

# **June Ann Oberdorfer**

## **CONSULTING HYDROGEOLOGIST**

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### **Education**

- PhD, Geology and Geophysics, May 1983, University of Hawaii, Honolulu, HI, Dissertation: "Wastewater Injection: Near-well Processes and Their Relationship to Clogging"
  - Fil. Kand., Geology, June 1977, University of Stockholm, Sweden
  - BA, English and American Literature, June 1970, Brown University, Providence, RI
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### **Registration**

- Professional Geologist, State of California, Number: 6103
  - Certified Hydrogeologist, State of California, Number: 100
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### **Professional Experience**

#### **San Jose State University, Department of Geology, San Jose, CA**

- Assistant Professor, August 1983 to July 1986
- Associate Professor, August 1986 to July 1991
- Professor, August 1991 to present

Duties: Develop hydrogeology program within the department. Teaching of introductory (senior level) and advanced (graduate level) groundwater courses plus an introductory course in environmental geology for non-majors. Develop an experimental course in groundwater contamination and a portion of a team-taught course with the College of

Engineering on hazardous materials. Taught five graduate seminars related to contaminant hydrogeology.

**Lawrence Livermore National Laboratory**

- Consultant to Environmental Protection Division, Site 300, Pit 7 Complex Contamination Study and other Operable Unit Investigations, October 1984 to February 2001

Duties: Advise on monitoring installation (vadose and saturated zone), aquifer testing, and data interpretation for a study on a RCRA landfill and firing table contaminant plumes consisting of radioactive elements and solvents in porous media and fractured rock aquifers at CERCLA site. Model plume movement and attenuation.

**EnviroComp Consulting, Inc., Fremont, CA**

- Consultant on Multiple Projects, April 2007 to present

Duties: Evaluate emissions to air from soil and groundwater contamination, litigation support.

**ARACADIS, Seattle, WA**

- Consultant on two former bulk fuel storage facilities, June 2009 to present

Duties: Project review of site investigations including tidal influence and aquifer testing studies, technical presentations at meetings with regulators and current property owners.

**AECOM/EarthTech/RUST E & I / Wahler Associates, San Jose, CA**

- Consultant on Multiple Projects, August 1992 to January 1996, June 1999 to present

Duties: Formulation of hydrogeologic conceptual models, analytical and numerical modeling of RCRA landfill sites and contaminant sites for risk assessment and remedial action planning, aquifer test analysis, water resource evaluation, litigation support.

**TRC/Lowney Associates, Mountain View, CA**

- Consultant on Multiple Projects, February 2001 to present

Duties: Aquifer testing, including under tidally influenced and stream-influenced conditions. Numerical modeling of water development to evaluate potential impacts as part of an EIR.

**US EPA – Region 9, San Francisco, CA**

- Instructor for Multiple Short Courses, September 2002 to December 2005

Duties: Taught short courses to EPA professionals on hydrogeology, numerical modeling, well installation, aquifer testing, and vadose zone monitoring and transport.

**On-Site Technologies, Inc., Campbell, CA**

- Consultant on Multiple Projects, June 1989 to May 1997

Duties: Hydrogeologic evaluation of contaminant sites, particularly related to petroleum hydrocarbon releases but also including two major solvent cases, remedial action modeling, performed and analyzed numerous aquifer tests and soil vapor tests.

**Lee Gardner and Associates, Sunnyvale, CA**

- Consultant to the Navajo Nation on Uranium Mill Tailing Sites, May 1995 to May 2001

Duties: Document review of hydrogeology and contaminant transport in fractured and porous media at four former uranium mills under UMTRA program, confirmation modeling of site remediation and landfill leachate migration.

**Leland R. Gardner and Associates, Palo Alto, CA**

- Consultant to Plumas County Dept. of Public Works, June 1998 to March 1999

Duties: Synthesize conceptual model of ground water movement in fractured rock in the vicinity of Lake Davis, CA and estimate potential migration rates and pathways for fish toxins in a fractured, granitic aquifer.

**California State Board of Registration for Geologists and Geophysicists**

- Volunteer Consultant to Certified Hydrogeology Evaluation, November 1998 to February 1999

Duties: Development of a list of tasks and knowledge base for hydrogeologists as part of the formulation of the examination for Certified Hydrogeologists.

