JOSEPH ERIC ODENCRANTZ, Ph.D., P.E.

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Professional Overview

Dr. Joseph Odencrantz is a California-based environmental and water specialist with extensive experience in the private/public sectors. Dr. Odencrantz is a water and environmental expert with a unique set of qualifications and experience that spans from traditional civil and environmental engineering to current state-of-the-art methods. He directs routine and complex analysis, investigations, water resources, special projects, water treatment, waste water treatment and remediation projects on behalf of a variety of clients. He has extensive testifying experience as an expert witness.

Education

Ph.D., Civil & Environmental Engineering, Environmental Engineering and Science, University of Illinois at Urbana-Champaign: *Area of Specialization-Groundwater and Environmental.*
Dissertation Title: Modeling the Biodegradation Kinetics of Dissolved Organic Contaminants in a Heterogeneous Two-Dimensional Aquifer

Completed The University of Waterloo Summer Hydrogeology Field School, Canada. A three-week applied program in which two graduate students from the United States are invited to attend each year.

M.S., Civil Engineering, University of Illinois at Urbana-Champaign: *Area of Specialization-Water Resources Systems and Hydrology*
Masters Project Title: Experimental Investigation of Mass Exchange from Recirculating Regions of Rivers and Streams

B.S., Civil Engineering, University of Maine at Orono. Summer Cooperative Education Project Report Title: Effectiveness of Silt Fence at Reducing Sediment Load Through a Sensitive Salmon Spawning Area via Regression Analysis of Sediment Transport Data

Professional Positions

- Tri-S Environmental, Sensible Strategies and Solutions for the Environment, Principal Civil and Environmental Engineer, Newport Beach, California, Current
- Kyoto University, Research Center for Environmental Quality Management, Visiting Scholar.

Professional License (PE)

Registered Professional Civil Engineer, State of California C 61137. License issued on July 28, 2000 and expires on December 31, 2024

Professional Certification (BCEE)

Board Certified Environmental Engineer in the Specialty Site Remediation (Member Number 13899), American Academy of Environmental Engineers Certification Board, American Academy of Environmental Engineers and Scientists

Awards

Sir Francis T. Crowe Society, Distinguished Member with Medallion, University of Maine at Orono (for recognition of considerable engineering contributions and honor to the profession)

Young Civil Engineering Achievement Award, University of Illinois at Urbana-Champaign Civil Engineering Alumni Association.

Certificate of Excellence, City of Costa Mesa, California for Outstanding Performance and lasting Contribution to Stormwater Pollution Prevention,

Notable Projects

- Aerojet Rocketdyne, Ranch Cordova, California:

UV H_2O_2 Oxidation Expert (TrojanUVPHOX) and Groundwater Remediation

- Union Station, City of Los Angeles, California:

Gateway Center Parking Garage Dewatering System Project
Design/Manager/Sulfide Removal/UV H_2O_2 Oxidation (PeroxPure)

- City of Dallas, Texas:

Explorer Pipeline Break/Water Supply Response Consultant

- City of South Lake Tahoe, California:

Groundwater Expert

- City of Fryeburg, Maine:

Over-Pumping of Local Groundwater Consultant

- City of Punta Cana, Dominican Republic:

Seawater Intrusion Consultant

- William Lyon Homes, California:

Groundwater and Landslide Analysis Expert

- Atlas Galvanizing, California:

Stringfellow Superfund Site Expert

- Repsol, Spain:

Soil, Sediment and Groundwater Consultant for Europe and South America. Some refinery wastewater projects in Europe were implemented using FIDIC conditions of contract

- Shell Exploration&Production, California:

Soil and Groundwater Expert on the Taper Site

- Coast Wholesale Florist, California:

Most Knowledgeable Person Testimony for Transport and General Operations

- Walnut Creek Manor, California:

Soil and Groundwater Consultant, Hookston Site

- Unocal, California:

Guadalupe Oil Field Volume Estimation Consultant and Product Recovery

Editorial Boards

Associate Editor, *Journal of Remediation*-Wiley, Current.
Associate Editor, *Biodegradation*-Springer, Current.

