

Curriculum Vitae for Peter Kjeldsen

Name Peter Kjeldsen, Associate Prof. Ph.D., MSCE

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Business

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Vital Statistics

Born June 7, 1957 in Kingston, Jamaica; married, three children, Danish citizenship.

Education

1986 Assigned the Ph.D. degree at the Technical University of Denmark
1982 MSCE from Technical University of Denmark

Employment

August 1999 – July 2000

Visiting researcher at Department of Civil Engineering, North Carolina State University for collaboration within the field of landfills and groundwater remediation

November 1994-

Employed as Associate Professor at Department of Environmental Science and Engineering – now Department of Environmental Engineering, DTU

May 1991-

Employed as Assistant Professor at Department of Environmental Engineering, Technical University of Denmark

September 1986 - May 1991

Employed as project coordinator at the R&D programme "Reclamation of landfill leachate polluted groundwater" (funded by the Danish EPA and the European Committee)

November 1986

Assigned the Ph.D. degree at the Technical University of Denmark

July 1985 - August 1986

Employed as Research Assistant at Department of Environmental Engineering, Technical University of Denmark on projects on new landfill technologies and leaching of industrial wastes

August 1982 - May 1985

Ph.D. student at Department of Environmental Engineering, Technical University of Denmark working on the project " Attenuation of landfill leachate in soil and aquifer material"

Recent Professional Services

2007- Director of education and member of managing board at Department of Environmental Engineering, DTU

2006- Associate Editor of the journal "Waste Management"

2004- Author for the Intergovernmental Panel on Climate Change Fourth Assessment Report

2004-2007 Director of the International Masters Programme in Environmental Engineering at DTU

2002- Coordinator of the environmental engineering education at Technical University of Denmark

Research Areas

- Groundwater remediation (natural attenuation and reactive barriers)
- Environmental aspects of waste disposal
- Contaminated soils (mainly leaching of organics from soil and gaseous transport and fate of volatile pollutants)

