

ANURUDDA K. KARUNARATHNA



CONTACT INFORMATION

Full name	Anurudda Kumara KARUNARATHNA
Designation	Senior Lecturer in Environmental & Biosystems Engineering
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Date of appointment	2012-01-02
Personal	291B, Weediyawatte, Gadaladeniya, Pilimatalawa, 20450 SRI LANKA Tel: +94-81-2069031 Mobile: +94-77-2976234 E-mail: anujica@yahoo.com

PROFILE

An academic/researcher with proven didactic and research skills. Multi-disciplinary professional and educational background with a good publication record and consulting experiences. Possesses the ability to conduct independent research and analysis, identifying issues, formulating options, and making conclusions. Good interpersonal skills and wide exposure to international and multicultural work environments.

ACADEMIC ATTAINMENTS

PhD in Environmental Engineering (2007-2010), Graduate School of Science and Engineering, Saitama University, Japan

Dissertation: Soil-water repellency and its effect on soil hydraulic properties: Predictive–descriptive models and high-resolution dual-moisture sensor

M. Eng. in Environmental Engineering (2004-2006), Graduate School of Science and Engineering, Saitama University, Japan

Dissertation: Effect of coconut coir pith amendment on nutrient dynamics and macrocosm growth in subsurface flow constructed wetland

B.Sc. Agriculture (Hons.) (1998-2002), Faculty of Agriculture, University of Peradeniya, Sri Lanka

Honors thesis: Evaluation of landfill pretreatment methods of static pile and windrow composting of municipal solid waste (MSW)

RESEARCH AND CONSULTANCY INTERESTS

- Waste management; treatment, resources recovery, recycling, composting, biogas, waste-to-energy, and sustainable land disposal systems
- Environmental assessment and remediation of contaminated land, water & air; decentralize & natural systems for wastewater treatment and reuse
- Unsaturated zone hydrology, fate & transport of contaminants in the environment, soil-gas transport
- Bioengineering solutions for natural resource management

TEACHING EXPERIENCES

Postgraduate	University of Peradeniya - AE5109 Soil Mechanics - AE 5117 Numerical Analysis in Agricultural Engineering - AE 5119 Water and Industry - AE 5156 Environment and Industry - AE5157 Solid Waste Management
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- AE5213 Bioreactor and Bio-Environment Design and Control Systems
- AE5152 Environmental Impact Assessment
- AS5253 Animal Waste Handling and Management
- AE5204 Farm Power & Energy
- CE672 Environmental Technology and Management (MSc. Civil Engineering Program)

Undergraduate **Faculty of Agriculture, University of Peradeniya**

- AE1200 Field Engineering II (Farm structures)
- AE3204 Energy and Waste Management
- AE 3206 Farm Power & Machinery
- AE4104 Engineering Design Philosophy
- ASF2202 Animal Waste Management
- ASF 3103 Livestock Farm Structures & Machinery
- BFST2104 Applied Mechanics

Undergraduate **Faculty of Science, University of Peradeniya**

- ES405 Waste and Waste Management

Undergraduate **Faculty of Agriculture, University of Jaffna**

- Animal Waste Management

Teaching Assistant **Graduate School of Science and Engineering, Saitama University, Japan**

- Soil Physics (PhD/M. Eng. course taught by Prof. Ken Kawamoto, Fall 2009)
- Environmental Conservation (PhD course taught by Prof. Komatsu, T., Spring 2009)
- Environmental Soil Science (M. Eng. course taught by Prof. Komatsu, T., Spring 2008)

PREVIOUS AFFILIATIONS

Postdoctoral Fellow, 2010-2011

Institute for Environmental Science and Technology (IEST), Saitama University, Japan. (Research project on “Site-Specific Pollution Control and Remediation Techniques for Waste Dumping Sites in Sri Lanka”)

Duties and Responsibilities:

- Project coordination
- Preparation of project proposals, work plans, and setting of project milestones
- Execution of baseline surveys and the preliminary research database

Research Associate, 2006-2007

University of Peradeniya, Sri Lanka. (Project on “Sustainable Municipal Solid Waste Landfill Management in Asia”, funded by Swedish International Cooperation Agency and Asian Institute of Technology)

Duties and Responsibilities:

- Coordination and execution of research & development activities
- Dissemination of research findings through symposiums, workshops and seminars
- Supervision/co-supervision of graduate and undergraduate research
- Supervision of technical and research staff

Waste Management Expert, 2002-2004

Japan International Cooperation Agency (JICA), Colombo, Sri Lanka. (Project on “Study on Improvement of Municipal Solid Waste Management in Secondary Cities of Sri Lanka”)

Duties and Responsibilities:

- Execution of surveys on technical and socio-economic status of waste management
- Preparation of national solid waste management guidelines
- Designing and construction supervision of solid waste management facilities

