Engineering Science
Sigma Xi
Tau Beta Pi
Presidential Young Investigator, National Science Foundation, 1985-1990
Stanford Tau Beta Pi Award for Excellence in Undergraduate Teaching, 1993 and 2009
Bing Teaching Fellowship Award, 1994
Landreth Family University Fellow in Undergraduate Education, 2002-07
Editor's Citation for Excellence in Refereeing, *Water Resources Research*, 2002
Eugene L. Grant Award for Excellence in Teaching, 2009

Professional Memberships, Service, and Registration:

American Geophysical Union
- Associate Editor, *Water Resources Research*, 1988-1990
- Member, Langbein Lecture Committee, 1995-98
- Member, Horton Award Committee
- Member, Groundwater Committee, 1988-1990
- Member, Hydrology Section Executive Committee, 1994-1997
- Manuscript reviewer, *Water Resources Research*

American Society of Civil Engineers

Manuscript reviewer, *Journal of Hydraulic Engineering, Journal of Water Resources Planning and Management, Journal of Infrastructure Systems*

American Society for Engineering Education

American Water Resources Association

Manuscript reviewer, *Journal of the American Water Resources Association*

American Water Works Association

CALFED Bay-Delta Science Program

Environmental Water Account (EWA), Technical Review Committee, 2001-2005

Proposal Solicitation Package (PSP) Final Selection Panel, 2004

Delta Vision Assessment Team, 2007

Independent Science Board of the CALFED Bay-Delta Program, 2003-2006

Delta Regional Ecosystem Restoration Implementation Plan (DRERIP), Ecosystem Element Conceptual Models Review Panel, 2007

Bay-Delta Conservation Plan Science Advisors, 2007

Consortium of Universities for the Advancement of Hydrologic Sciences, Inc. (CUAHSI)

Member, Science Committee, 2002

Host and Convener, Western Regional CUAHSI Science Workshop, 2002

Stanford representative, 2007-present

Board of Directors, 2008-present

National Ground Water Association

Manuscript reviewer, *Ground Water Monitoring & Remediation*

National Research Council

Water Sciences and Technology Board, 1991-1997, Chair, 1994-1997

Committee on Ground Water Modeling Assessment

Committee on National Water Quality Assessment

Board on Engineering Education, 1991-1994

National Science Foundation

Hydrologic Sciences Review Panel, 1996-98

Member, Committee of Visitors, Earth Sciences Division, 2002

Proposal reviewer, Hydrologic Sciences Program

San Francisquito Creek Joint Powers Authority, Technical Advisory Committee, San Francisquito Creek Watershed Analysis and Sediment Reduction Plan, 2002-03

Lorenz G. Straub Award Committee, University of Minnesota, 1997-2000

Stanford Alumni Association

Travel Study: College on the Great Lakes, 1995; College in Belgium and on the Dutch Waterways, 1997; Panama Canal College, 1998; Alaska Family Adventure, 2001; Amazon and Machu Picchu Family Adventure, 2003; Amazon Expedition, 2007; Dutch Waterways, 2009.

Engineer-in-Training, Massachusetts

Thesis Supervision:

O. Yoloye, *A Model for Synthetic Rainfall Generation in West Africa*, Engineer, 1986.

V. Hromadko, *Vertical Gradients Induced by Injection Through Multiple Partially Penetrating Wells in an Unconfined Aquifer*, Engineer, 1986.

T. C. Black, *Concentration Uncertainty for Stochastic Analysis of Solute Transport in a Bounded, Heterogeneous Domain*, Ph.D., 1988.

T. D. Scheibe, *Characterization of the Spatial Structuring of Natural Porous Media and Its Impacts on Subsurface Flow and Transport*, Ph.D., 1992

A. D. Ronan, *Velocity Uncertainty Estimation for Groundwater Transport Prediction*, Ph.D., 1993.

A. V. Wolfsberg, *Efficient Simulation of Contaminant Transport in Groundwater with Local Adaptive Grid Refinement*, Ph.D., 1993.