**National Academy of Science**

- Volunteer Member of Committee to Review Specific Scientific and Technical Safety Issues Related to the Ward Valley, California Low-Level Radioactive Waste Site, May 1994 to March 1995

Duties: Evaluate the potential for vadose zone and ground water transport of radionuclides for a proposed landfill in the eastern Mojave Desert, CA.

**Purcell, Rhoades, & Associates, Hayward, CA**

- Consultant on Proposed Municipal Landfill Site, May 1987 to March 1988

Duties: Evaluate site hydrogeology (including aquifer testing and water chemistry) and potential for offsite leachate transport in a fractured granitic rock, canyon site.

**Science Applications International Corporation, Pleasanton, CA**

- Consultant on Environmental Impact Report, February to July 1986

Duties: Write description of site hydrogeology and evaluate present and future effects of site activities on soil and groundwater quality for a major environmental impact report for Lawrence Livermore National Laboratory, Site 300

**Lawrence Livermore National Laboratory**

- Consultant to Earth Sciences Division, Nuclear Waste Package Project, June to December 1983

Duties: Review existing studies on the hydrogeology of a proposed high-level nuclear waste repository site and advise on further relevant studies.

**Australian Institute of Marine Science, Townsville, Queensland, Australia,**

- Visiting Researcher, January to March 1983

Duties: Plan, execute and interpret data for a project to study water movement and geochemistry through a submerged reef in the Great Barrier Reef.

**University of Hawaii**

- Research Assistant, Water Resources Research Center, January 1980 to September 1982

Duties: Plan, execute and interpret data for a project studying the clogging effects of wastewater on injection wells. Fieldwork included pumping tests, tracer tests, and water quality sampling.

- Teaching Assistant, Department of Geology and Geophysics, January 1979 to January 1980

Duties: Teach general geology labs and a lab in structural geology.

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## Professional Organizations

- American Geophysical Union
  - National Ground Water Association
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## Languages

- English, Spanish, Swedish, Portuguese, French
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## Publications

Povinec PP, Burnett WC, Beck A, Bokuniewicz H, Charette M, Gonneca ME, Groening M, Ishitobi T, Kontar E, Liong Wee Kwong L, Marie, DEP, Moore WS, Oberdorfer JA, Peterson R, Ramessur R, Rapaglia J, Stieglitz T, and Top Z, Isotopic, geophysical and biogeochemical investigation of submarine groundwater discharge: IAEA-UNESCO intercomparison exercise at Mauritius Island, *Journal of Environmental Radioactivity*, **104**, p. 24-45, 2012.

Oberdorfer JA, Charette M, Allen M, Martin JB, and Cable JE, 2007, Hydrogeology and geochemistry of near-shore submarine groundwater discharge at Flamengo Bay, Ubatuba, Brazil. *Estuarine, Coastal and Shelf Science*, **76**(3), p. 457-465, February 10, 2008.

Burnett WC, Aggarwal PK, Bokuniewicz H, Cable JE, Charette MA, Kontar E, Krupa S, Kulkarni KM, Loveless A, Moore WS, Oberdorfer JA, Oliveira J, Ozyurt N, Povinec P, Prvitera AMG, Rajar R, Ramessur RT, Scholten J, Stieglitz T, Taniguchi M, and Turner JV, Quantifying Submarine Groundwater Discharge in the Coastal Zone via Multiple Methods, *Science of the Total Environment*, **367**(2-3), p. 498-543, August 21, 2006.

Kakouros E, Kharaka YK, and Oberdorfer JA, Leaching rates and forms of selenium in cores from an agricultural area in Middle Green River Basin, Utah, USA: *Earth Science Frontier*, Beijing, China, **13**(1), p. 86-97, 2006.

Oberdorfer JA, Hydrogeologic Modeling of Submarine Groundwater Discharge: Comparison to other Quantitative Methods, *Biogeochemistry*, **66**(1-2), p. 159-169, November 2003.

Burnett WC, Taniguchi M, and Oberdorfer J, Measurement and significance of the direct discharge of groundwater into the coastal zone, *Journal of Sea Research*, **46**(2), p. 109-116, 2001.

Oberdorfer JA, Water Use and Water Recycling in Silicon Valley, Proceedings of the 3<sup>rd</sup> International Hydrology and Water Resources Symposium, Hydro 2000, The Institution of Engineers, Australia, Perth Australia, November 2000.