RESEARCH GRANT AND RESEARCH COLLABORATIONS

- Co-investigator- “New Innovative Technologies for Tackling Plastic Waste to Address Environmental and Societal Challenges (NICHE)”. International collaborative research project to be funded by UK Strategy for the Global Challenges Research Fund (GCRF), (2020-2023).
- National Focal Point- Environmental Mercury Monitoring in Sri Lanka (2018 to date): Collaboration with Asia Pacific Mercury Monitoring Network (APMMN) through MOU between Ministry of Mahaweli Development and Environment, Sri Lanka and Department of Agricultural Engineering, University of Peradeniya.
- Co-investigator- “Design, development and commercialization of Biochar Pyrolyser”, Innovation and Commercialization Enhancement (ICE) projects under the Accelerating Higher Education Expansion and Development (AHEAD). Funded by Ministry of Higher Education and Cultural Affairs (#:6026-LK/8743-LK), Government of Sri Lanka (2018-2020).
- Co-investigator- Target oriented research project “Comprehensive solution for the medium and small scale open dumps for mitigating pollution”. Funded by National Research Council (NRC TO 18-21), Sri Lanka (2018-2022).
- Co-investigator- Target oriented research project “Development of eco-friendly farming technologies to minimize synthetic agro-chemicals and inorganic fertilizer usage while maintaining adequate productivity and improving long term soil fertility”. Funded by National Research Council (NRC TO 16-07), Sri Lanka (2017-2020).
- Design and development of medium scale agricultural waste pyrolysis system for Biochar production. Research collaboration between Provincial Department of Agriculture- NWP and Department of Agricultural Engineering, University of Peradeniya (2016-2017).
- A survey on the State of Mercury in Sri Lanka. Research collaboration between Ex Research Institute Ltd., Tokyo, JAPAN, Ministry of Mahaweli Development and Environment, Sri Lanka and Department of Agricultural Engineering, University of Peradeniya (November 2016- January 2017).
- Feasibility Study on Constructing a System for Collection and Treatment of Used Fluorocarbons in order to Introduce Energy-saving Equipment with Natural or Low Global Warming Potential (GWP) Refrigerants in Sri Lanka. Ex Research Institute Ltd., Tokyo, JAPAN, Ministry of Mahaweli Development and Environment, Sri Lanka and Department of Agricultural Engineering, University of Peradeniya (September-December 2016).
- Development of low-cost greywater treatment system for National Botanical Garden, Peradeniya, Sri Lanka. Research collaboration between Department of National Botanical Garden and Department of Agricultural Engineering, University of Peradeniya (August-December 2016).
- Feasibility of converting refuse tea into economical agro-industrial byproducts: Determinations of Optimum Pyrolysis Conditions for Producing Refuse Tea Biochar. Research collaboration between Tea Board of Sri Lanka and Department of Agricultural Engineering, University of Peradeniya (2015).
- Development of low-cost onsite grey water treatment system for small household and commercial establishments. Research collaboration between Practical Action Sri Lanka and Department of Agricultural Engineering, University of Peradeniya (2015).
- Productivity enhancement of upcountry tea lands with biochar amendments. Research collaboration between Watawala Plantations PLC and Department of Agricultural Engineering, University of Peradeniya (2014).
- Municipal Solid Waste Biodrying: Support for Establishing Integrated Solid Waste Management System for Circular Society in Sri Lanka (2012K1A3A9A01027428). Research collaboration between Eco Energy Center, University of Seoul and Department of Agricultural Engineering, University of Peradeniya (2013)
- Performance evaluation of a prototype gasifier to produce coconut-shell charcoal. Research collaboration between Coconut Research Institute and Department of Agricultural Engineering, University of Peradeniya (2012)