T. R. Green, *The Roles of Moisture-Dependent Anisotropy and Landscape Topography in Soil-Water Flow and Groundwater Recharge*, Ph.D., 1994.

A. J. Guswa, *Modeling Solute Transport: Tailing Due to Low Permeability Lenses*, Ph.D., 2000.

M. Wiley, *Signal Information Available for Plume Source Tracking With and Without Surface Waves and Learning by Undergraduates Assisting with the Research*, Ph.D., 2003.

A. Stewart, *Temperature Based Estimates of Streamflow Patterns and Seepage Losses in Ephemeral Channels*, Ph.D., 2003.

M. R. Minihane, *Shallow Subsurface Flow Paths, Tropical Hydrology, and Groundwater Protection*, Ph.D., 2008.

T. F. M. Chui, *Modeling the Hydrologic Interactions Between an Aging Reservoir and the Surrounding Groundwater*, Ph.D., 2009.

Archival Journal Papers (Refereed):

Freyberg, D.L. and A.O. Converse, "Watershed Carrying Capacity as Determined by Waterborne Waste Loads," *Urban Analysis*, Vol. 2, 1974, pp. 1-14.

Reeder, J.W., D.L. Freyberg, J.B. Franzini, and I. Remson, "Infiltration Under Rapidly Varying Surface Water Depths," *Water Resources Research*, Vol. 16, No. 1, 1980, pp. 97-104.

Freyberg, D.L., J.W. Reeder, J.B. Franzini, and I. Remson, "Application of the Green-Ampt Model to Infiltration Under Time-Dependent Surface Water Depths," *Water Resources Research*, Vol. 16, No. 3, 1980, pp. 517-528.

Freyberg, D.L., "Modeling the Effects of a Time-Dependent Wetted Perimeter on Infiltration from Ephemeral Channels," *Water Resources Research*, Vol. 19, No, 2, 1983, pp. 559-566.

Freyberg, D.L., "Hydrologic Education - What Kind of Preparation Is Needed?" *Hydrological Science and Technology: Short Papers*, Vol. 1, No. 2, 1985, pp. 37-39.

Mackay, D.M., D.L. Freyberg, P.V. Roberts, and J.A. Cherry, "A Natural Gradient Experiment on Solute Transport in a Sand Aquifer I. Approach and Overview of Plume Movement," *Water Resources Research*, Vol. 22, No. 13, pp. 2017-2029, 1986.

Freyberg, D.L., "A Natural Gradient Experiment on Solute Transport in a Sand Aquifer II. Spatial Moments and the Advection and Dispersion of Non-Reactive Tracers," *Water Resources Research*, Vol. 22, No. 13, pp. 2031-2046, 1986.

Black, T.C. and D.L. Freyberg, "Stochastic Modeling of Vertically Averaged Concentration Uncertainty in a Perfectly Stratified Aquifer," *Water Resources Research*, Vol. 23, No. 6, pp. 997-1004, 1987.

Freyberg, D.L., "An Exercise in Ground Water Model Calibration and Prediction," *Ground Water*, Vol. 26, No. 3, pp. 350-360, 1988.

Freyberg, D.L., "Reply to Comment on 'A Natural Gradient Experiment on Solute Transport in a Sand Aquifer. 2. Spatial Moments and the Advection and Dispersion of Nonreactive Tracers'," *Water Resources Research*, Vol. 24, No. 7, p. 1223, 1988.

Black, T.C. and D.L. Freyberg, "Simulation of One-Dimensional Correlated Fields Using a Matrix-Factorization Moving Average Approach," *Mathematical Geology*, Vol. 22, No. 1, pp. 39-62, 1990.

Wolfsberg, A.V., and D.L. Freyberg, "Efficient Simulation of Single- and Multi-Species Transport in Groundwater with Local Adaptive Grid Refinement (LAGR)," *Water Resources Research*, Vol. 30, No. 11, pp. 2979-2991, 1994.

Green, T.R., and D.L. Freyberg, "State-Dependent Anisotropy: Comparisons of Quasi-Analytical Solutions with Stochastic Results for Steady Gravity Drainage," *Water Resources Research*, Vol. 31, No. 9, pp. 2201-2212, 1995.

