



Curriculum Vitae

Navn Morten Birch Larsen
Stilling Research scientist
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Uddannelse Ph.D., Technical University of Denmark, 2005
M. Sc. , Technical University of Denmark, 2001

Experience record

Period	Employer	Position
2014-	Greenland Institute of Natural Resources	Research scientist
2011-2014	COWI A/S, Lyngby	Project Manager, Specialist
2006-2011	NIRAS A/S, Allerød	Project Manager
2005-2006	Department of Environment and Resources, Technical University of Denmark	Post Doc

Profil

M. Sc. in Environmental Engineering followed by a Ph.D. entitled *Plant uptake of cyanide*. Afterwards Post Doc on an EU project (BioTool) testing the use of tree cores to evaluate subsurface distribution and degradation of chlorinated solvents.

From 2006 to 2014 in the consultancy business working as project manager on environmental site investigations and remediation projects. Focus areas has been advanced site investigations and test of new investigation and remediation methods, direct-push methods, geological modeling and 3D visualization, transport processes and flux calculations, risk assessment and monitoring.

Selected assignments

Test of colloidal borescope. PM on a project, testing a new method for measuring GW flow and direction in screened wells.

Consultant in the monitoring group at the Capital Region. The work included review and re-evaluation of existing monitoring cases, tendering, evaluation of new monitoring results including new risk assessments, new monitoring programs and new monitoring instructions.

Surfactant Enhanced In-Situ Chemical Oxidation (S-ISCO®) and Surfactant Enhanced Product Recovery (SEPR™). Coordinator on a project testing a new in situ method for the remediation of a fuel oil spill. This included detailed project description, evaluation of monitoring data and corporation with US based contractor.

Remediation of hot spot area using Surfactant-enhanced In Situ Chemical Oxidation (S-ISCO), Skuldelev. Test of a new method for remediation of DNAPL PCE. This included development of conceptual and geological model in Rockworks, hydrogeological model in Modflow, detailed project description, evaluation of monitoring results.

MW Gjøes Vej, Reerslev – evaluation of monitoring data. Responsible for collection and evaluation of monitoring data from monitoring of indoor climate, unsaturated zone, secondary and primary aquifers after a thermal hot spot remediation. Including continuously evaluation and optimization of existing remediation systems and updating monitoring programs.

Heavy metal pollution, Frederikssund. Responsible for a large investigation on a heavy metal pollution in soil and groundwater on an operational catalyst plant. Including planning, development of conceptual model, flux calculations, risk assessment and reporting.

Investigations of pesticides in groundwater. A project from the Danish EPA with the purpose of determining fluxes from pesticide point sources. The work included planning of field work, development of conceptual models and strategies for the field investigations, flux calculations og risk assessment.

Publications

ISTD remediation on MW Gjøesvej, Reerslev. Site investigation, conceptual model, risk assessment, determination of area for the largest thermal remediation in DK. Supervision during construction and operation, continuously evaluation of monitoring results.

BIOTOOL. Biological procedures for diagnosing the status and predicting evolution of polluted environments. EU project under the 6th framework programme. Looking at the use of tree core samples to evaluate distribution and natural attenuation of a subsurface PCE spill.

Falkenberg, J.A., **Larsen, M.B.**, Lenschow, S.R., Bay, H., Rügge, K., Ludvigsen, A.K., Christensen, A.G. (2011). Strategies for the investigation of pesticide point sources (*in Danish*). Miljøstyrelsen, Miljøprojekt Nr. **1332** 2011

Jensen, J.K., Holm, P.E., Nejrup, J., **Larsen, M.B.**, Borggaard, O.K. (2009): The potential of willow for remediation of heavy metal polluted calcareous urban soils. *Environmental Pollution*, 157, 931-937.

Larsen, M., Burken J., Macháčková, J., Karlson, U.G., Trapp, S. (2007): Using tree core samples to monitor natural attenuation and plume distribution after a PCE spill. *Environmental Science and Technology*, 42, 1711-1717.

Larsen, M., Trapp, S. (2006): Uptake of iron cyanide complexes into willow trees. *Environmental Science and Technology*, 40, 1956-1961

Larsen, M. (2005): Plant uptake of cyanide. Ph.D. thesis. Institute of Environment & Resources, Technical University of Denmark, DK-2800, Kgs. Lyngby.

Larsen, M., Ucisik, A.S. & Trapp, S. (2005): Uptake, metabolism, accumulation and toxicity of cyanide in willow trees. *Environmental Science and Technology*, **39**, 2135-2142

Larsen, M., Trapp, S. & Pirandello, A. (2004): Removal of cyanide by woody plants. *Chemosphere*, **54**, 325-333.

Trapp, S., **Larsen, M.**, Pirandello, A. & Danquah-Boakye, J. (2003): Feasibility of cyanide elimination using plants. Technical note. *European Journal of Mineral Processing and Environmental Protection*, **3**, (1), 128-137.

Trapp, S., **Larsen, M.** & Christiansen, H. (2001): Experimente zum Verbleib von Cyanid nach Aufnahme in Pflanzen. *Umweltwissenschaften und Schadstoff-forschung (UWSF)*, **13**, 29-38. (By courtesy of Ecomed Publishers, ScientificJournals).

Conference proceedings

Larsen, M.B., Sørensen, K. (2013): Test of colloidal borescope for measuring groundwater flow velocity and direction. ATV Jord og Grundvand, Vintermøde, Vingsted, 5.-6. marts, 2013.

Larsen, M.B. (2012): New risk assessment for the re-evaluation of monitoring. ATV Jord og Grundvand, Vintermøde, Vingsted, 6.-7. marts, 2012.