CONSULTANCIES AND OTHER APPOINTMENTS

- Consultancy for development and implementation of a pilot project on management of plastic wastes in fishing, Packaging and microplastic sectors.
Role: Lead Consultant (Appointed through Agribusiness Center, University of Peradeniya)
Clients: Ministry of Environment
Duration: August 2022- August 2023
- Consultancy for development Inventory (BRS-Norad-1) Marine litter and microplastics: Promoting the environmentally sound management of plastic wastes and achieving the prevention and minimization of the generation of plastic wastes in Sri Lanka
Role: Lead Consultant
Clients: Institute for Global Environmental Strategies (IGES), Japan
Duration: July 2022- March 2023
- Expert Committee member- Committee of Experts to Develop a National Program of Solid Waste Management, 12-member committee appointed by H E President of Sri Lanka (July – October 2020)
- Consultancy contract on Development of Policy, Regulation Recommendations and Awareness Raising for Environmentally Sound Management of E-waste in Sri Lanka
Role: Lead Consultant (Appointed through Waste to Energy Technologies Ltd)
Clients: Central Environmental Authority
Duration: February 2020- December, 2020
- Consultancy contract on preparation of municipal solid waste dumpsite rehabilitation manual for Ministry of Mahaweli Development and Environment, Sri Lanka
Role: Lead Consultant
Clients: Ministry of Mahaweli Development and Environment, sponsored by Institute for Global Environmental Strategies (IGES), Japan
Duration: August- December, 2019
- Consultancy contract on Development of Comprehensive Manure & Nutrient Management Plan (CMNMP) for Modernized Dairy Farm Facilities in Ambewela Farms Complex
Role: Consultant
Clients: United Dairies Lanka (Pvt) Ltd, c/o Lanka Milk Foods (CWE) PLC 579/1, Welisara, Ragama, Sri Lanka
Duration: June-August, 2019
- Consultancy contract on Critical Habitat Assessment in Padiyapelella Mini Hydropower Project Site
Role: Chief consultant (Appointed through Waste to Energy Technologies Ltd)
Clients: Panasian Power PLC, No 03, Elibank Road, Colombo-05, Sri Lanka.
Duration: May-December, 2019
- Consultancy contract on risk assessment and development of rehabilitation plan for Karadiyana MSW dumpsite
Role: Consultant (waste disposal, leachate and landfill gas management)
Clients: National Building Research Organization (NBRO) and Urban Development Authority (UDA)
Duration: January- August, 2019
- Consultancy contract on documentation of case studies and assist in development of city strategy on waste management for Negombo city, Sri Lanka
Role: Consultant
Clients: Institute for Global Environmental Strategies (IGES), Japan
Duration: January- December, 2019
- Consultancy services for Nature Based Landslide Risk Management Project in Sri Lanka
Role: Consultant for development of plant manual and laboratory testing of root strength
Clients: Asian Disaster Preparedness Center (ADPC) Thailand and National Building Research Organization (NBRO), Sri Lanka
Duration: July 2018- June 2019
- Initial Environmental Examination Study for proposed Town East of Polonnaruwa Water Supply Project
Role: Team Leader & Chief Editor (Appointed through Waste to Energy Technologies Ltd)
Clients: National Water Supply & Drainage Board/ China Harbor Cooperation, Sri Lanka
Duration: May – June 2018
- Consulting services for Ratnapura MC Solid Waste Management Labours Satisfaction Survey
Role: Chief consultant (Appointed through Waste to Energy Technologies Ltd)

- Clients: Japan International Cooperation Agency, Office of Sri Lanka
Duration: August – December 2017
- Consulting services for Survey on method of solid waste management annual budget making and utilizing waste collection and disposal data in local authorities in Sri Lanka
Role: Chief consultant (Appointed through Waste to Energy Technologies Ltd)
Clients: Japan International Cooperation Agency, Office of Sri Lanka
Duration: August – December 2017
 - Data collection survey on solid waste management at Kurunegala, Ratnapura & Kataragama Local authorities for pollution control & reduction of environmental burden in solid waste management in Sri Lanka.
Role: Team leader
Client: EX Research Institute Co. Ltd., Tokyo, JAPAN (Consultant to Japan International Cooperation Agency
Duration: May-August, 2017
 - Execution of Municipal Solid Waste Composition Analysis Survey at Karadiyama Waste Management Facility
Role: Team leader
Client: SUSTAINABLE ALTERNATIVES (PVT) LTD, Colombo, Sri Lanka
Duration: January-March 2017
 - Feasibility Study on Constructing a System for Collection and Treatment of Used Fluorocarbons in order to Introduce Energy-saving Equipment with Natural or Low Global Warming Potential (GWP) Refrigerants in Sri Lanka.
Role: Team leader
Client: EX Research Institute Co. Ltd., Tokyo, JAPAN (Consultant to Japan International Cooperation Agency
Duration: August-December, 2016
 - Design of MSW landfill Facility for Matale Municipal Council
Role: Design team leader
Client: Engineering Design Center, University of Peradeniya & Matale Municipal Council
Duration: June 2016 to date (on-going)
 - Data Collection Survey on Solid Waste Management in Democratic Socialist Republic of Sri Lanka
Role: Chief consultant (Local)
Clients: Kokusai Kogyo Co., Ltd, Tokyo, JAPAN (Consultant to Japan International Cooperation Agency)
Duration: October -December 2015
 - Feasibility study to construct Plastic Recycling Facility at Akkareipattu Municipality
Role: Chief consultant
Clients: Practical Action PLC, Sri Lanka
Duration: August –December 2015
 - Feasibility study to construct Solid Waste Landfill Facility for Kalmunai Municipal Council
Role: Chief consultant
Clients: Kalmunai Municipal Council, Eastern Provincial Council & Janathakshana PLC (Pvt) Ltd
Duration: August- December 2014
 - Feasibility study and design of de-centralized sewage treatment system at Amman Kovil Road settlement in Kurunegala Municipal Council area
Role: Chief consultant
Client: Janathakshana PLC (Pvt) Ltd
Duration: January -July, 2015
 - Installation of Sewage treatment system at Trincomalee dumpsite
Role: Chief consultant (Design and installation)
Clients: Eastern Provincial Council/ Janathakshana PLC (Pvt) Ltd
Duration: August-December, 2014
 - Preparation of Zero Waste Action Plan for Matale Municipal Council
Role: SWM specialist
Client: Engineering Design Center, University of Peradeniya & Matale Municipal Council
Duration: June - December, 2014
 - Proposed project to develop ACCESS TOWER 2 at Dr. Colvin R. de Silva Mawatha, Colombo 02
Role: Preliminary Environmental Appraisal
Client: Access Reality 02 (Pvt.) Ltd.
Duration: April-May, 2014
 - Kandy City Wastewater Management Project