Scheibe, T.D., and D.L. Freyberg, "The Use of Sedimentological Information for Geometric Simulation of Natural Porous Media Structure," *Water Resources Research*, Vol. 31, No. 12, pp. 3259-3270, 1995.

Green, T.R., J.E. Constantz, and D.L. Freyberg, "Upscaled Soil-water Retention Using van Genuchten's Function", *J. Hydrol. Engr.*, ASCE, Vol. 1, No. 3, pp 123-130, 1996.

Guswa, A.J., and D.L. Freyberg, "Slow Advection and Diffusion through Low Permeability Inclusions," *Journal of Contaminant Hydrology*, 46(2000), pp. 205-232.

Guswa, A.J., and D.L. Freyberg, "On using the equivalent conductivity to characterize solute spreading in environments with low-permeability lenses", *Water Resources Research, 38*(8), 10.1029/2001WR000528, 2002.

Chua, Lloyd H.C., E.Y-M. Lo, D.L. Freyberg, E.B. Shuy, T.T Lim, S.K. Tan, M. Ngonidzashe, "Hydrostratigraphy and Geochemistry at a Coastal Sandfill", *Hydrogeology*, Vol. 15, No. 8, pp. 1591-1604, 2007.

Chui, T.F.M., and D.L. Freyberg, "Simulating a Lake as a High-Conductivity Variably-Saturated Porous Medium", *Ground Water*, *46*(5), 10.1111/j.1745-6584.2008.00463.x, 2008.

Chui, T.F.M., and D.L. Freyberg, "Implementing Hydrologic Boundary Conditions in a Multiphysics Model", *Journal of Hydrologic Engineering*, Vol. 14, No. 12, pp. 1374-1377, 10.1061/(ASCE)HE.1943-5584.0000113, 2009.

Mackey, K.R.M., and D.L. Freyberg, "The effect of social presence on affective and cognitive learning in an international engineering course taught via distance-learning", *Journal of the American Society for Engineering Education*, in press, Jan. 2010.

Brauman, K.A., D.L. Freyberg, G.C. Daily, "Forest structure influences on rainfall partitioning and cloud interception: A comparison of native forest sites in Kona, Hawai`i", *Agric. Forest Meteorol.* (2009*)*, doi: 10.1016/j.agrformet. 2009.11.011, in press.

Conference Proceedings:

Mackay, D.M., J.A. Cherry, D.L. Freyberg, G.D. Hopkins, P.L. McCarty, M. Reinhard, and P.V. Roberts, "Implementation of a Field Experiment on Groundwater Transport of Organic Solutes", *Proc., 1983 National Conference on Environmental Engineering*, American Society of Civil Engineers, Boulder, Colorado, July 1983, pp. 24-31.

Freyberg, D.L., D.M. Mackay, and J.A. Cherry, "Advection and Dispersion in an Experimental Groundwater Plume", *Frontiers in Hydraulic Engineering,* Proc., 1983 Hydraulics Division Specialty Conference, American Society of Civil Engineers, Cambridge, Massachusetts, August 1983.

Mackay, D.M., D.L. Freyberg, M.N. Goltz, G.D. Hopkins, and P.V. Roberts, "A Field Experiment on Ground Water Transport of Halogenated Organic Solutes", Proceedings of the 186th National Meeting of the Division of Environmental Chemistry, American Chemical Society, Washington, D.C., September 1983, pp. 368-371.

Freyberg, D.L., "Estimating Advection and Dispersion Parameters of an Experimental Plume Using Spatial Moments", (Abstract), *EOS*, Trans., American Geophysical Union, Vol. 65, No. 16, 1984.

Freyberg, D.L., "Advection and Retardation in an Experimental Plume of Sorbing and Non-sorbing Solutes", *Proc., Second International Conference on Groundwater Quality Research*, National Center for Ground Water Research, Stillwater, Oklahoma, pp. 95-97, 1984.