Buddemeier RW and Oberdorfer JA, Hydrogeology of Enewetak Atoll, in Geology and Hydrogeology of Carbonate Islands, Vacher HL and Quinn T (eds), Elsevier, Amsterdam, p.667-692, 1997.

Taffet MJ, Green-Horner LK, Woodward RJ, and Oberdorfer JA, Draft Engineering Evaluation / Cost Analysis for the Building 850/Pits 3 and 5 Operable Unit, Lawrence Livermore National Laboratory, Site 300, UCRL-AR-126368 DR, May 1997.

Oberdorfer JA, "Numerical Modeling of Coastal Discharge: Predicting the Effects of Climate Change," Groundwater Discharge in the Coastal Zone, Proceedings of an International Symposium, LOICZ Reports and Studies, No. 8, p. 85-91, 1996.

Oberdorfer JA, Committee to Review Specific Scientific and Technical Safety Issues Related to the Ward Valley, California Low-Level Radioactive Waste Site, Ward Valley, An Examination of Seven Issues in Earth Sciences and Ecology, National Academy Press, Washington, DC, 1995.

Cook G, Oberdorfer J, and Orloff S, "Remediation of a Gasoline Spill by Soil Vapor Extraction, Lawrence Livermore National Laboratory, Livermore, CA," National Ground Water Assoc. Petroleum Hydrocarbon Conf. Proceedings, November 1991.

Taffet M, Lamarre A, and Oberdorfer J, "Performance of a Mixed-Waste Landfill Amid Geologic Uncertainty – Learning from a Case Study: Altamont Hills, California, USA," Environmental Geologic Water Science, **18**(3), p. 185-194.

Oberdorfer JA, Hogan PH, Buddemeier RW, "Atoll Island Hydrogeology: Flow and Freshwater Occurrence in a Tidally Dominated System," Journal of Hydrology, Vol. 120, 1990.

Taffet M, Oberdorfer J, Carlsen T, Dugan W, and Mateik R, "Remedial Investigation of the Building 850 and East Firing Areas, Lawrence Livermore National Laboratory Site 300," Environmental Restoration Division, UCRL-ID-104355, September 1990.

Oberdorfer JA, Valentino MJ, and Smith SV, "Groundwater Contribution to the Nutrient Budget of Tomales Bay, California," Biogeochemistry, **10**(3), August 1990.

Oberdorfer JA, Williams JW, and Smelser MG, "Lottery Proceeds in California Pay for Installation of a Ground-Water Monitoring System," Journal of Geological Education, **38**(1), January 1990.

Taffet M, Oberdorfer J, and McIlvride W, "Remedial Investigation and Feasibility Study for the Lawrence Livermore National Laboratory Site 300 Pit 7 Complex", Environmental Restoration Division, LLNL, UCID-21685, 1989.

Buddemeier RW and Oberdorfer JA, "Climate Change and Island Groundwater Resources" in: Studies and Reviews of Greenhouse Related Climate Change Impacts on Pacific Islands, for United Nations Environmental Programme, 1989.

Buddemeier RW and Oberdorfer JA, "Hydrogeology and Hydrodynamics of Coral Reef Pore Waters," Proceedings of the Sixth International Coral Reef Congress, Australia, August 1988.

Oberdorfer JA and Buddemeier RW, "Climate Change: Effects on Reef Island Resources," Proceedings of the Sixth International Coral Reef Congress, Australia, August 1988.

Buddemeier RW, Ruggieri MR, and Oberdorfer JA, "Tritium in Groundwater at Site 300," Lawrence Livermore National Laboratory, UCID-21031, April 1987.

Oberdorfer JA and Buddemeier RW, "Coral Reef Hydrology: Field Studies of Water Movement within a Barrier Reef," Coral Reefs, Vol. 5, May 1986.

Buddemeier RW and Oberdorfer JA, "Internal Hydrology and Geochemistry of Coral Reefs and Atoll Islands: Key to Diagenetic Variations," in Coral Reef Diagenesis, Schroeder J and Purser B (eds), Springer-Verlag, 1986.

Oberdorfer JA and Peterson FL, "Wastewater Injection: Geochemical and Biogeochemical Processes and Their Relationship to Clogging," Groundwater, **23**(6), November-December 1985.

