METHTHIKA VITHANAGE



Research Fellow and Group Leader

Chemical and Environmental Systems Modeling Research Group

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**Date of Birth:** 20th October, 1976

**Marital Status:** Married

**Education:**

**PhD** in Hydrogeology, University of Copenhagen, Denmark, 2005/09

**MSc** in **Environmental Science**, University of Peradeniya, Sri Lanka, 2003/05

**BSc** **2nd Class Upper Division**, in Natural Resources, Sabaragamuwa University of Sri Lanka, 1999/2002

**Employment:**

***Visiting Research Scientist***, Kangwon National University, Chuncheon, Republic of Korea (Oct. 2011-Dec. 2011 & Aug. 2012-Dec. 2012).

***Research Fellow,*** Institute of Fundamental Studies, Kandy, Sri Lanka (Aug. 2009 to date).

***Visiting Faculty***, Post Graduate Institute of Agriculture (PGIA), University of Peradeniya, Sri Lanka (Feb. 2011 to date).

***Research Associate***, Dept. of Geography and Geology, University of Copenhagen, Denmark (Jan. 2008-April, 2008).

***Research Associate***, Dept. of Environmental Science and Engineering, Colorado School of Mines, Golden, USA (Oct. 2006-April, 2007).

***PhD Fellow***, Dept. of Geography and Geology, University of Copenhagen, Denmark (Sep. 2005-Jan. 2008 and April, 2008-Dec, 2008).

***Research Assistant***, Chemical Modeling Laboratory, Institute of Fundamental Studies, Kandy, Sri Lanka (Dec. 2004-Aug. 2005).

***Demonstrator****,* Department of Natural Resources, Faculty of Applied Sciences, Sabaragamuwa University of Sri Lanka (April 2002-Dec 2003).

**Professional Experience:**

Groundwater flow modeling, Variable density flow and solute transport modeling, Conducting physical experiments in sand tanks and columns, Field monitoring design and implementation for groundwater studies, Surface Complexation Modeling, Water Quality Analysis, Wastewater and leachate treatment, Antibiotic analysis, Teaching postgraduate course on analytical techniques in water quality at Post Graduate Institute of Agriculture

**Thesis supervision:**

***Masters***

M.Sc. ̶ Ms. Kirstine Wodschow - Dept. of Geography & Geology, University of Copenhagen, Denmark, 2011, Ms. A. Thilakarathna – PGIS, University of Peradeniya (on going), Ms. M. Wijesundara – PGIS, University of Peradeniya (on going), Ms. U.A. Siriwardhana – PGIS, University of Peradeniya (on going), Ms. N. Iwanthika – PGIS, University of Peradeniya (on going)

M.Phil. ̶ Ms. B.G.N. Sewwandi - PGIA, University of Peradeniya, 2011, Ms. R.M.A.U. Rajapaksha - PGIS, University of Peradeniya, 2012, Mr. H.R. Wijesekara - Post Graduate Institute of Science, University of Peradeniya (on going)

***Bachelors***

Mr. J.K. Hettiarachchi – Department of Natural Resources, Sabaragamuwa University of Sri Lanka, 2011,

Ms. A. Ramanayake - Department of Natural Resources, Sabaragamuwa University of Sri Lanka, 2010,

Ms. D.P Eheliyagoda – Department of Natural Resources, Sabaragamuwa University of Sri Lanka, 2011,

Ms. S.S Mayakaduwa – Department of Natural Resources, Sabaragamuwa University of Sri Lanka, 2011

**Publications:**

***Articles in International Peer Reviewed Journals***

Rajapaksha, A., **Vithanage, M**., OK, Y.S. and Oze, C. (2013) Cr(VI) formation related to Cr(III)-muscovite and birnessite interactions in ultramafic environments. Environmental Science and Technology Accepted/In Press

Usman, A.R.A., Almaroai, Y., Ahmad, M., **Vithanage, M**. and Ok, Y.S. (2013) Toxicity of of synthetic chelators and metal availability in poultry manure amended Cd, Pb and As contaminated agricultural soil. Journal of Hazardous Materials (in press)

**Vithanage, M**., Rajapaksha, A.U., Wijesekara, H., Weerarathne, N., Ok, Y.S. (2013) Effects of soil type and fertilizer on As speciation in rice paddy contaminated with As-containg pesticide. Environmental Earth Sciences (in press)

**Vithanage, M**., Rajapaksha, A.U., Dou, X., Bolan, N.S., Ok, Y.S. (2013) Surface complexation modeling and spectroscopic evidence of antimony adsorption on iron-oxide-rich red earth soils, Journal of Colloid and Interface Science, 406: 217–224.

Ahmad, M., Moon, D.H., **Vithanage, M**., Koutsospyros, A., Lee, S.S., Yang, J.E. and Ok, Y.S.(2013) Production and use of biochar from buffalo-weed (Ambrosia trifida L.) for trichloroethylene removal from water. Journal of Chemical Technology and Biotechnology (DOI: 10.1002/jctb.4157)

Sewwandi, B.G.N., **Vithanage, M**., Wijesekara, S.S.R.M.D.H.R., Mowjood, M.I.M., Hamamoto, S., Kawamoto, K. (2013). Adsorption of Cd(II) and Pb(II)  onto Humic Acid Treated Coconut (Cocos nucifera) Husk. Journal of Hazardous, Toxic, and Radioactive Waste Mgmt (Accepted).

