

## **Alan Jang – Publications & Presentations**

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### **PUBLICATIONS**

- Jang, W.**, and M.M. Aral. 2010. "In-situ Air Sparging and Thermal Venting in Groundwater Remediation." In *ASCE/EWRI Groundwater Management Handbook*, edited by M.M. Aral and S. Taylor. Environmental & Water Resources Institute of American Society of Civil Engineers (ASCE/EWRI).
- Jang, W.**, and M.M. Aral. 2009. "Multiphase flow fields in in-situ air sparging and its effect on remediation." *Transport in Porous Media*, vol. 76, no.1: pp. 99-119.
- Maslia, M.L., M.M. Aral, R.E. Faye, R.J. Suárez-Soto, J.B. Sautner, J. Wang, **W. Jang**, F.J. Bove, and P.Z. Ruckart. 2009. "Reconstructing Historical Exposures to Volatile Organic Compound-Contaminated Drinking Water at a U.S. Military Base." *Journal of Water Quality, Exposure and Health*, vol. 1, no. 1: pp. 49-68.
- Jang, W.**, 2008. "Multiphase Flow and Multispecies Transport in the Subsurface." Saarbrücken, Germany: VDM Verlag Dr. Müller GmbH & Co. KG.
- Jang, W.**, and M.M. Aral. 2008. "Effect of biotransformation on multispecies plume evolution and natural attenuation." *Transport in Porous Media*, vol. 72, no. 2: pp. 207-226.
- Jang, W.**, and M.M. Aral. 2007. "Density-driven transport of volatile organic compounds and its impact on contaminated groundwater plume evolution." *Transport in Porous Media*, vol. 67, no. 3: pp. 353-374.
- Jang, W.**, and M.M. Aral. 2003. "Concentration evolution of gas species within a collapsing bubble in a liquid medium." *Environmental Fluid Mechanics*, vol. 3, no. 3: pp. 173-193.
- Lee, C.H., J.Y. Lee, **W. Jang**, Y.H. Jeon, and K.K. Lee. 2002. "Evaluation of air injection and extraction tests at a petroleum-contaminated site, Korea." *Water, Air & Soil Pollution*, vol. 135, no. 1-4: pp. 65-91.
- Lee, C.H., **W. Jang**, Y.H. Jeon, J. Lee, and K. Lee. 2000. "Study on air permeability and radius of influence in soil vapor extraction and bioventing." *Korean Society of Groundwater Environment*, 7(1): 24-31.
- Koo, J.K., **W. Jang**, S. Lee, and S.K. Kim. 1994. "System optimization of general waste management in Taejon City considering separation efficiency." *Journal of Korea Solid Waste Society*, vol. 11, no. 4: pp. 520-525.

### **PRESENTATIONS AND PROCEEDINGS**

- Jang, W.**, and M.M. Aral. 2014. "Modeling of Groundwater Contamination by Light Nonaqueous Phase Liquids (LNAPLs)." *2014 NGWA Groundwater Summit*, Denver, CO, 4-7 May.
- Anderson, B.A., **W. Jang**, M.M. Aral, and M.L. Maslia. 2013. "Estimating Historical Contaminant Mass Volumes lost to the Subsurface at a U.S. Military Base: Graphical, Semi-Analytical, and Numerical Techniques." *IPWE 2013, 6<sup>th</sup> International Perspective on Water Resources & the Environment*, the Environmental & Water Resources Institute (EWRI), American Society of Civil Engineers, Izmir, Turkey. 7-9 January (Accepted).
- Jang, W.**, and M.M. Aral. 2010. "The Effect of Atmospheric Chemical Release on the Reduction in Groundwater Pollution by CVOCs." *World Environmental & Water Resources Congress 2010*, American Society of Civil Engineers, Providence, Rhode Island, 16-20 May.