Examples of Professional Experience

- Served as an expert for Occidental Chemical Corporation (Formerly Hooker Chemical) in the Federal case L.A. Terminals, Inc. *v.* City of Los Angeles (2:18-cv-06754) District Court, Central District of California. The site is located in the Port of Los Angeles. The subject matter involved the history of chlorinated solvent contamination, the extent of contamination, remediation methods, monitoring, beneficial uses of water resources and long-term response cost expenditures.

- Environmental and water expert for international arbitration cases on behalf of several prominent law firms, municipalities, oil companies and insurance organizations. These cases involved impacts to public and private water supply systems (groundwater and surface water), waste water treatment systems and the responsible party's previous knowledge of the fate, transport and taste/odor characteristics of organic compounds.

- Provided expert consulting services to Dallas Water Utilities (DWU), Dallas, Texas in response to the largest surface water impact of MTBE in United States history. Designed and managed the collection of data from surface water, soil and sediments in an effort to track gasoline components released from a substantial pipeline rupture. Participated in numerous public meetings on DWU's behalf in a

- n effort to keep the citizens of Dallas informed of the risk to their water supply and treatment systems.

- Designed and managed a groundwater dewatering and treatment system as part of the construction of the second largest subterranean parking structure west of the Mississippi River and a forty-story tower. The primary goal of the project was to lower the groundwater table 20 feet over approximately ten acres and keep the water level down for a two year period. Located in Los Angeles, the 1.2 million gallons per day Gateway Center Water Treatment Plant consisted of extensive pH adjustment, hydrogen peroxide addition for hydrogen sulfide removal and UV oxidation/activated carbon for trace petroleum hydrocarbons and chlorinated solvent removal. A prototype hydrogen peroxide control system was implemented to minimize the hydrogen peroxide usage. A Catellus Development Corporation and Rapid Transit District of Los Angeles project.

- Directed the Carson Regional Groundwater Group's Groundwater and Hydrocarbon Model (CRGGCAD) calibration (Wilmington-Carson, California). The CRGGCAD model consisted of a groundwater flow model, a hydrocarbon flow model and a dissolved phase transport model that interfaces with a comprehensive database from four oil refineries and one distribution terminal. The model consists of a 30 square mile regional model that communicates to five smaller scale model domains (1.5 square miles) through boundary conditions. The calibration of CRGGCAD was performed by using data from 1,700 monitoring wells in conjunction with the predictions from the CRGGCAD model. The CRGGCAD model serves two primary purposes: a. The Los Angeles Regional Water Quality Control Board sees CRGGCAD as the result of a unique cooperative effort among five major oil companies and b. The calibrated model is used to investigate a variety of specific remedial alternatives.

- Estimated the diluent (diesel) volume in the subsurface at a site in Guadalupe, Central California. The site is an oil field approximately 3,500 acres in size with 29 known pools of product within its boundaries. The "floating product" spread over an area of approximately 100 acres. The estimated volume was a critical element of the project as it was subject to close scrutiny by the regulatory agencies and the public. The Sacramento Bee covered this story extensively.

- Conducted research in the general area of biodegradation modeling/phenomena in groundwater as part of the United States Department of Energy's Subsurface Science Program. Developing and applying a fate and transport model capable of describing different biodegradation kinetics expanded the research. The developed model was used to examine the interaction of biodegradation, adsorption, advection, and dispersion in stratified porous media at Battelle's Pacific Northwest Laboratory, Richland, Washington.

- Wrote sections of the report entitled *Basinwide Instream Flow Assessment Model to Evaluate Flow Needs*, Bureau of Reclamation, US Department of Interior, Washington, D.C. A probabilistic model was developed to incorporate hydraulic geometry relationships to average flow parameter values without the necessity of field observations. The results of the model were used to quantify sufficient or minimum flow

needed to sustain the aquatic habitat is necessary for satisfactory resolution of water use conflicts and planning of water allocation strategies. Pool and riffle sequences from numerous streams in Central Illinois were correlated to drainage area, slope and other hydrologic variables.

- Wrote sections of the report entitled *Hydraulic Interaction of the Fox River with Shallow Aquifers*, Illinois State Water Survey. The effect of switching from groundwater to surface water was examined for the community of Elgin by conducting detailed surface water measurements in the Fox River west of Chicago, Illinois. Water withdrawals from the deep sandstone aquifers were reduced because of steeply falling piezometric levels and declining water quality. The results of the analysis were used to properly manage the withdrawals of water from the Fox River and the groundwater aquifer beneath it.