Black, T.C., and D.L. Freyberg, "Parameter Uncertainty in Stochastic Modeling of Solute Transport", (Abstract), *EOS*, Trans., American Geophysical Union, Vol. 66, No. 18, p. 268, 1985.

Freyberg, D.L., "Modeling Flow in an Ephemeral Stream Channel", *Development and Management Aspects of Irrigation and Drainage Systems*, Proc., 1985 Specialty Conference of the Irrigation and Drainage Division, American Society of Civil Engineers, San Antonio, Texas, p. 501, 1985.

Roberts, P.V., W.P. Ball, G.P. Curtis, M.G. Durant, D.L. Freyberg, M.N. Goltz, D.M. Mackay, "Organic Transport Processes in the Saturated Zone", (Abstract), *EOS*, Trans., American Geophysical Union, Vol. 66, No. 45, p. 893, 1985.

Freyberg, D.L., D.M. Mackay, and G.D. Hopkins, "The Statistical Structure of Measurement Errors for Trace Levels of Organics in Groundwater", (Abstract), *EOS,* Trans., American Geophysical Union, Vol. 67, No. 16, p. 276, 1986.

Black, T.C., and D.L. Freyberg, "Ergodicity Requirements for Stochastic Modeling of Transport in a Stratified Aquifer", (Abstract), *EOS*, Trans., American Geophysical Union, Vol. 67, No. 16, p. 284, 1986.

Gomez-Hernandez, J.J., and D.L. Freyberg, "Propagation and Filtering of Concentration Estimation Error Covariance for a One-Dimensional Mass Transport Problem: Application to Network Design", (Abstract), *EOS*, Trans., American Geophysical Union, Vol . 68, No. 44, p. 1265, 1987.

Black, T.C., and D.L. Freyberg, "Ensemble Characteristics of Vertically Averaged Concentration for Transport in a Bounded, Two-Dimensional, Heterogeneous Aquifer," (Abstract), *EOS*, Trans, American Geophysical Union, Vol, 69, No. 16, p. 367, 1988.

Freyberg, D.L., "Scales of Spatial Variability at the Borden Field Experiment", (Abstract), *EOS*, Trans., American Geophysical Union, Vol. 69, No. 44, p. 1183, 1988.

Wolfsberg, A.V., and D.L. Freyberg, "Local Adaptive Grid Refinement (LAGR) for Simulating Solute Transport in Groundwater Systems", (Abstract), *EOS*, Trans., American Geophysical Union, Vol. 70, No. 43, p. 1077, 1989.

Freyberg, D.L., "The Borden Field Experiment: Transport and Dispersion of Tracers and Organics", *Environmental Research Conference on Groundwater Quality and Waste Disposal*, Proc., 1990 Electric Power Research Institute, Palo Alto, California, pp. 12:1-12:23, 1990.

Scheibe, T.D., and D.L. Freyberg, "Impacts on Geological Structure on Transport: Creating a Database", *Proc., Fifth Canadian Conference on Hydrogeology,* National Water Well Association, Dublin, Ohio, pp. 56-71, 1990.

Gomez-Hernandez, J. J., and D. L. Freyberg, "Dynamic Network Design for One-Dimensional Mass Transport Problem", *Proc., Water Resources Planning and Management Division Annual Conference*, American Society of Civil Engineers, Forth Worth, TX, in press.

Scheibe, T.D., and D.L. Freyberg, "Characterization of the Spatial Structure of a Geologically Realistic Model Aquifer", (Abstract), *EOS*, Trans., American Geophysical Union, Vol. 72, No. 44, p. 212, 1991.

Wolfsberg, A.V., and D.L. Freyberg, "Local Adaptive Grid Refinement (LAGR) for Contaminant Transport Modeling", *Proc., Solving Ground Water Problems with Models*, Co-sponsored by the International Groundwater Modeling Center and the Association of Ground Water Scientists and Engineers, Dallas, Texas, pp. 115-129, 1992.