Role: Consultant (waste & soil)

Client: National Water Supply and Drainage Board/ Resources Development Consultants (Pvt) Ltd

Duration: May 2013 to date

- Design and Construction of Landfill Leachate and Septic Waste Treatment Facility for Nawalapitiya Urban Council
Role: Chief Consultant
Client: Nawalapitiya Urban Council
Duration 2014 -2016
- Design of 25 TPD Municipal Solid Waste (MSW) Composting Facility at Seeduwa
Role: Chief Consultant
Client: Engineering Design Center, University of Peradeniya & Holsim Lanka Ltd
Duration: September 2013 to March 2014
- Time and Motion Survey on Municipal Solid Waste Collection Improvement in Batticaloa Municipality
Role: Chief Consultant
Client: Asia Foundation
Duration: June-July 2013
- National Solid Waste Management Support Center (NSWMSC), Ministry of Local Government and Provincial Councils, Colombo, Sri Lanka
Role: Technical Advisor/ Consultant
Client: National Solid Waste Management Support Center (NSWMSC)
Duration: June 2012 to date
- National Evaluation of Municipal Solid Waste Management in Local Authorities in Sri Lanka (Swarna Purawara & Puvithuru Purawara Program)
Role: Evaluation Committee Chairperson
Client: Ministry of Local Government and Provincial Councils
Duration: Financial years 2010, 2011 and 2012
- Design and Development of MSW Sanitary Landfill at Kotalawala, Kaduwela
Role: Facility designer and project specialist
Client: CLEANTECH Pvt. Ltd (Abans group of companies)
Duration : June 2006 to September 2007

SCIENTIFIC COMMUNICATIONS (PEER REVIEWED INDEX JOURNALS)

- Jayasundara, R.B.C.D., Udayagee, K.P.P., **Karunarathna, A.K.** et al. Permeable Reactive Barriers as an In Situ Groundwater Remediation Technique for Open Solid Waste Dumpsites: a Review and Prospect. *Water Air Soil Pollut* 234, 50 (2023). <https://doi.org/10.1007/s11270-022-06056-z>.
- Pamodithya Wijeyawardana, Nadeeshani Nanayakkara, Chamila Gunasekara, **Anurudda Karunarathna**, David Law, Biplob Kumar Pramanik, Removal of Cu, Pb and Zn from stormwater using an industrially manufactured sawdust and paddy husk derived biochar, *Environmental Technology & Innovation*, 2022, 102640, ISSN 2352-1864, <https://doi.org/10.1016/j.eti.2022.102640>.
- Wijeyawardana, P., Nanayakkara, N., Gunasekara, C., **Karunarathna, A.**, Law, D., and Pramanik, B.K. (2022). Improvement of heavy metal removal from urban runoff using modified pervious concrete. *Science of The Total Environment* Vol. 815, 152936. ISSN 0048-9697. <https://doi.org/10.1016/j.scitotenv>.
- Perera N. A. R. J., **Karunarathna A. K.** and Basnayake B. F. A. (2021). Energy Efficiency and Economic Analysis of an Irrigated Rice Farming System in Ampara District of Sri Lanka: An Assessment for 2018/19 Maha Season. *Tropical Agricultural Research* (2021) 32(3): 256-264. <https://tar.sljol.info>.
- Sato, S., Chiharu, I., Chiaki, N. and **Karunarathna A.K.** (2020). Evaluation of organic and recyclable waste separation at generation source in Ratnapura and Kataragama local authorities in Sri Lanka, *Detritus*, Vol 12/2020, pp 176-196. DOI 10.31025/2611-4135/2020.14006.
- Shanujah M., Chamindu Deepagoda T.K.K., **Karunarathna A.K.**, Nasvi M.C.M., Shreedharan V., Babu G.L.S., Smits K. and Oldenburg C.M. (2020). Effects of “soil-like” particle size on gas transport and water retention properties in aged municipal solid waste from a Sri Lankan open dumpsite. *Soil Science Society of America Journal*, 84:4, pp 1080-1093. DOI: <https://doi.org/10.1002/saj2.20100>.
- Ariyawansa R. T. K., Basnayake B. F. A., **Karunarathna A. K.** and Mowjood M. I. M. (2018) Extensions to Michaelis–Menten kinetics for single parameters. *Nature Scientific Reports* 8:16586. <https://doi.org/10.1038/s41598-018-34675-2>.