- Supervised data collection and analysis for cost minimization analysis for surface water flow monitoring stations throughout New England for the U.S. Geological Survey, Water Resource Division. Results of the analysis were eventually used to support the elimination of forty percent of the active stations in the district. Also performed pumping and slug tests and installed groundwater monitoring wells at a peat bog located in the "down east" portion of the State of Maine.

- Directed water quality monitoring program of a sensitive salmon-spawning area in a brook that ran through the middle of a large interstate construction project for the Maine Department of Transportation. Developed a sediment transport model through the highway construction project in Brewer, Maine. Thousands of turbidity measurements were taken in Felt's Brook and dozens of tributaries leading to it. Developed a model of the exposed fill erosion potential based upon stream turbidity data, rainfall intensity and duration, land and stream slopes, and other environmental data. The multi-variable nonlinear regression model of the construction area, turbidity measurements and other hydrologic variables proved useful to aid in the placement of erosion control equipment. Field responsibility was to inspect the integrity of various erosion control systems

Publications

1. Galperin, Y. and Odencrantz, J.E. 2022. Biodegradation dynamics disparity between n-alkanes and polycyclic aromatic hydrocarbons in the vadose zone: A Critical Review, Remediation Journal, Wiley Periodicals, 119-128.
2. Odencrantz, J. 2015. Property Line Contamination Issues and Associated Risks to Buildings plus Cross-Contamination Issues & Water Supply Protection. *Keynote Address*. Proceedings of the 3rd International Symposium on Advances in Civil and Environmental Engineering Practices for Sustainable Development-ACEPS 2015, held on March 9, 2015. Galle, Sri Lanka. Pages 2-9.
3. McHugh, T., K. Gorder, T. Kuder, R. Philp, S. Fiorenza, H. O`Neill and J.Odencrantz. 2010. Use of CSIA to Distinguish Between Vapor Intrusion and Indoor Sources of VOCs. Air & Waste Management Association Vapor Intrusion 2010 Conference, September 29-30, Chicago, Illinois.
4. Odencrantz, J.E. and H. O`Neill. 2010. Sustainable, Low-Profile Investigation Technique Finds Numerous Contaminant Sources: Bronx Borough, New York City Example. Proceedings of the Battelle Seventh International Conference on

Remediation of Chlorinated and Recalcitrant Compounds---2010, Monterey, CA, May 24-27, Battelle Memorial Institute.

5. McHugh, T., K. Gorder, R. Philip, T. Kuder, J. Odencrantz, and H. O'Neill. 2010. Use of Compound-Specific Isotope Analysis to Distinguish between Vapor Intrusion and Indoor Sources. Proceedings of the Battelle Seventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds---2010, Monterey, CA, May 24-27, Battelle Memorial Institute.
6. O'Neill, H. and J. Odencrantz. 2010. Wide-Area, Nonintrusive Characterization Technique at Munitions Disposal Site. Proceedings of the Battelle Seventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds---2010, Monterey, CA, May 24-27, Battelle Memorial Institute.
7. O`Neill, H.S., J.E. Odencrantz, W. Bratton and K. Moser. 2010. Innovative, Non-Intrusive Passive Soil Gas Collection Device Maps Large Carbon Tetrachloride Plume at the DOE Hanford Site, Washington. Proceedings of the 36th Annual Waste Management Conference, WM2010, presented by WM Symposia, Session 72. Phoenix Convention Center, March 7-11.
8. Odencrantz, J.E., S. C. Thornley and H. O`Neill. 2009. An Evaluation of the Performance of Multiple Passive Diffusion Devices for Indoor Air Sampling of VOCs, The Journal of REMEDIATION, Wiley Periodicals, Vol. 19, No. 4, Inc., pp. 63-72.
9. Odencrantz, J.E., and H. O`Neill. 2009. New Technique for Passive Soil Gas Surveys: Advanced Analytical Procedures and Mass to Concentration Tie-In Approach, EPA Region 6, 19th Annual Quality Assurance Conference, Dallas, Texas, Oct. 19- 23.
10. Odencrantz, J.E., and H. O`Neill. 2009. Passive Soil Gas Survey Mass to Concentration Tie-In Procedure: Improved Technique For A New Realm Of Interpretive Power, Proceedings: Annual Water Symposium (Joint Arizona Hydrological Society &American Institute of Hydrology), Scottsdale, Aug. 30-Sept. 2.
11. Odencrantz, J.E., and H. O`Neill. 2009. Passive to Active Tie-In for Soil Gas Surveys: Improved Technique for Source-Area, Spatial Variability, Remediation-Monitoring, and Vapor-Intrusion Assessment, The Journal of REMEDIATION, Wiley Periodicals, Inc., Vol. 19., No. 2, Spring Issue, pp. 71-83.
12. Odencrantz, J.E., H. O`Neill, and P.C. Johnson. 2009. Mass to Concentration Tie-In for Passive Soil Gas Surveys: Improved Technique for Source Area, Spatial Variability and Vapor Intrusion Assessment, Proceedings of the Air and Waste Management Association Vapor Intrusion 2009 Specialty Conference, San Diego, CA, January 27-30.
13. Odencrantz, J.E., S. C. Thornley and H. O`Neill. 2009. An Evaluation of Indoor Air Sampling Procedures: Short Duration vs. Long Duration Sampling. The U.S.E.P.A. National Forum on Vapor Intrusion, January 12-13, Philadelphia, PA.
14. Byrnes, M.E with J.E. Odencrantz, Contributor. 2008. Field Sampling Methods for Remedial Investigations, CRC Press, New York, 344 pages.
15. Clarke, J.N., D. Goodwin, H.O`Neill and Odencrantz, J.E. 2008. Application of Passive Soil Gas Technology to Determine the Source and Extent of a PCE Groundwater Plume in an Urban Environment, The Journal of REMEDIATION, Wiley Periodicals, Inc., Vol. 18., No. 4, pp. 55-62.
16. Odencrantz, J.E., S.J. Steinmacher, H. O`Neill, J.D. Case and P.C. Johnson. 2008 Residential Vapor Intrusion Evaluation: Long Duration Passive Sampling v. Short