Larsen, M.B., Rasmussen, L., Riis, C., Christensen, A.G., Jensen, P.J., Terkelsen, M., Hoag, G., Guite, W. Full-scale PCE DNAPL remediation using S-ISCO®. Consoil, Salzburg, 2010.

Hantzi, K.R., Kerrn-Jespersen, H., Olesen I.H., Dissing, L., Hansen K.R., **Larsen M.B.**, Tuxen, N. Flux and Risk Assessment Tools – Prioritizing between Pesticide Point Sources in a Catchment Area, Nordrocs, Copenhagen, 2010

L. Karlby, P. Johansen, C. Jensen, **M. Larsen**, P. Jensen, A. Christensen, S. G. Nielsen, M. Faurbye, M. Jensen and N. Ploug: Treatment Train in Reerslev: Where Does the Train Take Us?, Paper in "Proceedings for Winter meeting 2010, ATV Committee for Soil and Groundwater, 9.-10. March 2010

M. Faurbye, M. Jensen, J. Holm, K. Rügge, S. G. Nielsen, P. J. Jensen, **M. B. Larsen**, G. Heron, R. Baker, P. Johansen, L. T. Karlby. ISTD – a sustainable choice for hot spot removal. Green Remediation, Copenhagen, November 2009.

Larsen, M. B., Trapp, S., Karlson, U. B. G. (2009). Using tree core samples for screening of chlorinated solvents. ATV Jord og Grundvand, Undersøgelse frem for afværgelse – state of the art. Odense, 20. maj 2009.

Fjordbøge, A.S., Kjeldsen, P., **Larsen, M.B.**, Christensen, A.G. Using ZVI-Clay for remediation of DNAPL. ATV Jord og Grundvand, Vintermøde, Vingsted, 2009.

Trapp, S., Legind, C.N., **Larsen, M.**, Franco, A., Burken, J.; Machackova, J.; Rein, A., Mayer, P., Karlson, U.G. Using tree core samples to monitor natural attenuation and plume distribution. ConSoil 3-6 June 2008. Milano, Italy, The 10th international UFZ-Deltares/TNO conference on soil-water systems; Abstracts of presentations-Milano : Provincia di Milano, 2008.

Machackova, J., Wittlingerova, Z., Trapp, S., **Larsen, M.** (2008). Multidisciplinary characterization of chloroethene subsurface contamination in sedimentary bedrock. Remediation of Chlorinated and Recalcitrant Compounds 2008: Proceedings of the 6th International Conference, Monterey, CA, May 19-22, 2008; CD-ROM, p. Abstract F-008-Columbus, OH : Battelle Press, 2008

Trapp, S., **Larsen, M.**, Burken, J. and Karlson, U. (2006): Usage of tree cores for the detection of subsurface pollution. ISEB / ESEB / JSEB 2006, July 9 to 13, 2006, Leipzig.

Karlson, U., Trapp, S., **Larsen, M.**, Burken, J. & Machakova, J. Trees as indicators of subsurface degradation of chlorinated solvents. Poster P.T00.8. In: Integrating Microbial Knowledge into Human Life. 2nd FEMS Congress of European Microbiologists, Madrid, July 4-8, 2006, p. 316. SEM, Madrid, 2006.

Larsen, M. & Trapp, S. (2005): Plant uptake of iron cyanide complexes. In: COST Action 859 - Phytotechnologies to promote sustainable land use and improve food safety. 1st Scientific workshop and Management Committee meeting 14-16 June 2005, Pisa, Italy. Abstract Book, p. 24. Institute of Ecosystem Study - Department of Soil chemistry - CNR, Pisa

Trapp, S., Ucisik, A.S., Romano, P.D., **Larsen, M.** The role of plants and bacteria in phytoremediation : kinetics aspects. Bioremediation of soils contaminated with aromatic compounds : Proceedings of the NATO advanced research workshop, Tartu, Estonia, 1-3 July 2004, p. 41-49 Springer

Larsen, M. & Trapp, S. Determination of *Michaelis-Menten* kinetics for the removal of cyanide by plants. Poster & Abstract WEP03/008. In: Environmental science solutions: A Pan-European perspective. SETAC Europe 14th annual meeting, Prague, Czech Republic 18-22 April 2004. Abstracts, p. 248. SETAC, Brussels

Larsen, M. & Trapp, S. Determination of Michaelis-Menten kinetics for the removal of cyanide by plants. Abstract. In: International symposium biochemical interactions of microorganisms and plants with technogenic environmental pollutants, Saratov, Russia, 28-30 July 2003, Abstract Book, p. 23. Saratov University Publishing House, Saratov

Larsen, M. & Trapp, S. Risk assessment of cyanide contaminated gas work soil. Abstract. In: Understanding the complexity of environmental issues. A way to sustainability. SETAC Europe 13th annual meeting, Hamburg, Germany 27 April - 1 May 2003. Abstracts, p. 203. SETAC, Brussels

Sismilich, M., Suwannaeatana, S., **Larsen, M.** & Trapp, S. Results from a rapid test of acute toxicity to trees. Poster P44. In: COST 837. Achievements and prospects of phytoremediation in Europe. Final workshop and management committee meeting, 15-18 October 2003, Vienna. Book of Abstracts, IWGA-SIG, Dept. for Sanitary Engineering and Water Pollution Control, Vienna.

Trapp, S. & **Larsen, M.** Phytoremediation of cyanide-polluted soils and waste waters. Poster P55. In: COST 837. Achievements and prospects of phytoremediation in Europe. Final workshop and management committee meeting, 15-18 October 2003, Vienna. Book of Abstracts, IWGA-SIG, Dept. for Sanitary Engineering and Water Pollution Control, Vienna