Oberdorfer JA and Buddemeier RW, "Coral Reef Hydrogeology," Proceedings of the Fifth International Coral Reef Congress, Tahiti, May 1985.

Peterson FL and Oberdorfer JA, "Uses and Abuses of Wastewater Injection Wells in Hawaii," Pacific Science, **39**(2), March-April 1985.

Peterson FL and Oberdorfer JA, "Wastewater Injection Well Clogging Problems," Proceedings, International Conference on Groundwater and Man, Sydney, Australia, December 1983.

Oberdorfer JA and Peterson FL, "Wastewater Injection Well Problems, Processes and Standards," Water Resources Research Center, University of Hawaii, Technical Report No. 146, December 1982.

### **Abstracts Published**

Beers, S.R.; Herkelrath, W.N.; Kharaka, Y.K.; Thordsen, J.T.; Oberdorfer, J.A.; Rauch, H.W.; Ambats, G., Hydrology and Changes in Shallow Groundwater Geochemistry as a Result of CO<sub>2</sub> Injection at the ZERT Site, Bozeman, MT, GSA Abstracts with Programs Vol. 42, No. 5., November 2010

Stieglitz T, Bokuniewicz H, Burnett WC, Cable J, Charette M, Kontar E, Martin J, Moore WS, Oberdorfer J, Peterson R, Povinec PP, de Oliveira J, Taniguchi M, 2008. Submarine Groundwater Discharge from a Fractured Rock Aquifer on the Ubatuba Coastline, Brazil: an Overview of the IAEA-UNESCO Project. *Eos Trans. AGU*, 89(23), *West. Pac. Geophys. Meet. Suppl. Abstract H25B-05*.

Oberdorfer JA, "Modeling of Submarine Groundwater Discharge," Association of Engineering Geologists 43rd Annual Meeting, September 2000.

Oberdorfer JA, "Water Use and Reuse in Silicon Valley," Stockholm Water Symposium, Stockholm, Sweden, August 1999.

Wood DK and Oberdorfer JA, "Observing Particle Movement in a Wellbore Using the Variable-focus Colloidal Borescope," American Geophysical Union Fall Meeting, December 1998.

Madrid V, Demir Z, Taffet M, Woodward R, Hoffman F, and Oberdorfer J, "Shallow Ground Water Response to El Nino Storm Events and Its Impact on Total Tritium Activity in Ground Water beneath the Pit 7 Complex, Lawrence Livermore National Laboratory (LLNL), Site 300," Groundwater Resource Association Convention, October 1998.

Woodward R, Madrid V, Green-Horner L, Taffet M, and Oberdorfer J, "Relative Contribution Of Plume Migration, Source Impact and Radioactive Decay in the Attenuation of Two Tritium Ground Water Plumes at Lawrence Livermore National Laboratory Site 300," AAPG Pacific Section Convention, April 1998.

Oberdorfer JA and Taffet MJ, "Modeling of Ground Water Elevation Control at a Landfill Site," Association of Engineering Geologists 40<sup>th</sup> Annual Meeting, October 1997.

Taffet MJ and Oberdorfer JA, "Ground Water Radionuclide Migration and Remediation at an Explosive Test Site in the Northern California Coast Range," Association of Engineering Geologists 40<sup>th</sup> Annual Meeting, October 1997.

Wood DK and Oberdorfer JA, "Optimizing Well Locations Using the Variable-focus Colloidal Borescope, an Instrument Providing Direct Reading of Groundwater Flow," Association of Engineering Geologists 40<sup>th</sup> Annual Meeting, October 1997.

Oberdorfer JA, "Numerical Modeling of Coastal Discharge: Predicting the Effects of Climate Change," International Symposium on Groundwater Discharge to the Coastal Zone, Russian Academy of Sciences, Moscow, Russia, July 1996.

Oberdorfer JA and Buddemeier RW, "Climate Vulnerability Assessment of Atoll Island Groundwater Resources," Geological Society of America Annual Meeting, November 1995.



Taffet M, Carlsen T, Volpe A, Madrid V, Green-Horner L, Mecham G, and Oberdorfer J, "Characterization of Natural and Depleted Uranium in Sedimentary Rocks and Ground Water at Lawrence Livermore National Laboratory (LLNL) Site 300, Coast Ranges, Northern California," Geological Society of America Annual Meeting, November 1995.