- Ariyawansa, R. T. K., Basnayake, B. F. A., **Karunaratna, A. K.**, Karunaratna, R. H. M. (2018), Performance evaluation of a bottom liner incorporated up-flow anaerobic sludge blanket reactor start-up for food waste, *Journal of Material Cycles and Waste Management*, 1611-8227. <https://doi.org/10.1007/s10163-018-00818-w>.
- Ariyawansa, R.T.K., Basnayake, B. F. A., **Karunaratna, A. K.** (2018). Scaling-up of an up-flow anaerobic sludge blanket incorporated with a bio-filter liner system for treating kitchen wastes. *Journal of Tropical Agricultural Research* 29 (3): 302- 315.
- Alahakoon, A.M.Y.W., **Karunaratna, A.K.** and Dharmakeerthi, R.S. (2018) Performance evaluation of a down draft double chamber pyrolysis reactor under field conditions. *Tropical Agricultural Research*, 30(1), pp.84–94. DOI: <http://doi.org/10.4038/tar.v30i1.8280>
- Dissanayake D. K. R. P. L., Dharmakeerthi R. S., **Karunaratna A. K.** and Dandeniya W. S. (2018) Changes in Structural and Chemical Properties of Rice Husk Biochar Co-pyrolysed with Eppawala Rock Phosphate under Different Temperatures. *Tropical Agricultural Research* Vol. 30 (1): 19 – 31. DOI: <http://doi.org/10.4038/tar.v30i1.8275>.
- Chandrathilaka K. R. M., Alwis Seneviratne S. R. De, Lankatilake K. N., Samaranyake D. B. D. L., and **A. K. Karunaratna** (2018) Work environment of automated and non-automated rice mills in Amapara district, Sri Lanka. *Int J Community Med Public Health*. 5(8):3257-3264.
- Amarasinghe H.A.H.I., Gunathilake S.K. and **Karunaratna A.K.** (2016) Ascertaining of optimum pyrolysis conditions in producing refuse tea biochar as a soil amendment, *Procedia Food Science*, 6(2016):97- 102.
- Mayakaduwa S. S., Meththika Vithanage, **Anurudda Karunaratna**, Dinesh Mohan & Yong Sik Ok (2016) Interface interactions between insecticide carbofuran and tea waste biochars produced at different pyrolysis temperatures, *Chemical Speciation & Bioavailability*, 28:1-4, 110-118
- Subedi, S., K. Kawamoto, **A. K. Karunaratna**, P. Moldrup, L. W.de Jonge, and T. Komatsu (2013), Mini Tensiometer-Time Domain Reflectometrycoil probe for measuring soil water retention properties. *Soil Sci. Soc. Am. J.* 77 (5):1517-1528. doi:10.2136/sssaj2012.0106.
- **Karunaratna, A.K.**, K. Kawamoto, P. Moldrup, L. W. de Jonge, and T. Komatsu (2010), Descriptive-predictive model for soil-water repellency and contact angle as a function of water content, *Soil Sci.* 175(10):461-468.
- **Karunaratna, A.K.**, K. Kawamoto, P. Moldrup, L. W. de Jonge, and T. Komatsu (2010), Two-region model for soil-water repellency as a function of matric potential and water content, *Vadose Zone J.* 9:719-730.
- Tanaka, N., **A. K. Karunaratna**, and K. B. S. N. Jinadasa (2007), Effect of coconut coir-pith supplement on nitrogen and phosphate removal in subsurface flow wetland microcosms, *Chemistry and Ecology*, 24(1):15-22.
- **Karunaratna, A.K.**, N. Tanaka, and K. B. S. N. Jinadasa (2006) Effect of external organic matter on nutrient removal and growth of *Phragmites australis* in a lab scale subsurface flow treatment wetland, *Water Science & Technology*, 55(1-2):121–128.
- Basnayake, B.F.A., **A. K. Karunaratna** (2004), A comparative study of windrow and static pile MSW composting methods in Sri Lanka. *Journal of Agricultural Engineering Society of Sri Lanka (AESSL)* 8:9-23.