- Guan, J., **W. Jang**, M.L. Morris, and M.M. Aral. 2010. "Historical Reconstruction of Groundwater Contamination at Contaminated Sites and Uncertainty Analysis." *World Environmental & Water Resources Congress 2010*, American Society of Civil Engineers, Providence, Rhode Island, 16-20 May.
- Jang, W.**, and M.M. Aral. 2009. "Modeling of chlorinated VOCs transport under dual bioreactions." *World Environmental & Water Resources Congress 2009*, American Society of Civil Engineers, Kansas City, Missouri, 17-21 May.
- Jang, W.**, and M.M. Aral. 2008. "The effect of oxygen transport on biotransformation of trichloroethylene in the subsurface," *World Environmental & Water Resources Congress 2008*, American Society of Civil Engineers, Honolulu, HI, 13-16 May.
- Jang, W.**, and M.M. Aral. 2007. "Modeling of co-existing anaerobic-aerobic biotransformations of chlorinated ethenes in the subsurface." *The Third International Conference on Environmental Science and Technology 2007*, American Academy of Science, Houston, TX, 6-9 August.
- Maslia, M.L., F. Bove, J.B. Sautner, R. Suarez-Soto, P.Z. Ruckart, R.E. Faye, M.M. Aral, J. Wang, **W. Jang**, and W.M. Grayman. 2007. "Reconstructing Historical Exposure to Volatile Organic Compound Contamination of Drinking Water Supplies at U.S. Marine Corps Base Camp Lejeune, North Carolina: An Epidemiological Study of Childhood Birth Defects and Cancers." *Second National Conference on USGS Health-Related Research*, U.S. Geological Survey, Reston, VA, 27 February-1 March.
- Jang, W.**, and M.M. Aral. 2006. "Modeling of multiphase flow and contaminant removal under in-situ air sparging." *Air & Waste Management Association's 99th Annual Conference and Exhibition*, New Orleans, LA, 20-23 June.
- Jang, W.**, and M.M. Aral. 2006. "Numerical analysis on natural attenuation of a volatile organic compound." Poster Presentation, *AEES 2006 Environmental Engineering Symposium*, Georgia Institute of Technology, Atlanta, GA, 7 April.
- Jang, W.**, and M.M. Aral. 2006. "In-situ air sparging simulation using TechFlowMP," Poster Presentation, *AEES 2006 Environmental Engineering Symposium*, Georgia Institute of Technology, Atlanta, GA, 7 April.
- Jang, W.** 2005. "Multiphase flow and contaminant removal under in-situ air sparging." *Seminar*, U.S. Environmental Protection Agency (EPA), Athens, GA, 27 July.
- Jang, W.**, and M.M. Aral. 2005. "Density-dependent transport and sequential biotransformation of trichloroethylene in the variably saturated zone." *International Conference on Environmental Science and Technology*, American Academy of Science, New Orleans, LA, 23-27 January.
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- Lee, S.H., J.M. Park, **W. Jang**, and K.P. Lee. 1997. "Oxygen transfer and biodegradation rates in soil-water systems." *Proceedings of Spring Conference, Korean Society of Soil Environment*, South Korea.
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- Choi, S.I., D.H. Ryoo, C.S. Song, K.R. Lee, and **W. Jang**. 1996. "Application of in-situ flushing to the soil contaminated by organic compounds." *Spring Conference, Korean Society of Environmental Engineering*, South Korea.
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- Koo, J.K., **W. Jang**, N.H. Lee, and S.P. Yoon. 1995. "Study on heavy metal attenuation capacity to reuse old landfill soil as a cover material of new landfills." *Proceedings of the Fifth International Landfill Symposium, Sardinia 95*, 1:887-896, Italy.
- Kim, S.W., J.K. Koo, and **W. Jang**. 1993. "Status of the generation and treatment of medical waste and a strategy for the improvement of its management system in Korea." *Proceedings of 1993 Pacific Basin Conference on Hazardous Waste, Pacific Basin Consortium for Hazardous Waste Research*, Hawaii.