Duration Active Sampling, The Journal of REMEDIATION, Wiley Periodicals, Inc., Vol. 18., No. 4, pp. 49-54.

17. Odencrantz, J.E., P.C. Johnson and H.O`Neill. 2008 Mass to Concentration Tie-In for Passive Soil Gas Surveys: Improved Technique for Source Area, Spatial Variability and Vapor Intrusion Assessment. Presented at Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Prevention, Detection, and Remediation Conference, November 3-4 with 9-page paper in Proceedings.
18. Odencrantz, J.E., S.J. Steinmacher, H. O`Neill, J.D. Case and P.C. Johnson. 2008. Residential Vapor Intrusion to Indoor Air Comparative Study: Canisters vs. Sorbent Tubes vs. Passive Diffusion Samplers. Presented at the 24th Annual International Conference on Soils, Sediments and Water, at the University of Massachusetts at Amherst, October 20-23 with 6-page paper in Proceedings.
19. O`Neill. H. and J.E. Odencrantz. 2008. Use of Advanced Passive Soil Gas Technology for Site Conceptualization and Closure Strategies. Presented at the 24th Annual International Conference on Soils, Sediments and Water, at the University of Massachusetts at Amherst, October 20-23 with 10-page paper in Proceedings.
20. Odencrantz, J.E., S.J. Steinmacher, H. O`Neill, J.D. Case and P.C. Johnson. 2008. EPA Method TO-15, EPA Method TO-17 and British MDHS 80 Comparisons: DoD Regional Groundwater Plume and Residential Vapor Intrusion Measurements. The 24th Annual National Environmental Monitoring Conference, August 11-15, Washington, D.C with 7-page paper in Proceedings.
21. Dayanthi, W.K.C.N., T. Shigematsu, H. Tanaka, N. Yamashita, and J. E. Odencrantz, (2008), Modeling Nitrogen Dynamics in a Soil Column with Reclaimed Water: Okinawa, Japan Application, Advances in Asian Environmental Engineering Journal, Vol. 7, No. 1, 61-70.
22. Odencrantz, J.E., S.J. Steinmacher, H. O`Neill, J.D. Case and P.C. Johnson. 2008. Residential Vapor Intrusion to Indoor Air Comparative Study: Canisters vs. Sorbent Tubes vs. Passive Diffusion Samplers, Proceedings of the Air and Waste Management Association Annual Meeting, Portland, OR, June 23-26.
23. Odencrantz, J.E., H. O`Neill and J.T. Kirkland. 2008. Canisters v. Sorbent Tubes: Vapor Intrusion Test Method Comparison, Proceedings of the Battelle Sixth International Conference on Remediation of Chlorinated and Recalcitrant Compounds---2008, Monterey, CA, May 19-22, Paper A-013, Battelle Memorial Institute, 7 pp.
24. Odencrantz, J.E. and H. O`Neill. 2008. Groundwater Plume, Source and Risk Identification Using Passive Soil Gas, Proceedings of the Battelle Sixth International Conference on Remediation of Chlorinated and Recalcitrant Compounds---2008, Monterey, CA, May 19-22, Paper F-014, Battelle Memorial Institute, 5 pp.
25. Clarke, J.N., D. Goodwin, H. O'Neill and J.E. Odencrantz. 2008. Preliminary Investigation of a Perchloroethylene (PCE) Plume Using a Passive Soil Gas Survey. Proceedings of the Battelle Sixth International Conference on Remediation of Chlorinated and Recalcitrant Compounds---2008, Monterey, CA, May 19-22, Paper Q-022, Battelle Memorial Institute, 5 pp.
26. Clarke, J.N., H. O'Neill and J.E. Odencrantz. 2008. Assessment of Vapor Intrusion to Indoor Air, South Mesa State Superfund Site, Gilbert, Arizona. Proceedings of the Battelle Sixth International Conference on Remediation of Chlorinated and