SCIENTIFIC COMMUNICATIONS (BOOK CHAPTERS AND TECHNICAL REPORTS)

- Ganepola G.A.C., Nawagamuwa U.P., **Karunaratna A.K.**, Basnayake S., Kankanamge L., Jayathilake D. (2021) Site Suitability Analysis for Nature-Based Landslide Risk Mitigation. In: Arbanas Ž., Bobrowsky P.T., Konagai K., Sassa K., Takara K. (eds) *Understanding and Reducing Landslide Disaster Risk*. WLF 2020. ICL Contribution to Landslide Disaster Risk Reduction. Springer, Cham. https://doi.org/10.1007/978-3-030-60713-5_34. PP 355-360.
- B.F.A. Basnayake, R.T.K. Ariyawansa, **A.K. Karunaratna**, S.M. Werahera, N. Mannapperuma. (2020). A. Pariatamby and M. S. Bhatti Ed. *Sustainable Waste Management Challenges in Sri Lanka*. Sustainable Waste Management Challenges in Developing Countries. IGI Global. <https://doi:10.4018/978-1-7998-0198-6.ch015>. pp 352-381.
- Basnayake B.F.A., Ariyawansa R.T.K., **Karunaratna A.K.** (2020) Compendium of Principles Applied and Technologies Developed for Managing Municipal Solid Wastes in Sri Lanka. In: De Silva R.P., Pushpakumara G.,

- Prasada P., Weerahewa J. (eds) *Agricultural Research for Sustainable Food Systems in Sri Lanka*. Springer, Singapore. ISBN:978-981-15-3672-4. https://doi.org/10.1007/978-981-15-3673-1_22. PP 475-507.
- Basnayake B.F.A., Ariyawansa R.T.K., Gamage D.A.S., **Karunarathna A.K.** (2020) Experiences of Biochar Applications for Sustainable Agriculture in Sri Lanka. In: De Silva R.P., Pushpakumara G., Prasada P., Weerahewa J. (eds) *Agricultural Research for Sustainable Food Systems in Sri Lanka*. Springer, Singapore. ISBN:978-981-15-3672-4. https://doi.org/10.1007/978-981-15-3673-1_12. PP 255-276.
 - Vidanage, V. V. D. N. G., **Karunarathna, A. K.**, Alahakoon, A. M. Y. W. and Jayawardene S. M. N. (2020). Development of an Effective and Efficient Integrated Charcoal Filter Constructed Wetland System for Wastewater Treatment. In *Recent Trends in Wastewater Treatment and Water Resource Management*, Edited by Sadhan Kumar Ghosh, Papita Das Saha, and Maria Francesco Di. Springer Nature Singapore Pte Ltd. ISBN 978-981-15-0705-2 ISBN 978-981-15-0706-9 (eBook) <https://doi.org/10.1007/978-981-15-0706-9>.
 - Alahakoon, Y. and **Karunarathna A. K.** (2020). Modelling of Post-consumer Plastic Flow in Municipal solid waste Stream: A Case Study in Few Major Local Authorities of Sri Lanka. In *Urban Mining and Sustainable Waste Management*, edited by Sadhan Kumar Ghosh, Springer Nature Singapore Pte Ltd. ISBN 978-981-15-0531-7 ISBN 978-981-15-0532-4 (eBook). <https://doi.org/10.1007/978-981-15-0532-4>.
 - **Karunarathna, A. K.**, Singh, R. K., Rajapaksha, T.N., Premakumara, D. G. J., and Onogawa, K. (2020). Status of municipal solid waste management in Negombo, Sri Lanka. United Nations Environmental Programme (<https://www.unenvironment.org/ietc/resources/report/state-municipal-solid-waste-management-negombo-city-sri-lanka>).
 - Samarasinha, G.G. de L.W., Bandara, M.A.C.S. and **Karunarathne, A.K.** (2014). Prospects of Municipal Solid Waste Composting, HARTI Research Report No: 174, Hector Kobbekaduwa Agrarian Research and Training Institute, Colombo, Sri Lanka. ISBN: 978-955-612-181-0.
 - Preliminary Environmental Appraisal report for the proposed project to develop ACCESS TOWER 2 at Dr. Colvin R. de Silva Mawatha, Colombo 02, Sri Lanka (2014). Director (Enforcement), Urban Development Authority, 6th & 7th Floors, Sethsiripaya, Battaramulla, SRI LANKA. *Principal Author*.
 - Initial Environmental Examination (IEE) report for the proposed project to set up a sugar refining industry at Hambantota (2013), Central Environmental Authority, 104, DenzilKobbekaduwaMawatha, Battaramulla, Sri Lanka. *Principal Author*.
 - **Karunarathna, A. K.**, R. Kuruppuge, and W. Ariyadasa (2012), Excellence in Municipal Solid Waste Management Awards Program – 2011 (PivithuruPurawara), National Solid Waste Management Support Center (NSWMSC), Ministry of Local Government and Provincial Councils, Colombo, Sri Lanka.
 - **Karunarathna, A. K.**, N. Samaraweera, and W. Ariyadasa (2011), Excellence in Municipal Solid Waste Management Awards Program – 2010 (PivithuruPurawara), National Solid Waste Management Support Center (NSWMSC), Ministry of Local Government and Provincial Councils, Colombo, Sri Lanka.
 - **Karunarathna, A. K.** (2010), Cost and Sustainability of Constructed Wetlands, in *Wetlands for Tropical Applications: Wastewater Treatment by Constructed Wetland*, edited by N. Tanaka, W. J. Ng, and K. B. S. N. Jinadasa, Imperial Collage Press, London. ISBN 978-1-84816-297-6/1-84816-297-9. https://doi.org/10.1142/9781848162983_0007.
 - Environmental Impact Assessment (EIA) report for proposed municipal solid waste landfill- Kaduwela, Sri Lanka (2007), Central Environmental Authority, 104, DenzilKobbekaduwaMawatha, Battaramulla, Sri Lanka. *Co-authored chapters on technical feasibility, landfill design and environmental monitoring & assessment*.
 - Initial Environmental Examination (IEE) report for solid waste and wastewater treatment facility, Moonplains Landfill, Nuwaraeliya, Sri Lanka (2003), Central Environmental Authority, 104, DenzilKobbekaduwaMawatha, Battaramulla, Sri Lanka. *Co-authored chapters on policy and environmental monitoring & assessment*.