Ahmad, M., **Vithanage, M**., Kim, K., Cho, J.S., Lee, Y.H., Joo, Y.K., Lee, S.S. and Ok, Y.S. (2013) Denitrification of nitrate in groundwater contaminated by veterinary antibiotics. Water Science and Technology (accepted)

Ahmad, M., Lee, S.S., Rajapaksha, A.U., **Vithanage, M**., Zhang, M. and Ok, Y.S. (2013) Trichloroethylene adsorption by pine needle biochars produced at various pyrolysis temperatures. Bioresource Technology (accepted)

Almaroai, Y., Usman, A.R.A., Ahmad, M., Kim, K-R., **Vithanage, M**, Ok, Y.S. Role of chelating agents on desorption kinetics of metals (Cu, Cr and As) and their uptake by Zea Mays L. From a contaminated soil Environmental Technology 34(6):747-755

**Vithanage, M**., Engesgaard, P., Jensen, K.H., Illangasekare, T.H., Obeysekera, J., 2012. Laboratory investigations of the effects of geologic heterogeneity on groundwater salinization and flush-out times from a tsunami-like event. Journal of Contaminant Hydrology 136–137(0), 10-24.

Rajapaksha, A.U., **Vithanage, M**., Oze, C., Bandara, W.M.A.T., Weerasooriya, R., 2012. Nickel and manganese release in serpentine soil from the Ussangoda Ultramafic Complex, Sri Lanka. Geoderma 189–190(0), 1-9.

Rajapaksha, A.U., **Vithanage, M.,** Weerasooriya, R., Dissanayake, C.B., 2012. Surface complexation of nickel on iron and aluminum oxides: A comparative study with single and dual site clays. Colloids and Surfaces A: Physicochemical and Engineering Aspects 405(0), 79-87.

**Vithanage, M.,** Jayarathna, L., Rajapaksha, A.U., Dissanayake, C.B., Bootharaju, M.S., Pradeep, T., 2012. Modeling sorption of fluoride on to iron rich laterite. Colloids and Surfaces A: Physicochemical and Engineering Aspects 398(0), 69-75.

Sewwandi, B.G.N., Rajapaksha, A.U, Jayarathna, D.G.L.M., Jayarathna, I.P.L., Mowjood, M.I.M., **Vithanage, M.,** 2012. Biosorption behavior of Pb(II) and Cd(II) on coconut husk and saw dust. Bioremediation Journal, 16(2), 113-124.

Jayarathne, L., Ng, W.J., Bandara, A., **Vitanage, M**., Dissanayake, C.B., Weerasooriya, R. 2012. Fabrication of succinic acid-γ-Fe2O3 nano core–shells. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 403(0), 96-102.

**Vithanage, M.,** Dabrowska, B.B., A. B. Mukherjee, A. Sandhi and P. Bhattacharya., 2012. Arsenic uptake by plants and possible phytoremediation applications- A brief overview. Environmental Chemistry Letters (DOI: 10.1007/s10311-011-0349-8).

Aydin, M., **Vithanage, M.**, Mowjood, M.I.M., Jung, Y., Yang, J.E., Ok, Y.S., Kim, S.C., Dissanayake, C.B. 2012. Estimation of evaporation and drainage losses from two bare soils in Sri Lanka. Eurasian Journal of Soil Science, 11 - 9.

**Vithanage, M**., Villholth K, Engesgaard P, Jensen, K. 2011. Effect of December 2004 tsunami on saltwater intrusion in a coastal aquifer in Eastern Sri Lanka; Field observations and numerical modelling. Groundwater DOI: 10.1111/j.1745-6584.2011.00893.x

Subedi, S., Kawamoto, K., Jayarathna, L., **Vithanage, M**., Moldrup, P., Wollesen de Jonge, L., Komatsu, T., 2012. Characterizing time dependant contact angles for sands hydrophobized with oleic and stearic acids, Vadose Zone Journal, 11 (1), 53-62.

Mahatantila, K., **Vithanage, M.**, Seike, Y., Okumura, M., 2011. Adsorptive removal of cadmium by natural red earth: equilibrium and kinetic studies. Environmental Technology 33(5), 597-606.

Rajapaksha, A.U., **Vithanage, M.,** Jayarathna, L., Kumara, C.K., 2011. Natural Red Earth as a low cost material for arsenic removal: Kinetics and the effect of competing ions. Applied Geochemistry 26(4), 648-654.

**Vithanage, M**., K.G. Villholth, P. Engesgaard, and K.H. Jensen. 2010, Vulnerability analysis of the coastal sandy aquifers in the east coast of Sri Lanka with recharge change consideration, Journal of Open Hydrology, 4: 173-183.

**Vithanage, M**., Villholth K, Mahatantila K, Engesgaard P, Jensen, K. 2009. Effect of Indian Ocean tsunami on groundwater quality in a coastal aquifer in eastern Sri Lanka. Science of tsunami hazards. 28(3): 218-231

**Vithanage, M.,** Villholth, K.G., Mahatantila, K., Engesgaard, P., Jensen, K.H., 2009. Effect of well cleaning and pumping on groundwater quality of a tsunami-affected coastal aquifer in eastern Sri Lanka. Water Resources Research. 45(7), W07501.

**Vithanage, M.,** Senevirathna, W., Chandrajith, R., Weerasooriya, R., 2007. Arsenic binding mechanisms on natural red earth: A potential substrate for pollution control. Science of The Total Environment 379(2–3), 244-248.

**Vithanage, M.,** Chandrajith, R., Bandara, A., Weerasooriya, R., 2006. Mechanistic modeling of arsenic retention on natural red earth in simulated environmental systems. Journal of Colloid and Interface Science 294(2), 265-272.

**Vithanage, M.** and M. Rupasinghe, (2004) Mechanical mining Vs. Traditional mining; A note on Buttala-Okkampitiya gem field, Sri Lanka. Canadian Gemmologist.

***Book Chapters***

**M. Vithanage**, and P. Bhattacharya. Fluoride in drinking water. Environmental Chemistry (Accepted), 2013. Springer, The Netherlands.