Recent publications in peer-reviewed journals

- Bouchard, D., Hunkeler, D., Gaganis, P., Aravena, R., Höhener, P., Broholm, M.M. and Kjeldsen, P. (2008): Carbon isotope fractionation during migration of petroleum hydrocarbon vapors in the unsaturated zone: field experiment at Værløse Airbase, Denmark, and modeling. *Environmental Science & Technology*, 42, 596-601.
- Molins, S., Mayer, K.U., Scheutz, C. and Kjeldsen, P. (2008): Role of transport mechanisms in the attenuation of landfill gas in cover soils: a multicomponent modelling study. *Journal of Environmental Quality*, in press.
- Scheutz, C., Bogner, J., Chanton, J.P., Blake, D., Morcet, M., Arane, C. and Kjeldsen, P. (2008): Atmospheric Emissions and Attenuation of Non-Methane Organic Compounds in Cover Soils at a French Landfill, *Waste Management* in press (available on-line: doi:10.1016/j.wasman.2007.09.010.)
- Scheutz, C., Bogner, J., De Visscher, A., Gebert, J., Hilger, H., Huber-Humer, M., Kjeldsen, P., and Spokas, K. (2008): Mitigation of landfill gas emissions by microbial methane oxidation – a review. Submitted.
- Gamst, J., Kjeldsen, P. & Christensen, T.H. (2007): Determination of solute organic concentration in contaminated soils using a chemical-equilibrium soil column system. *Water, Air, and Soil Pollution*, 183, 377-389.
- Scheutz, C.; Dote, Y.; Fredenslund, A.M; Mosbæk, H and Kjeldsen, P.(2007): Attenuation of insulation foam released fluorocarbons in landfills. *Environmental Science & Technology*, 41, 7714-7722.
- Scheutz, C.; Fredenslund, A.M; Tant, M. and Kjeldsen, P.(2007): Release of fluorocarbons from insulation foam in home appliances during shredding. *Journal of the Air & Waste Management Association*, 57, 1452-1460.
- Bartelt-Hunt, S.L., Barlaz, M.A., Knappe, D.R.U. & Kjeldsen, P. (2006): Fate of chemical warfare agents and toxic industrial chemicals in landfills. *Environmental Science & Technology*, 40, 4219-4225.
- Höhener, P., Dakhel, N., Christophersen, M., Broholm, M. & Kjeldsen, P. (2006): Biodegradation of hydrocarbon vapors: comparison of laboratory and field investigations in the vadose zone at the emplaced fuel source experiment, Airbase Værløse, Denmark, *J. Cont. Hydrol*, 88, 337-358 .
- Lai, C.K., Lo, I.M.C., Birkelund, V. & Kjeldsen, P.(2006): Field monitoring of a permeable reactive barrier for removal of chlorinated organics. *Journal of Environmental Engineering*, 132(2), 199-210..
- Lai, K. C. K.; Lo, I. M. C.; and Kjeldsen, P. (2006): Natural Gradient Tracer Test for the Permeable Reactive Barrier in Denmark 1. Field Study of Tracer Movement”, *Practice Periodicals of Hazardous, Toxic and Radioactive Waste Management*, ASCE, 10(4), 231-244.
- Lai, K. C. K.; Lo, I. M. C. and Kjeldsen, P. (2006): Natural Gradient Tracer Test for the Permeable Reactive Barrier in Denmark 2. Spatial Moments Analysis and Dispersion of Conservative Tracer”, *Practice Periodicals of Hazardous, Toxic and Radioactive Waste Management*, ASCE, 10(4), 245-255.
- Broholm, M.M, Christophersen, M., Maier, U., Stenby, E.H. & Kjeldsen, P. (2005): Compositional evolution of the emplaced fuel source in the vadose zone field experiment at Airbase Værløse, Denmark. *Environmental Science & Technology*, 39, 8251-8263.
- Christophersen, M., Broholm, M., Mosbaek, H., Karapanagioti, H., Burganos, V.N. & Kjeldsen, P., (2005). Transport of hydrocarbons from an emplaced fuel source experiment in the vadose zone at Airbase Værløse, Denmark. *J. Cont. Hydrol*, 81, 1-33.
- D'Andrea, P., Lai, C.K., Kjeldsen, P. & Lo, I.M.C. (2005): Effect of groundwater inorganics on the reductive dechlorination of TCE by zero-valent iron. *Water, Air, and Soil Pollution*, 162, 401-420.
- Scheutz, C. & Kjeldsen, P. (2005): Biodegradation of trace gases in simulated landfill soil cover systems. *Journal of Air and Waste Management Association*, 55 (7): 878-885.
- Gaganis, P., Kjeldsen, P. & Burganos, V.N. (2004): Modeling natural attenuation of multicomponent fuel mixtures in the vadose zone: Use of field data and evaluation of biodegradation effects. *Vadose Zone Journal*, 3, 1262-1275.
- Scheutz, C., Mosbæk, H. and Kjeldsen, P. (2004): Attenuation of methane and volatile organic compounds in landfill soil covers. *Journal of Environmental Quality*, 33, 61-71.
- Scheutz, C., and Kjeldsen, P. (2004): Environmental factors influencing methane oxidation and co-oxidation of HCFCs in landfill cover soils. *Journal of Environmental Quality*, 33, 72-79.
- Kjeldsen, P. & Scheutz, C. (2003): Short and Long Term Releases of Fluorocarbons from Disposal of Polyurethane Foam Waste. *Environmental Science and Technology*, 37, 5071-5079.
- Poulsen, T.G., Christophersen, M., Moldrup, P. & Kjeldsen P. (2003): Relating landfill gas emissions from adjacent soil to soil properties and temporal atmospheric pressure gradients using numerical modeling and state-space analysis. *Waste Management & Research*, 21(4), 356-366.
- Scheutz, C., Kjeldsen, P., Chanton, J., Blake, D., and Bogner, J., (2003): Comparative oxidation and net emissions of CH₄ and selected non-CH₄ organic compounds in landfill cover soils. *Environmental Science and Technology*, 37, 5143-5149.
- Scheutz, C., and Kjeldsen, P., (2003). Capacity for biodegradation of CFCs and HCFCs in a methane oxidative counter gradient flow system simulating landfill soil covers. *Environmental Science and Technology*, 37, 5143-5149.