Green, T.R., D.L. Freyberg, and J.E. Constantz, "Simulated Recharge Beneath Undulating Terrain: Invoking Moisture-Dependent Anisotropy," (Abstract), *EOS*, Trans., American Geophysical Union, Vol. 73, No. 43, p. 176, 1992.

Ronan, A.D., and D.L. Freyberg, "Evaluating Different Sampling Scenarios for Improved Groundwater Velocity Estimation," (Abstract), *EOS*, Trans., American Geophysical Union, Vol. 73, No. 43, p. 234, 1992.

Wolfsberg, A.V., and D.L. Freyberg, "Simulating Complex Solute Transport Processes Efficiently with Local Adaptive Grid Refinement (LAGR)," (Abstract), *EOS*, Trans., American Geophysical Union, Vol. 73, No. 43, p. 220, 1992.

Scheibe, T.D., and D.L. Freyberg, "Characterization of the Spatial Structuring of Natural Porous Media and Its Impacts on Subsurface Flow and Transport," (Abstract), *EOS*, Trans., American Geophysical Union, Vol. 73, No. 43, p. 171, 1992.

Ronan, A.D., and D.L. Freyberg, “Randomized Turning Bands for Improved Ensemble Moment Estimation,” (Abstract), International Conference on Stochastic and Statistical Methods in Hydrology and Environmental Engineering, Waterloo, Ontario, 1993.

Scheibe, T.D., and D.L. Freyberg, "The Use of Sedimentological Information for Geometric Simulation of Natural Porous Media Structure," (Abstract), *Abstracts with Programs*, Vol. 25, No. 6, A-38, Geological Society of America, 1993.

Scheibe, T.D., and D.L. Freyberg, "Impacts of Sedimentary Structure on Subsurface Transport–A Geologically Realistic Example," (Abstract), *Abstracts with Programs*, Vol. 25, No. 6, A-108, Geological Society of America, 1993.

Green, T.R., J.E. Constantz, and D.L. Freyberg, "Upscaling Unsaturated Hydraulic Properties of Layered Soils," (Abstract), *EOS*, Trans., American Geophysical Union , Vol. 74, No. 43, p. 244, 1993.

Green, T.R., J.E. Constantz, and D.L. Freyberg, "Effects of Topography and Soil Anisotropy on Focussing Unsaturated Groundwater Recharge," [Abstract], *EOS*, Trans., American Geophysical Union, Vol. 75, No. 16, p. 159, 1994.

Green T.R., J.E. Constantz, and D.L. Freyberg, "Combined Effects of Landscape Topography and Moisture-dependent Anisotropy on Soil-water Flow," (Extended Abstract), *Kearney Foundation for Soil Science International Conference Proceedings, Vadose Zone Hydrology: Cutting Across Disciplines*, Hopmans, J., and M. Parlande, eds., pp. 53-54, 6-8 Sept., 1995.

Cunningham, J., D. Freyberg, and P. Roberts, "Solute Transport at the Borden Field Experiment: Grain- and Field-Scale Rate Limitations," *Groundwater: An Endangered Resource*, Proceedings of Theme C, Water for A Changing Global Community, The 27th Congress of the IAHR, ASCE, New York, pp. 65-70, 1997.

Guswa, A.J., D.L. Freyberg, and P.V. Roberts, "Characterization of Regions of Low Peclet Number in Complex Geologic Environments," [Abstract], *EOS*, Trans., American Geophysical Union, Vol. 78, No. 46, p. F293, 1997.

Stewart, A., A.D. Ronan, J.E. Constantz, and D.L. Freyberg, "The Influence of Temperature and Layering Heterogeneity on Transmission Loss From an Ephemeral Stream," [Abstract], *EOS*, Trans., American Geophysical Union, Vol. 78, No. 46, p. F304, 1997.

Guswa, A.J., and D.L. Freyberg, "Transport Effects of Diffusion and Slow Advection Through a Low Permeability Inclusion," [Abstract], *EOS*, Trans., American Geophysical Union, Vol. 79, No. 45, p. F392, 1998.