Nalaka GDA, **Vithanage M**, Wijesekara SSRMDHR and Obeysekera J (2012). Transition towards a green economy: policy setup and challenges in Sri Lanka. In: Sudhakar Patra, Md. Mahmudul Alam, Azizullah Sayal and Hemachandra DWK (Ed). Contemporary Issues of Economics and Development in South Asia, India *(Under review.)*

Nalaka GDA, Nissanka NAAP, **Vithanage M**, Wijesekara H and Pushpakumara DKNG (2012). State of the environment and environmental governance in Sri Lanka. In: Sacchidananda Mukherjee, (Ed). State of the environment and environmental governance in South and South East Asia., U.K.: Routledge, *(Under review)*

Dissanayake, C.B. and **M. Vithanage**. Non living resources of Sri Lanka. In Man and the Environment. Central Environmental Authority, Sri Lanka (Submitted)

Dissanayake, C.B. and **M. Vithanage**. Non living resources of the world. In Man and the Environment. Central Environmental Authority, Sri Lanka (Submitted)

Dabrowska, B.B., **M. Vithanage**, K.R. Gunaratna, A. B. Mukherjee and P. Bhattacharya. Bioremediation of arsenic by plants in contaminated soils and aquatic environment; A synoptic review. Environmental Chemistry (In press), Vol. 2, 2010. Springer, The Netherlands.

Molden, D. and **Vithanage, M**. Water in Agriculture. In Treitise on Water Science. Eds: P. Wilderer and T. Vereijken. Elsevier Science (In Press).

Villholth, K.G., P. Jeyakumar, P.H. Amerasinghe, A.S.P. Manamperi, **M. Vithanage**, R.R. Goswami, and C.R. Panabokke, 2010: Tsunami impacts and rehabilitation of groundwater supply: Lessons learned from Eastern Sri Lanka. In: Jha, M.K. (Ed.): Natural and Anthropogenic Disasters: Vulnerability, Preparedness and Mitigation. Capital Publishing Company, New Delhi, India and Springer, Dordrecht, The Netherlands, pp. 82 - 99. ISBN: 978-90-481-2497-8.

Illangasekare, T.H., J. Obeysekera, D. Hyndman, L. Perera, **M**. **Vithanage** and A. Gunatilake (2009). Impacts of the 2004 Tsunami and subsequent water restoration actions in Sri Lanka in Decision support for natural disasters and international threats to water security. Eds: T. H. Illangasekare, K. Mahutova and J. J. Barich. NATO Science Series. pp. 3-30.

Dharmagunawardhana, H.A., and **M. Vithanage** (2008). Status of a Tsunami Affected Coastal Aquifer in the East Coast of Sri Lanka: A Case Study From Batticaloa District, Sri Lanka in Groundwater for Sustainable Development: Problems, Perspectives and Challenges. Eds: P. Battacharya, A. L. Ramanathan, A. B. Mukherjee, J. Bundshuh, D. Chandrasekharam, and A. K. Keshari. AA Balkema (Taylor & Francis Group). pp. 223-231.

**Vithanage, M**., K. Mahatantila, R. Chandrajith and R. Weerasooriya, (2007). Natural red earth; an effective sorbent for arsenic removal in Natural Arsenic in Groundwaters of Latin America – Occurrence-Health Impact –Remediation –Management. Eds: J. Bundschuh, M.A. Armienta, P. Birkle, P. Bhattacharya. J. Matschullat & A.B. Mukherjee, CRC Press/Balkema, Netherlands. pp . 521-525.

**Vithanage, M.**, R. Chandrajith, and R. Weerasooriya, (2006). Role of natural red earth in arsenic removal in drinking water-comparison with synthetic gibbsite and goethite. Eds: P. Bhattacharya, A. B. Mukherjee, J. Bunduschuh, R. Zevenhoven & R. H. Leoppert, in Arsenic in Soil and Groundwater: Biogeochemical Interactions. Elsevier, the Netherlands. pp. 587-602.

***Invited Talks in International Conferences***

**Vithanage, M.,** Effect of burcucumber biochar on sulfamethazine transport in a soil column. **Invited Talk at the Biochar Special Session** at the International Conference on Solid Waste Management, Hong Kong, 5-10 May, 2013.

**Vithanage, M.,** Y.S. Ok. From bullets to the environment; Pollution risk from the shooting ranges. **Invited Talk.** Risk Assessment Conference, Seoul, Korea. 5th December, 2012.

**Vithanage, M.** Monitoring water pollution from open solid waste dump sites in Sri Lanka. **Invited Talk by the Young Affiliates.** 12th General Conference of the Third World Academy of Sciences. Tianjin, China. 18-21 September, 2012.

**Vithanage, M.** S.S.R.M.D.H.R. Wijesekara, I.P.L. Jayarathna. Nanomaterials for landfill leachate treatment: The Sri Lankan perspective. **Invited Talk**. First International Conference on Emerging Technologies for Clean Water. IIT-Madras, 14-16 September, 2012

**Vithanage, M.,** Ahmad, M., A.U. Rajapaksha and Ok, Y.S. Application of surface complexation modelling and synchrotron based spectroscopic techniques to soil and environmental systems. **Keynote Address**. Korean Society for Soil Science and Fertilizer, Oct. 2011

**Vithanage**, **M**., P. Engesgaard, K.H. Jensen, J. Obeysekera, K. Villholth and T.H. Illangasekare. Effect of 2004 tsunami on groundwater in a coastal aquifer of Sri Lanka: Tank experiments, field observations and numerical modelling. **Invited talk**. American Geophysical Union, Fall Meeting, San Francisco, 2009.