Oberdorfer J, Huggins E, Buangan A, and Yalom M, "Hydrogeology of a Land Treatment Facility for Petroleum Waste, Coalinga, California," Association of Engineering Geologists Annual Meeting, October 1995.

Oberdorfer J, "Hydrogeology of the Santa Teresa Sub-Basin, Santa Clara County, California," Pacific Section Meeting of the Society of Economic Paleontologists and Mineralogists, May 1995.

Huggins E, Buangan A, Oberdorfer J, and Yalom M, "Hydrogeology of a Petroleum Waste Land Treatment Facility, Fresno County, California," Pacific Section Meeting of the Society of Economic Paleontologists and Mineralogists, May 1995.

Cook G and Oberdorfer J, "Remediation of a Gasoline Spill by Soil Vapor Extraction," Conference on Petroleum Hydrocarbons and Organic Chemicals in Groundwater, National Groundwater Association, November 1991.

Cook G, Oberdorfer J, Folsom E, and Orloff S, "Characterization and Monitoring of a Gasoline Spill Using Multipoint Vadose Zone Monitoring Devices," EOS, Vol. 72, pp. 183-184, 1991.

Vorst R, Bishop D, Rice D, Viani B, Peifer D, and Oberdorfer J, "Role of Mineralogy in Determining Transport of Halogenated Hydrocarbons in Organic-Poor Ground Water Systems," EOS, **71**(44), December 1990.

Taffet MJ, Lamarre A, and Oberdorfer J, "Landfill Performance Amid Geologic Uncertainty - Learning from a Case Study," Geological Society of America Annual Meeting, October 1990.

Cummings C and Oberdorfer J, "Computer Modeling of Slug and Bail Tests," EOS, **70**(45), 1989.

Oberdorfer JA and Valentino MJ, "Groundwater Contribution to the Nutrient Budget of Tomales Bay, California," EOS, **69**(44), 1988.

Oberdorfer JA and Buddemeier RW, "Climatic Effects on Reef Island Resources," Sixth International Coral Reef Symposium, August 1988.

Buddemeier RW and Oberdorfer JA, "Hydrogeology and Hydrodynamics of Coral Reef Pore Waters," Sixth International Coral Reef Symposium, August 1988.

Hogan P and Oberdorfer J, "Modeling of an Atoll Island: Freshwater-Saltwater Interaction from Tidally Induced Flow," EOS, **68**(44), 1987.

Oberdorfer JA and Toney K, "Water Transport in the Vadose Zone Beneath a Drainage Retention Basin," EOS, **67**(45), 1986.

Toney K and Oberdorfer J, "Quantifying Groundwater Recharge from a Drainage Retention Basin," EOS, **67**(45), 1986.

Young D and Oberdorfer J, "Hydrogeology of the Northwest Portion of Lawrence Livermore National Laboratory, Site 300," Association of Engineering Geologists 29th Annual Meeting, San Francisco, October 1986.

Oberdorfer JA, "An Overview of Vadose Zone Transport and Monitoring," Annual Meeting of Association of Engineering Geologists, Winston-Salem, October 1985.

Oberdorfer JA and Buddemeier RW, "Atoll Island Groundwater Contamination: Rapid Recovery from Saltwater Intrusion," 27th Annual Meeting of Association of Engineering Geologists, Boston, October 1984.

Oberdorfer JA and Buddemeier RW, "Hydrogeology of a Great Barrier Reef: Implications for Groundwater in Reef and Atoll Islands," EOS, **64**(45), 1983.

Peterson FL and Oberdorfer JA, "Wastewater Injection Well Clogging Problems," International Conference on Groundwater and Main, Sydney, Australia, December 1983.

Oberdorfer JA and Peterson FL, "Wastewater Injection: Near Well Processes and Their Relationship to Clogging," 26th Annual Meeting of Association of Engineering Geologists, San Diego, October 1983.

Oberdorfer JA, "Waste Injection Practices and Problems in Coastal Environments," 15th Pacific Science Congress, Dunedin, New Zealand, February 1983.

Oberdorfer JA and Peterson FL, "Near Well Effects of Treated Sewage Injection," EOS, **62**(45), 1981.