Cunningham, J.A., A.J. Guswa, D.L. Freyberg, P.V. Roberts, "Use of Temporal Moment Analysis to Determine the Importance of Sorption Kinetics for Contaminant Transport Through Heterogeneous Groundwater Aquifers," [Abstract], *EOS*, Trans., American Geophysical Union, Vol. 79, No. 45, p. F257, 1998.

Guswa, A.J., J.A. Cunningham, and D.L. Freyberg, "A Two-Region Model to Account for Slow Advection Through Low Permeability Lenses," [Abstract], *EOS*, Trans., American Geophysical Union, Vol. 80, No. 46, p. F389, 1999.

Guswa, A.J., and D.L. Freyberg, "Evaluation of the Need for a Mass-Transfer Model to Describe Solute Tailing Due to Low-Permeability Lenses," [Abstract], *EOS*, Trans., American Geophysical Union, Vol. 81, No. 48, p. F435, 2000.

Freyberg, D.L., "Water Resources Development in the Aqueduct Empire," [Abstract], Proceedings, American Association for the Advancement of Science, 2001 Annual Meeting and Science Innovation Exposition, p. A27, 2001.

Freyberg, D.L., "The Delta-Central Valley Setting: Hydrologic Complexity and Restoration," [Extended Abstract], *2002 State of the Estuary*, CALFED and the San Francisco Estuary Project, p. 26, 2002.

Minihane, M.R., and Freyberg, D.L. (2005), "Shallow subsurface fluxes in coastal tropical constructed fill areas", Trans. AGU, 86(52), Fall Meet. Suppl., Abstract H21B-1332.

Green, T.R., D.L. Freyberg, J.E. Constantz, and L.R. Ahuja, "Scaling up preferential flow in unsaturated undulating terrain due to anisotropic soil hydraulic conductivity and other potential mechanisms," Proceedings, Preferential Flow and Transport Processes in Soil, Ascona, Switzerland, 4-9 November 2006.

Chui, T.F.M., and D.L. Freyberg (2006), "Hydrologic Interactions Between an Aging Reservoir and the Surrounding Groundwater", Trans. AGU, 87(52), Fall Meet. Suppl., Abstract H11A-1228.

Chui, T.F.M., and D.L. Freyberg, "The Use of COMSOL for Integrated Hydrological Modeling", COMSOL Conference 2007 Boston, Boston, MA, COMSOL, Inc., 217-223, 2007.

Brauman, K.A., G.C. Daily, and D.L. Freyberg (2007), "The Value of Forest and Pasture to Water Supply in Kona, HI", AGU Fall Meet. Prog., Abstract H31F-0722.

Minihane, Michele and David Freyberg (2008), "Using field measurement towards an improved understanding of shallow hydrogeology in an unsaturated sandy soil under tropical climate conditions", AGU Hydrology Days 2008, Colorado State University, Fort Collins, CO (poster).

Brauman, K.A., D.L. Freyberg, and G.C. Daily (2008), "Comparative Ecohydrologic Effects of Forest and Pasture on Water Balances in Kona, HI", AGU Fall Meet. Prog., Abstract H11C-0767.

Chui, T.F.M., and D.L. Freyberg (2008), "Diurnal Evapotranspiration Signals in Coupled Groundwater Surface-Water Systems", AGU Fall Meet. Prog., Abstract H21D-0850.

Brauman, K.A., D.L. Freyberg, and G.C. Daily (2009), "Comparative Ecohydrologic Effects of Forest and Pasture on Water Balances in Kona, HI", Bay Area Conservation Biology Symposium, Stanford University, Stanford, CA, 31 Jan.

Brauman, K.A., G.C. Daily, and D.L. Freyberg (2009),"The Effects of Native Forest and Working Pasture on Rainfall Partitioning and Groundwater Recharge in Kona, Hawai`i", Hawai`i Conservation Conference, Honolulu, HI, 28-30 July.

Brauman, K.A., D.L. Freyberg, and G.C. Daily (2009), "The importance of forest structure to rainfall partitioning and cloud interception in native forest in Kona, Hawai`i", Ecological Society of America Annual Meeting, Albuquerque, NM, 2-7 Aug.