**Vithanage**, **M**., T.H. Illangasekare, K.H. Jensen, J. Obeysekera, P. Engesgaard and K.G. Villholth. Variable density flow and transport in tsunami impacted coastal aquifers; Laboratory investigations in homogeneous saturated porous media. **Featured Speaker**. Salt Water Intrusion Meeting, Naples, Florida, June 23-27, 2008.

Villholth, K.G**.**, **M. Vithanage**, R.R. Goswami, P. Jeyakumar, and A.S.P. Manamperi. Salinity Impacts of the Indian Ocean Tsunami on Groundwater and Local Water Supply – Lessons Learned from Integrated Research and Support to Rehabilitation. **Invited talk**. AGU Joint Assembly, Fort Lauderdale, Florida, May 27-30, 2008.

***Publications in Local Journals***

**Vithanage, M**., K. Mahatantila, and R. Chandrajith, (2008) New insitu gem localities in Okkampitiya gem field, Sri Lanka. Geological Society of Sri Lanka Journal, 12: 1-6.

Jayasena, H.A.H., **M. Vithanage**, and K. Mahatantila, (2005) Application of geostatistics for effective sampling programme; A study based on EC distribution of groundwater. Ceylon Journal of Science: Physical Sciences, 10; 23-31.

***Paper Publications in International Conferences***

Wijesekara, S.S.R.M.D.H.R., Vithanage, M., Dideriksen,K., Mahatantila, K. Basnayake, B.F.A. Application of nano-zero valent iron for landfill leachate treatment in the tropics. The 7th Asian Pacific Landfill Symposium. 8th -11th October, 2012.

Mayakaduwa, S.S., Siriwardana, A. R., Wijesekara, S.S.R.M.D.H.R., Basnayake, B.F.A., Vithanage, M. Characterization of landfill leachate draining from Gohagoda municipal solid waste open dump site for dissolved organic carbon, nutrients and heavy metals. The 7th Asian Pacific Landfill Symposium. 8th -11th October, 2012. The 7th Asian Pacific Landfill Symposium. 8th -11th October, 2012.

Sewwandi, B.G.N. Wijesekara, S.S.R.M.D.H.R, Rajapaksha, A.U., Mowjood, M.I.M, **Vithanage, M**. Risk of Soil and Water Pollution by Heavy Metals in Landfill Leachate. The 12th Annual Conference of Thai Society of Agricultural Engineering. Chonburi, Thailand; 31 March-1 April 2011

Wijesekara, S.S.R.M.D.H.R, Rajapaksha, A.U., Jayarathna, I.P.L, Basnayake, B.F.A, **Vithanage, M**. Toxic metals in soils contaminated by landfill leachate in Kandy area, Sri Lanka. The 12th Annual Conference of Thai Society of Agricultural Engineering. Chonburi, Thailand; 31 March-1 April 2011

Subedi, S., K. Kawamoto, A.K. Karunarathna, L. Jayarathna, **M. Vithanage**, T. Komatsu. Assessment of water repellency of model sands mixed with oleic acid. The 12th International Summer Symposium. Japan Society for Civil Engineers. Nihin University, Japan. September 2010.

Rajapaksha, A., **M. Vithanage**, L. Jayarathna, C. K. Kumara. Natural Red Earth as a possible low cost sustrate for arsenic removal in water; comparison of laboratory controlled and uncontrolled conditions. Arsenic in geosphere and human diseases. Jean, Bundschuh and Bhattachcharya (eds) As 2010. Taylor and Francis Group, London.

**Vithanage**, **M**., T.H. Illangasekare, K.H. Jensen, J. Obeysekera, P. Engesgaard and K.G. Villholth. Variable density flow and transport in tsunami impacted coastal aquifers; Laboratory investigations in homogeneous saturated porous media. Salt Water Intrusion Meeting, Naples, Florida, June 23-27, 2008.

**Vithanage, M.,** Goswami, R.R., T. Sakaki, T. Illangasekare, K.H. Jensen, P. Engesgaard, K.G. Villholth and T.P. Clement. Effect of tsunami on shallow groundwater-intermediate scale physical experiment and numerical modeling. ModelCARE, Copenhagen, Denmark, September 10-13, 2007.

Hoareau, J., R., Guerin, J.M.,Vouillamoz, **M. Vithanage**. Sustainable development of water resources, water supply and environmental sanitation. 32nd WEDC International Conference. Colombo, Sri Lanka. Dec, 2006.

***Abstract Publications in International Conferences***

**Vithanage, M.,** Rajapaksha, A. U., Yang, J. E., Kim, K. H., Kim, G., Ok, Y. S. Effects of Burcucumber biochar on sulfamethazine transport in soil column. International Conference on Solid Waste 2013, Innovation in Technology and Management (ICSWHK2013), Hong Kong, 5th-8th May 2013.

**Vithanage, M.,** Thilakarathna, A., Jayarathna, I.P.L., Iwanthika, N., Navaratna, A. Removal of insecticide carbofuran from aqueous solutions using biochar made from waste biomaterials. International Conference on Solid Waste 2013, Innovation in Technology and Management (ICSWHK2013), Hong Kong, 5th-8th May 2013.

Mayakaduwa, S.S., Wijesekara, S.S.R.M.D.H.R., Siriwardana, A. R., Basnayake, B.F.A., **Vithanage, M**. Evaluation of physicochemical characteristics, heavy metals and humic substances in leachate generated from gohagoda municipal solid waste dumpsite. International Conference on Solid Waste 2013, Innovation in Technology and Management (ICSWHK2013), Hong Kong, 5th-8th May 2013.

Balasooriya, B. M. R. S., **Vithanage, M.,** Mowjood, M. I. M., Kawamoto, Ken., Komai, T.,   
Zhang, M., Herath, G. B. B. Hara, S., Integrating Gis and semi quantitative risk matrix for landfill site selection

International Conference on Solid Waste 2013, Innovation in Technology and Management (ICSWHK2013), Hong Kong, 5th-8th May 2013.

