



Prof. Hiroshan Hettiarachchi

Professor and Head of Unit - Waste Management at United Nations University

United Nations University. New Jersey Institute of Technology



PERSONAL INFORMATION

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Research Interests

- Engineering properties and behavior of soils
- Geotechnical properties of municipal solid waste
- Integrated management of water, soil, and waste
- Safe use of wastewater in agriculture
- Settlement and stability of landfills
- Sustainable solid waste management practices

Education

- Doctor of Philosophy in Civil Engineering, New Jersey Institute of Technology, USA
- Master of Engineering in Geotechnical Engineering, Asian Institute of Technology, Thailand
- Bachelor of Science in Civil Engineering, University of Moratuwa, Sri Lanka

Biographical Statement

Hiroshan Hettiarachchi is a Civil Engineering Professor from the United States. He contributed to UNU-FLORES activities since 2013 and in 2014 he joined UNU-FLORES as the Head of Unit – Waste Management. He also took a leading role in establishing the UNU-FLORES Ph.D. The program which is offered jointly with the Technische Universität Dresden, Germany, and was the Program Coordinator until 2016. Before joining UNU, Prof. Hettiarachchi previously served at the Lawrence Technological University, in Michigan, USA, where he held the position of Director of Civil Engineering Graduate Programs from 2010 to 2013. He was also a Visiting Professor at the University Calgary, Alberta, Canada in 2013.

Prof. Hettiarachchi's current research focus is mainly on sustainable management of solid waste and wastewater. His past research has resulted in the number of publications covering geotechnical properties and behavior of soils and waste and settlement behavior of landfills.

UNU PUBLICATIONS

Articles

- Sallwey, Jana, Hettiarachchi, Hiroshan and [Hülsmann, Stephan](#) (2017). *Challenges and Opportunities in Municipal Solid Waste Management in Mozambique: A Review in the Light of Nexus Thinking*. AIMS Environmental Science, 4(5), 621-639
- Bardi, Ugo, Jakobi, Rolf and Hettiarachchi, Hiroshan (2016). *Mineral Resource Depletion: A Coming Age of Stockpiling?*. BioPhysical Economics and Resource Quality, 1(1), 1-9
- Reddy, Krishna R., Hettiarachchi, Hiroshan, Giri, Rajiv K. and Gangathulasi, Janardhanan (2015). *Effects of Degradation on Geotechnical Properties of Municipal Solid Waste from Orchard Hills Landfill, USA*. International Journal of Geosynthetics and Ground Engineering, 1(3), 1-14
- Hettiaratchi, Joseph P.A., Hettiarachchi, Hiroshan, Meegoda, Jay N. and Hunte, Carlos A. (2013). *Operation of a Landfill Bioreactor in a Cold Climate: Early Results and Lessons Learned*. Journal of Hazardous, Toxic and Radioactive Waste, 17(4), 307-316

Books

- *Uso Seguro de Aguas Residuales en la Agricultura: Ejemplos de Buenas Prácticas*, ed. Hettiarachchi, Hiroshan and Ardakanian, Reza (Dresden: United Nations University

Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES), 2017).

- [*Safe use of Wastewater in Agriculture: Good Practice Examples*](#), ed. Hettiarachchi, Hiroshan and Ardakanian, Reza (Dresden: United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES), 2016).
- [*Environmental Resource Management and the Nexus Approach: Managing Water, Soil, and Waste in the Context of Global Change*](#), ed. Hettiarachchi, Hiroshan and Ardakanian, Reza (Switzerland: Springer International Publishing, 2016).

Book Chapters

- Meegoda, Jay N., Hettiarachchi, Hiroshan and Hettiaratchi, Joseph Patrick, “[*Landfill Design and Operation*](#)” in Sustainable Solid Waste Management, ed. Wong, Jonathan W. C., Surampalli, Rao Y., Zhang, Tian C., Tyagi, Rajeshwar D. and Selvam, Ammayappan (Reston: American Society of Civil Engineers,2016), 577-604.

Conference Proceedings

- [*Caucci, Serena*](#) and Hettiarachchi, Hiroshan ed. [*Wastewater Irrigation in the Mezquital Valley, Mexico: Solving a Century-Old Problem with the Nexus Approach*](#) 2017/03/15–17 Mezquital Valley. Dresden: United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES), 2017.
- Hettiarachchi, Hiroshan and Ardakanian, Reza ed. [*Safe Use of Wastewater in Agriculture: A Workshop on Policy and Implementation for Iran*](#) 2016/12/5–7 Tehran. Dresden: United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES), 2017.

Reports

- Mercy, Mwaniki W. (2017). [*Assessment of the Effects of Climate Change on Land Use and Land Cover Using Remote Sensing: A Case Study from Kenya*](#). DNC Working Paper. United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES).
- Bardi, Ugo, Jakobi, Rolf and Hettiarachchi, Hiroshan (2017). [*The Metal Bank: A Management Model for Rare Mineral Resources in a Circular Economy*](#). Policy Brief. United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES).
- Sušnik, Janez (2016). [*Economic Growth and Resource Use: Exploring the Links*](#). DNC Policy Brief. United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES).
- Guta, Dawit Diriba (2016). [*Energy Resource Use Options for Improved Energy Security in Ethiopia*](#). DNC Poliy Brief. United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES).
- Olorunfemi, Felix, Fasona, Mayowa, Oloukoi, Grace, Elias, Peter and Adedayo, Vide (2016). [*Natural Resource Use and Adaptation to Climate Change in the Nigerian*](#)

- Savanna*. DNC Policy Briefs. United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES).
- Tolksdorf, Johanna, Bieker, Susanne and Cornel, Peter (2016). *Implementation of SEMIZENTRAL: An Integrated Infrastructure Approach for Fast-Growing Cities*. DNC Working Paper. United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES).
 - Wieben, Emilie (2016). *The Post-2015 Development Agenda: How Food Loss and Waste (FLW) Reduction Can Contribute Towards Environmental Sustainability and the Achievement of the Sustainable Development Goals*. DNC Working Paper. United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES).
 - Sveinsson, Oli G. B. (2016). *Energy in Iceland: Adaptation to Climate Change*. DNC Policy Brief. United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES).
 - Mohtar, Rabi H., Assi, Amjad T. and Daher, Bassel (2015). *Bridging the Water and Food Gap: The Role of the Water-Energy-Food Nexus*. Working Paper. United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES).
 - Lawford, Richard (2015). *Adapting to Climate Change: The Role of Science and Data in Responding to Opportunities and Challenges in the Water-Soil-Waste Nexus*. Working Paper. United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES).

PROJECTS

- [Global Change, SDGs, and the Nexus Approach](#)
- [Safe Use of Wastewater in Agriculture: Dissemination of Good Practice Examples and Setting the Research Agenda](#)
- [SUWA in Iran](#)
- [NexThink Iran](#)
- [Quality Monitoring in Small Rivers](#)
- [SUWA via e-Learning](#)
- [DNC2015 Publication Series](#)
- [DNC2017: SDGs and the Nexus Approach – Monitoring and Implementation](#)