SCIENTIFIC COMMUNICATIONS (PEER REVIEWED PROCEEDINGS)

- Wijeyawardana, H. M. P., Biplob, P., **Karunarathna, A. K.**, Gunasekara, C., Law, D. and Nanayakkara, K. G. N. (2020). Variation of copper adsorption with initial pH and pyrolysis temperature by saw dust and paddy husk biochar made

in an industrial type pyrolyzer. 11th International Conference on Sustainable Built Environment (ICSBE) 2020, 10th December 2020.

- Ganepola, C. **Karunarathna A. K.**, Dayarathna, N., Kankanamge, L., Perera, D., Nawagamuwa, U., Basnayake, S and Arambepola, S. (2020). International symposium on multi-hazard early warning and disaster risk reduction symposium book of abstracts and proceedings to promote the availability and application of research, science and technology to support implementation of Sendai framework for disaster risk reduction 2015-2030, 16th - 18th March 2020, Cinnamon Grand, Colombo, Sri Lanka. ISBN: 978-1-86218-173-1.
- **Anurudda Karunarathna**, Yasas Gamagedara, Nalin Mannapperuma, Renuka Ariyawansha, B. F. A. Basnayake (2018). Development of a Methane (CH₄) Surface Emission Map: A Case Study at Karadiyana Dump Site, Sri Lanka. Proceedings of the APLAS TOKYO 2018, The 10th Asia-Pacific Landfill Symposium - The tenth anniversary - 24 - 26 November 2018, Meisei University, JAPAN.
- **Anurudda Karunarathna**, Thilini Ranasinghe, Udara Piyathilaka, Yushani Alahakoon, Renuka Ariyawansha, B. F. A. Basnayake (2018). Development of A Waste Plastic Based Construction Material for Outdoor Light Constructions. Proceedings of the APLAS TOKYO 2018, The 10th Asia-Pacific Landfill Symposium - The tenth anniversary - 24 - 26 November 2018, Meisei University, JAPAN.
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- **Karunaratna A.K.**, Chhoden T., Kawamoto K., Komatsu T., Moldrup P., de Jonge L.W. (2010) Estimating hysteretic soil-water retention curves in hydrophobic soil by a mini tensiometer-TDR coil probe, 19th World Congress of Soil Science, 1-6 August, Brisbane, Australia.
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- **Karunaratna, A.K.**, Kawamoto, K., Moldrup, P., Komatsu, T. (2009) A Predictive Model based on Soil Organic Carbon Content for Water Content Dependent Soil Water Repellency, Japan Geosciences Union Meetings 2009, May 5-21, Chiba, Japan. (Abstract No. 018919)
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- **Karunaratna, A.K.**, Kawamoto K., Moldrup P., and T. Komatsu. (2008) Estimation of unsaturated hydraulic properties in water repellent soil by time domain reflectometry coil probe measurements. p. 99-104. In I. Kaihotsu (ed.) Proc. Soil Moisture Worksh., Tokyo. 26-27 May. Soil Moisture Workshop. 2008 Editorial Committee, Hiroshima, Japan.
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- Gunarathna, H.A.Y.R., **Karunarithna, A.K.**, Basnayake, B.F.A. and Kapukotuwa, A.S.B. (2007) Construction and evaluation of a low cost, wasted Polyethylene based liner for small landfills. Proceedings of the International Conference on Solid Waste Management, Chennai, India, 5-7 September.
- Basnayake, B.F.A., Jayakody, K.P.K., and **Karunarithna, A.K.** (2007) Presents Status and Futuristic Approaches in 3R initiatives in Sri Lanka, Proceedings of the International conference on Cleaner Technologies and Environmental Management, PEC, Pondicherry, India. January 4-6. pp 853-859.
- **Karunarithna, A.K.**, Tanaka, N., and Jinadasa, K.B.S.N., and Yutani, K. (2006) Improving nitrogen removal by carbon substrate amendment in vegetated tank with vertical flow system, Proceedings of the 40th Annual Meeting of Japan Society on Water Environment, 1-F-14-1, Sendai, Japan, Mar. 15-17, 198 pp.
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- **Karunarithna, A.K.**, Tanaka, N., and Jinadasa, K.B.S.N., (2005) Effect of external organic matter on nutrient removal and growth of *Phragmites australis* in a lab scale subsurface flow treatment wetland, Proceedings of the 5th International Water Association (IWA) Specialty Conference on Wastewater Reclamation and Reuse for Sustainability, Jeju, Korea, Nov. 8-11, 448 pp.