Wijesekara, S.S.R.M.D.H.R., Silva, S.N.D., Basnayake, B.F.A., **Vithanage, M.** Application of resistivity imaging techniques for ground investigation and characterization of open municipal solid waste dump site in Sri Lanka International Conference on Solid Waste 2013, Innovation in Technology and Management (ICSWHK2013), Hong Kong, 5th-8th May 2013.

Na, S.H., Rajapaksha, A. U., **Vithanage, M.,** Kim, K. H., Kim, G., Ok, Y. S. Characterization of Perilla biochar produced under different pyrolysis temperature. International Conference on Solid Waste 2013, Innovation in Technology and Management (ICSWHK2013), Hong Kong, 5th-8th May 2013.

Park, J.N., Ahmad, M., Lim, J.E., Rajapaksha, A.U., **Vithanage, M.,** Kim, G., Ahn, J.H., Ok, Y.S. Effect of pyrolysis temperature on sewage sludge biochar properties and its effect on Pb immobilization in agricultural soil. International Conference on Solid Waste 2013, Innovation in Technology and Management (ICSWHK2013), Hong Kong, 5th-8th May 2013.

Rajapaksha, A.U., **Vithanage, M.,** Oze, C., Ok, Y.S. Natural attenuation of Cr(VI) by humic substances in serpentine soils from Sri Lanka, 1st International Conference on Contaminated Land, Ecological Assessment and Remediation, Hangzhou, China, 4th-8th November 2012.

Wijesekara, S.S.R.M.D.H.R. Vithanage, M., Sewwandi, B.G.N., de Silva, N., Basnayake,. B.F.A. Contamination of wetlands through transport of pollutants generated from the municipal solid waste open dumpsite, Kandy, Sri Lanka. Japan Geoscience Union. 20-25 May, 2012.

Wijesekara, S.S.R.M.D.H.R. Vithanage, M. Synthesis and characterization of air stable Zero-valent Iron nanoparticles by different stabilizing agents. The First International Conference on Emerging Technologies. Indian Institute of Technology, Chennai. 2012 September 14- 16.

Vithanage, M. Wijesekara, S.S.R.M.D.H.R., Dideriksen, K., Basnayake, B.F.A. Stipp, S.L.S. Application of organic compound treated nanoscale zero valent iron for remediation of COD and dissolved metal from landfill leachate in the humid tropics. The 6th Pacific Basin Conference on Adsorption Science and Technology. Taiwan. 20-23 May 2012.

Rajapaksha, A.U., **Vithanage, M.**, Ahmad, M., Ok, Y.S Efficacy of soybean stover-derived biochar for antimony removal from water , The 4th IBI Biochar Congress, Beijing, China, 16th-20th September 2012.

Lee L.Y., Weragoda S.K., Ng H.Y., Attanayake M.A.M.S.L., Hu J.Y.,  Manatunge J., Herath G.,  Mowjood M.I.M., Jinadasa K.B.S.N., Weerasooriya R., **Vithanage M**., Kalpage C.S.,Ong S.L., Lim H.S. and Makehelwala M. Development of Water Safety Plan for Kandy South Water Treatment Plant, Sri Lanka - A case study on approach and strategy. Water Convention, Singapore International Water Week. July, 2012.

**Vithanage, M.,** Rajapaksha, A.U., Wijesekara., S.S.R.M.D.H.R., Weerarathna, N., Ok, Y.S., Probing the Effect of Soil Types and Fertilizer on Arsenic Portioning under Simulated Environmental Conditions. The 6th Pacific Basin Conference on Adsorption Science and Technology, 20th -23rd May 2012.

Wijesekara, S.S.R.M.D.H.R., Mahatanthila, K., Eheliyagoda, D.R.M.R.D.P., Mayakaduwa, S.S., Basnayake, B.F.A., **Vithanage, M.** Fate and transport of pollutants generated from the Gohagoda open dump site, Kandy, Sri Lanka. Symposium Proceedings, International Symposium on Water Quality and Human Health: Challenges Ahead, 22-23 March, 2012.

Wijesekara, S.S.R.M.D.H.R, Dideriksen, K., Rajapaksha, A.U., Jayarathna, I.P.L, Basnayake, B.F.A, **Vithanage, M.** Application of nano zero valent iron for landfill leachate treatment in the tropics. The 27th International Conference on Solid Waste Technology and Management Philadelphia, PA, U.S.A. March, 2012

Rajapaksha, R.M.A.U., **Vithanage, M.**, S.S.R.M.D.H.R. Wijesekara, Ahmad, M., Ok, Y.S. Efficacy of soybean stover biochar for arsenic and antimony removal from aqueous solutions. 1st International Biochar Symposium, Kangwon National University, Chuncheon, Korea. Dec, 2011

**Vithanage, M.,** Rajapaksha, R.M.A.U., Mahatantila, K., Ahmad, M., Ok, Y.S. Modeling antimony adsorption on soybean biochar. 1st International Biochar Symposium, Kangwon National University, Chuncheon, Korea. Dec, 2011

Rajapaksha, R.M.A.U., **Vithanage, M.**, Bandara, W.M.A.T., Weerasooriya, R. Nickel adsorption on single and dual site clay surfaces; Effect of pH and nickel loadings. American Geophysical Union Fall Meeting, 2011, December, San Francisco, USA

**Vithanage, M.**, Hettiarachchi, J.K., Rajapaksha, R.M.A.U.,Wijesekara, H., Hewawasam, T. Heavy metals in Ratnapura alluvial gem sediments, Sri Lanka. American Geophysical Union Fall Meeting, 2011, December, San Francisco, USA