Recalcitrant Compounds---2008, Monterey, CA, May 19-22, Paper Q-023, Battelle Memorial Institute, 7 pp.

27. Odencrantz, J.E. 2007. Report on Visiting Professorship at Research Center for Environmental Quality Management, Kyoto University, Environmental & Sanitary Engineering Research-Japan, The Association of Environmental & Sanitary Engineering Research, Volume 21, No. 4, pp. 49-53.
28. Dayanthi, W.K.C.N., T. Shigematsu, H. Tanaka, N. Yamashita, and J. E. Odencrantz, (2007), Comparison of nitrogen dynamics in soil due to continuous and intermittent irrigation of reclaimed water: an application to Okinawa Island, Japan, 6th IWA Specialty Conference on Wastewater Reclamation & Reuse for Sustainability, Antwerp, Belgium, October 9-12, 12 pages.
29. Dayanthi, W.K.C.N., T. Shigematsu, H. Tanaka, N. Yamashita, and J. E. Odencrantz, (2007), Estimation of Rate Constants for Nitrification and Denitrification in a Soil Column Irrigated with Reclaimed Water, Proceedings of the 16th Joint KKKN (KAIST-KYOTO-NTU-NUS) Symposium on Environmental Engineering, National Taiwan University, Penghu, Taiwan, pp. 241-253.
30. Odencrantz, J.E., M. Nishimura and H. Yamauchi. 2006. Natural Attenuation Rate Quantification: Dispersion, Decay, Biodegradation and Half-Lives Summary, Proceedings of Japanese Association of Groundwater Hydrology Conference, Kurashiki, Japan, October 26-27, pp. 171-177.
31. Odencrantz, J.E. 2006. Tracking of Release and Remediation Progress from Large Pipeline Break East of Dallas, Texas: Protection of Lake Tawakoni Water Supply, The Journal of REMEDIATION, John Wiley & Sons, Inc., Vol. 16., No. 4, pp. 57-70.
32. Odencrantz, J.E. 2006. Environmental Impacts from Largest Gasoline Spill in U.S.A. History on the City of Dallas Water Supply-Lake Tawakoni, Environmental & Sanitary Engineering Research-Japan, The Association of Environmental & Sanitary Engineering Research, Volume 20, No. 3, pp. 1-3.
33. Odencrantz, J.E. 2006. Environmental Impacts from Largest Gasoline Spill in U.S.A. History on the City of Dallas Water Supply-Lake Tawakoni, Invited International Speaker, 28th Annual Kyoto University Environmental Engineering Symposium, Kyoto University Clock Tower, Japan, July 18-19.
34. Odencrantz, J.E. 2005. Environmental Impacts from Largest MTBE Release in History, Invited Keynote Speaker, National Ground Water Association Conference on MTBE and Perchlorate: Assessment, Remediate, and Public Policy. San Francisco, California, May 26-27.