Brauman, K.A., D.L. Freyberg, and G.C. Daily (2009), "The importance of forest structure to rainfall partitioning and cloud interception: a comparison of native forest sites in Kona, Hawai`i", 2nd International Conference on Forests and Water in a Changing Environment, Raleigh, NC, 14-16 Sep.

Brauman, K.A., G.C. Daily, and D.L. Freyberg (2009), "Synergies and Tradeoffs: Managing land to improve water supply in Kona, HI", Ecological Society of America Millennium Conference: Water-Ecosystem Services, Drought, and Environmental Justice, Athens, GA, 9-12 Nov.

Krall, J.A., and D.L. Freyberg (2009), "The Importance of Overbank Deposition on a Flood Plain Adjacent to a Filling Reservoir", AGU Fall Meet. Prog., Abstract EP33A-0604.

Brauman, K.A., G.C. Daily, and D.L. Freyberg (2010), "Montane Land Cover Effects on Water Supply in Coastal Hawai`i", Association of American Geographers, 2010 Annual Meeting, Washington, DC, 14-18 Apr.

Books:

Schwartz, Frank, et al., *Ground Water Models - Scientific and Regulatory Applications*, National Academy Press, Washington, D.C., 303 pp., 1990.

Engelbrecht, Richard, et al., *A Review of the U.S.G.S. National Water Quality Assessment Pilot Program,* National Academy Press, Washington, D.C., 153 pp., 1990.

Linsley, R.K., J.B. Franzini, D.L. Freyberg, G. Tchobanoglous, *Water-Resources Engineering*, 4th Edition, McGraw-Hill, New York, 841 pp., 1992.

Franzini, J.B., D.L. Freyberg, G. Tchobanoglous, *Solutions Manual to Accompany Linsley/Franzini/Freyberg/ Tchobanoglous: Water-Resources Engineering, 4th Edition*, McGraw-Hill, New York, 1993.

Reports:

Grover, D.A., and D.L. Freyberg, “User’s Guide to TRANQL,” Project Report: Water Resources Management for Reducing Environmental Pollution, U.S.-Spain Joint Committee for Scientific and Technological Cooperation, Cooperative Research Project No. CCA8309117, Stanford University, Dept. of Civil Engineering, 1986.

Roberts, P.V., and D.M. Mackay, eds., “A Natural Gradient Experiment on Solute Transport in a Sand Aquifer,” (contributing author), Technical Report No. 292, Stanford University, Dept. of Civil Engineering, 1986.

Kitanidis, P. K., D. L. Freyberg, A. D. Ronan, S. Itagaki, N. Y. Chan, and S.-I. Lee, "Applications Handbook for FASTCHEM™,Volume 1: Flow Modules," Report TR-101218, Volume 1, Electric Power Research Institute, 1992.

Freyberg, D. L., et al., "A Review of Ground Water Modeling Needs for the U.S. Army," National Academy Press, Washington, D.C., 1992.

Freyberg, David L., Philippe S. Cohen, Amy Munninghof, Michael Fienen, Catherine Regan, “Maintaining Open Water at Searsville Lake”, Final Project Report to David and Lucile Packard Foundation, Grant No. 98-5517, October 2001.

Policy Briefs:

Tomkins, Claire, D., T. A. Weber, D. L. Freyberg, J. L. Sweeney, and B. H. Thompson, “Managing Water Supply Uncertainty: Options Contracts and Short-term Water Transfers in California”, Woods Institute for the Environment, Stanford University, Sept. 2008, 11 pp.

Tomkins, Claire, D., T. A. Weber, D. L. Freyberg, J. L. Sweeney, and B. H. Thompson, “Option Contracts in Practice: Contractual and Institutional Design for California Water Transfers”, Woods Institute for the Environment, Stanford University, Oct. 2008, 12 pp.

Articles:

Mackey, Katherine R.M., and David L. Freyberg, “They Learn, But Enjoy It Less”, JEE Selects, *Prism,* American Society for Engineering Education, in press, Jan. 2010.