Rajapaksha, A.U., **Vithanage, M.,** Oze, C., Bandara, W.M.A.T. & Weerasooriya, R. Formation of Cr(VI) related to Cr(III)-muscovite in soil and groundwater systems. Sources, Transport, and Fate of Trace and Toxic Elements in the Environment, Geological Society of America Annual Meeting, October, 2011

Subedi, S., K. Kawamoto, T. Komatsu,L. Jayarathna, **M. Vithanage**, P. Moldrup, Hydrophorbic capillary barriers for solid waste landfill capping; Characterizing water repellency of hydrophobized sand materials. Proceedings of the Lien Foundation-NTU Environmental Endeavour, Seminar on water and environment in Asia’s developing communities. July, 2011

Subedi, S., K. Kawamoto, L. Jayarathna, **M. Vithanage**, P. Moldrup, T. Komatsu. Assessment of water repellency indices; Contact angle for hydrophobized sands. Japan Geoscience Union Meeting, Accepted for oral presentation May, 2011

Subedi, S., K. Kawamoto, L. Jayarathna, **M. Vithanage**, P. Moldrup, T. Komatsu. Assessment of water repellency indices; Contact angle for hydrophobized sands. Japan Geoscience Union Meeting, May, 2011.

Rajapaksha, A.U., **Vithanage, M.**, Bandara, W.M.A.T. & Weerasooriya, R. Heavy metal release from serpentine soil dissolution: Fractional speciation of Ni and Mn. American Geophysical Union, Fall Meeting, San Francisco, December, 2010.

**Vithanage, M**. and Randiligama, S. Comparison of low cost materials to remove fluoride from drinking water in Sri Lanka; Response to health problems associated with contiguous hydrogeochemistry. American Geophysical Union, Fall Meeting, San Francisco, December, 2010.

Rajapaksha, A.U., **Vithanage, M.,** Bandara, W.M.A.T. & Weerasooriya, R. Effect of organic and inorganic acids on serpentinite soil dissolution; Release of Ni and Mn to the environment. Sources, Transport, and Fate of Trace and Toxic Elements in the Environment, Geological Society of America Annual Meeting, Vol. 42, No. 5, p. 502

**Vithanage, M**., P. Engesgaard, K.H. Jensen, J. Obeysekera, K. Villholth and T.H. Illangasekare. Effect of 2004 tsunami on groundwater in a coastal aquifer of Sri Lanka: Tank experiments, field observations and numerical modelling. Invited talk. American Geophysical Union, Fall Meeting, San Francisco, 2009.

**Vithanage**, **M**., P. Engesgaard, T.H. Illangasekare, J. Obeysekera and K.H. Jensen. Variable density flow and transport in homogeneous porous media: Understand the effect of tsunami on groundwater. American Geophysical Union, Fall Meeting, San Francisco, 2008.

T.H. Illangasekare, **M. Vithanage**, K.H. Jensen, J. Obeysekera, P. Engesgaard and K.G. Villholth. Validation of a new conceptual model for salinity persistence in tsunami affected coastal aquifers – intermediate scale experimental study. American Geophysical Union Joint Assembly, Fort Lauderdale, Florida, May 27-30, 2008.

**Vithanage, M**., Villholth K, Mahatantila, K, Engesgaard P, Jensen, K. Effect of Indian Ocean tsunami on groundwater quality in a coastal aquifer in eastern Sri Lanka. American Geophysical Union, Fall Meeting, San Francisco, 2007.

**Vithanage, M.,** Goswami, R.R., T. Sakaki, T. Illangasekare, K.H. Jensen, P. Engesgaard, K.G. Villholth and T.P. Clement. Effect of tsunami on shallow groundwater-intermediate scale physical experiment and numerical modeling. ModelCARE, Copenhagen, Denmark, September 10-13, 2007.

Goswami, R.R., K.G. Villholth, **M. Vithanage**, T.P. Clement, T. Sakaki, T. Illangasekare and K.H. Jensen. Variable Density Transport during Well Rehabilitation after a Tsunami-induced Saltwater Contamination Event. ModelCARE, Copenhagen, Denmark, September 10-13, 2007.

**Vithanage, M**. et al. Persistence of salinity in tsunami affected coastal aquifers in Sri Lanka; Conceptual models and research needs. American Geophysical Union, Fall Meeting, San Francisco, 2006.

**Vithanage, M**., Villholth K, Engesgaard P, Jensen, K. Effect of tsunami on shallow groundwater in Sri Lanka; Field observations and variable density flow modelling. American Geophysical Union, Fall Meeting, San Francisco, 2006.

**Vithanage, M**., K., Mahatantila, R Chandrajith, and R. Weerasooriya, (2006) Natural red earth; an effective sorbent for arsenic removal. Accepted for the presentation in Natural Arsenic in Groundwaters of Latin America – Occurrence, Health Impact, Remediation, Management, at Mexico city, Mexico.

**Vithanage, M**., K. Mahatantila, and R Chandrajith, Indigenous knowledge in biogeochemistry to alleviate heart diseases in Sri Lanka. Presented in the International symposium on Medical Geology, May, 18-19, 2006. Stockholm, Sweden

Dharmagunawardhane, H.A. and **M.** **Vithanage,** Status of a Tsunami Affected Coastal Aquifer in the East Coast of Sri Lanka: A Case Study From Batticaloa District, Sri Lanka. Presented at IGC, Feb. 2006, India

**Vithanage, M**., R. Chandrajith, and R. Weerasooriya, Removal of arsenic using natural red earth; A laboratory study. Presented in the International Conference of Bio-System Earth Sphere, 2005. Germany.