POSTGRADUATE STUDENT SUPERVISION

- T. N. Rajapaksha (PhD- 2019-2022), A comprehensive life cycle analysis tool integrating techno-environmental and socio-economic indicators for decision making in municipal solid waste management sector, PhD research, Postgraduate Institute of Agriculture, University of Peradeniya.
- Rajendram Thivyatharsan (PhD- 2018-2021), Occurrence of soil water repellency (SWR) and its effects on soil hydraulic properties in different ecosystems of Sri Lanka, PhD research, Postgraduate Institute of Agriculture, University of Peradeniya.
- K. R. M. Chandrathilaka (PhD- 2016-2020), Improving work environment and respiratory health of rice mill workers in Ampara District, Department of Community Medicine, Faculty of Medicine, University of Colombo, Sri Lanka.
- S. W. G. R. T. K. Ariyawansa (PhD- 2015-2019), Development of Interactive Mathematical Expressions for Biochemical Transformation Kinetics, PhD research, Postgraduate Institute of Agriculture, University of Peradeniya.
- Alahakoon, A. M. Y. W. (MPhil- 2017-2020), Development of an efficient biochar production technology for recycling of rice husk. M.Phil. research, Postgraduate Institute of Agriculture, University of Peradeniya.
- W.P.M.A. Wijayawardhana (MSc- 2017), A Study on Implementing Sustainable Community Based Waste Management Programmes: Case Study in Maharagama Urban Council Area, Master of Science Degree in Environmental Sciences (Research), The Open University of Sri Lanka, NAWALA, NUGEGODA (114410651).
- Mayakaduwege, S. S. (MSc- 2016), Rice husk and tea waste-derived biochars for remediation of carbofuran in the environment, M.Phil. thesis, Postgraduate Institute of Science, University of Peradeniya, PGIS/EN/M.Phil./13/524.

DIPLOMA AND CERTIFICATE TRAINING

- Training workshop on “The contribution of municipal waste management to tackle the issue of plastic waste” organized by Connective Cities Dialog ENGAGEMENT GLOBAL gGmbH in Hamburg, Germany, December 2019.
- Asia Pacific Mercury Monitoring Network Training Workshop & Meetings: 2019 August in Indonesia; 2019 June in Taiwan; 2018 September in Philippine.
- Regional Training on Effective Utilization of Pesticides and Plant Protection Equipment in Asian Countries, October 2017, China
- Diploma- “1st International Conference and Exploratory Workshop on Soil Architecture and Physico-chemical Functions” on successful completion of international workshop, Aarhus University, Denmark (Nov. 30 – Dec. 2, 2010)
- Diploma – “Merging Measurements and Modeling in Soil Physics” on successful completion of international workshop, Aarhus University, Denmark (March 16-22, 2009)
- Certificate- “Numerical Modeling - HYDRUS Short Course” on successful completion of two-days short course, University of Tokyo, Japan (June 26-27, 2008)

AWARDS AND SCHOLARSHIPS

- Japanese Government (Monbukagakusho) Scholarship for Doctor of Philosophy students, Saitama University, Japan. (2007-2010)
- Asian Development Bank/Japanese Government (ADB/JSP) Scholarship for Master of Engineering students, Saitama University, Japan. (2004-2006)

LANGUAGE PROFICIENCY

- Sinhalese (Native)
- English (Speaking; Reading; Writing) fluent/excellent
- Japanese (Speak and write with basic competence)

PROFESSIONAL MEMBERSHIPS

- Member (2012- to date), International Biochar Initiative (IBI)
- Member (2007- to date), American Geophysical Union (AGU)
- Member (2007- to date), Japan Geophysical Union (JPGU)
- Member (2007- to date), Soil Science Society of America (SSSA)
- Member (2004- to date), Japan Society of Civil Engineers (JSCE)
- Member, (2002- to date), Agricultural Engineering Society of Sri Lanka

I, the undersigned, certify that, to the best of my knowledge and belief, the Curriculum Vitae correctly describes me, my qualifications and my experience. I understand that any willful misstatement described herein may lead to my disqualification or dismissal.

Dr. Anurudda Karunarathna