Mahatantila, K., **Vithanage**, **M.** Dharmagunawardhana H.A. and Jayasena , H.A.H., Indigenous knowledge as used for groundwater assessment. International Conference on Headwater Control VI, Hydrology, Ecology and Water resources in Headwaters, Headwater2005, Paper 141, 20th - 23rd June 2005, Bergen, Norway.

***Abstract Publications in Local Conferences***

Wijesekara, S.S.R.M.D.H.R., Mahatantila, M., Eheliyagoda, D.R.M.R.D.P., Mayakaduwa, S.S., Basnayake, B.F.A. **Vithanage, M.** 2012. Fate and transport of pollutants generated from the Gohagoda open dumpsite, Kandy, Sri Lanka. International symposium on water quality and human health: challenges ahead. Postgraduate institute of science (PGIS), University of Peradeniya, Sri Lanka. 22nd - 23rd March 2012.

Wijesekara, S.S.R.M.D.H.R., Basnayake, B.F.A., **Vithanage, M.** Laboratory investigations of stabilized nano scale zero valent iron for the treatment of landfill leachate in the tropics. Nationalm Nanotechnology conference on Nanoscience and Nanotechnology in Sri Lanka: from science to commercialization 22-23 August 2012.

De silva, N., Wijesekara, S.S.R.M.D.H.R., Basnayake, B.F.A., **Vithanage, M**. Proceedings of the 28th Annual Sessions, Geological Society of Sri Lanka. 24th February, 2012.

Jayarathna, L., Bandara, A., **Vithanage, M.,** Weerasooriya, R. Structure optimization and IR frequency interpretation of Fe6(OH)18(H2O)6 Nano particles by DFT calculations. Proceedings of the Peradeniya University Research Sessions, Sri Lanka, Vol 16, 24th November 2011.

Wijesekara, S.S.R.M.D.H.R, Rajapaksha, A.U., Jayarathna, I.P.L, Basnayake, B.F.A, **Vithanage, M**. Temporal variation of landfill leachate quality at Gohagoda dump site. International Forestry and Environment Symposium. Sri Jayewardenepura University, Oct, 2011

Wijesekara, S.S.R.M.D.H.R, Rajapaksha, A.U., Jayarathna, I.P.L, Basnayake, B.F.A, **Vithanage, M**. Toxic metals in soils contaminated by landfill leachate in Gohagoda dump site, Kandy, Sri Lanka. Symposium on Disasters: Reduction, Mitigation and Management. Proceedings of the 27th Annual sessions of the Geological Society of Sri Lanka. 25-26 February, 2011

Jayarathna, I.P.L., Rajapaksha, A.U., **Vithanage, M**. Defluoridation behavior of laterite under different pH, contact time, fluoride loading and co-existing ions. Symposium on Disasters: Reduction, Mitigation and Management. Proceedings of the 27th Annual sessions of the Geological Society of Sri Lanka. 25-26 February, 2011

Kumara, H.A.J., Wijesekara, S.S.R.M.D.H.R, Rajapaksha, A.U., Jayarathna, I.P.L, Hewawasam, A.L.T., **Vithanage, M**. Fractionation and availability of heavy metals in Ratnapura gem bearing alluvium. Proceedings of the 27th Annual sessions of the Geological Society of Sri Lanka. 25-26 February, 2011

Rajapaksha, R.M.A.U., **Vithanage, M.**, Bandara, W.M.A.T., Weerasooriya, R. Toxic metal release from serpentine soils in simulated environmental conditions. Proceedings of the 27th Annual sessions of the Geological Society of Sri Lanka. 25-26 February, 2011

**Vithanage M**., A. Ramanayake, A. Rajapaksha, L. Jayarathne, CK. Kumara, M. Premathilake, AD. Ranjith, T. Hewawasam. Hydrogeochemical characteristics of groundwater in Hambantota District, Sri Lanka. Presented at the Annual Sessions of Geological Society of Sri Lanka, Feb. 26th 2010, Colombo.

**Vithanage, M**. and J. Obeysekera. Effect of climate change on coastal aquifer management in Sri Lanka. National Symposium on Natural Resources Management (NRM 2009) Department of Natural Resources, Sabaragamuwa University of Sri Lanka, Belihuloya. August, 2009.

**Vithanage, M**. P. Engesgaard and K.H. Jensen. Modeling assessment of water flow patterns in a coastal aquifer in Sri Lanka. National Symposium on Natural Resources Management (NRM 2009) Department of Natural Resources, Sabaragamuwa University of Sri Lanka, Belihuloya. August, 2009.

**Vithanage, M.**, K. Mahatantila, K.G. Villholth, P. Engesgaard, and K.H. Jensen, Significance of well cleaning and pumping on ground water quality of a tsunami affected coastal aquifer in eastern Sri Lanka. Proceedings of the 25th Annual Sessions of Geological Society of Sri Lanka, Feb, 2009.

**Vithanage**, **M**., K.H. Jensen, J. Obeysekera, P. Engesgaard, T.H. Illangasekare, and K.G. Villholth. Coastal aquifers in Sri Lanka; Impact of tsunami and sustainability. Workshop on Impact of 2004 Indian Ocean tsunami on groundwater in Sri Lanka, Organized by Geological Society of Sri Lanka, April, 2008.

**Vithanage, M**., K. Mahatantila, S.N. Thalawala and P.R.K. Fernando, Highly radioactive ekanites from Buttala-Okkampitiya gem field of Sri Lanka, Proceedings of the Annual sessions, Geological Society of Sri Lanka, Feb., 2006

**Vithanage, M**., R. Chandrajith, A. Bandara and R. Weerasooriya, On the mechanistic modeling of arsenic adsorption on natural red earth, Proceedings of the Peradeniya University Research Sessions, 2004.

Mahatantila, K., **M. Vithanage** and H. A. H. Jayasena, Application of geostatistics on water quality data from the Deduru Oya Basin. Proceedings of the Peradeniya University Research Sessions, 2004. 9: p. 196.

**Vithanage, M.**, R. Chandrajith, and T. Darmaratne, The use of indicator minerals for sedimentary gem exploration in the Kukule Ganga Basin, Sri Lanka. Proceedings, 58th Annual Session of Sri Lanka Association of Advancement of Science, Dec. 2002

**Academic Distinctions, Awards and Medals:**

* Third World Academy of Sciences (TWAS) Young Affiliateship 2012-2017 - Central & South Asia Region
* Elected as a member of the Committee for International Participation of the American Geophysical Union (2010-2012)
* Award for the supervision of MPhil students, 2012 - National Science Foundation, Sri Lanka
* Award for the supervision of MPhil students, 2011 - National Science Foundation, Sri Lanka
* Nominated for the Afro-Asia Young Scientist Conclave by the National Academy of Sciences in Sri Lanka (2009)
* American Geophysical Union Natural Hazard Focus Group Award for Best graduate scientist (2009)
* Best poster award, MODELCARE International Conference, Copenhagen (2007)
* Recipient of PG Cooray Medal for Best Young Geologist of the year, GSSL (2006)
* Recipient of Doctoral scholarship to pursue PhD from International Water Management Institute, Sri Lanka and University of Copenhagen, Denmark (2005-2008)
* Presidential Awards for Research (2005)
* Recipient of ADB scholarship to pursue M.Sc (2003-2005)
* The best performer of the year 2000 - University of Sabaragamuwa, Sri Lanka
* Merit award for best translations by Department of Official Languages, Sri Lanka (1999)

**Dissemination of Knowledge:**

***Teaching and Workshops***

* Organized workshop on Biochar and Environmental Sustainability at the International Conference on Solid Waste 2013, 5-10 May, 2013, Hong Kong Special Administrative Region.
* Organized and taught a 2 days workshop on Earth Sciences for the English Medium Science Teachers in the Central Province, January 2011
* Teaching laboratory class in Hydrogeology (Department of Geography and Geology, University of Copenhagen)
* Teaching laboratory class in Contaminant Transport (Department of Geography and Geology, University of Copenhagen)
* Invited short lectures in Applied Geochemistry (Department of Geology, University of Peradeniya)
* Teaching laboratory and field class in Mineralogy (Department of Natural Resources, Sabaragamuwa University of Sri Lanka)

***Reviewer for International Journals and Books***

Water Resources Management (IF – 2.054),

Environmental Science and Pollution Research (IF – 2.651),

Journal of Hazardous Materials (IF – 4.173),

Clean: Soil, Air, Water (IF – 2.177),

Journal of Chemical Engineering (IF – 3.681),

Environmental Chemistry Letters (IF – 1.881),

Journal of Hydrology (IF – 3.271),

Journal of Science of the Total Environment (IF – 2.182),

Journal of Groundwater (IF - 1.441),

Ceylon Journal of Sciences-Physical Sciences

Groundwater for Sustainable Development (Taylor and Francis Group, UK 2008)

**Travel Grants:**

Travel grant to American Geophysical Union Meeting (University of Copenhagen, 2009),

Travel grant to Salt Water Intrusion Meeting (United States Geological Survey, 2008),

Travel grant to American Geophysical Union Meeting (University of Copenhagen, 2007),

Travel grant to American Geophysical Union Meeting (University of Copenhagen, 2006),

Travel grant to American Geophysical Union Meeting (Research School for Water Resources, FIVA, Copenhagen, 2008)

**Research Grants:**

* International Foundation for Science (IFS, Sweden) – Grant number W/5068-1) for the Serpentine Project (2 years) – 10250USD.
* Core member of the JICA-JST grant for Solid Waste Management with University of Peradeniya (2011-2016).
* Core member of the IWMI research grant on Assessing groundwater pollution by fertilizers in Jaffna Peninsula (2010-2012)
* Core member of the team of expertise on Developing a Water Safety Plan for Kandy South Water Treatment Plant, Sri Lanka together with National Water Supply and Drainage Board (2011)
* Co-Investigator of the Research Grant of the Development of an electrochemical technology to remove nitrate from contaminated groundwater, Rs. 821,000/-, National Science Foundation (2011-2013).

**Professional Activities:**

***Associations***

Founding Member – Sri Lanka Academy of Young Scientists

Life Member – International Medical Geology association

Life Member – Sri Lanka Association of Advancement of Science

Ordinary Member- Geological Society of Sri Lanka

Member – American Geophysical Union, USA

Member – Young Scientist Association, Sri Lanka

**Books published:**

Four novels for teenagers (Translations)

Four text books for O/L (Ordinary Level) school children

**Science Popularization:**

Regular writer to national newspapers on general scientific themes

Vidusara

Lankadeepa

Dinamina

**References:**

**Professor Karsten H. Jensen,** Dept. of Geography and Geology, University of Copenhagen, Østervoldgade 10, Copenhagen 1350, Denmark. E-mail: [khj@geo.ku.dk](mailto:khj@geo.ku.dk)

**Professor C. B. Dissanayake,** Institute of Fundamental Studies, Hantana Road, Kandy, Sri Lanka. E-mail: [cbdissa@hotmail.](mailto:cbdissa@hotmail.)com

**Professor Prosun Bhattacharya,** Dept. of Land and Water Resource Engineering, Royal Institute of Technology (KTH), Stockholm, Sweden. Email: prosun@kth.se

**Professor Rohan Weerasooriya,** Department of Chemistry, University of Peradeniya. Email: rweerassoriya@hotmail.com