

## R.M.V.N. GUNARATHNE

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### PERSONAL PROFILE

Name in Full : Rajapaksha Mudiyansele Viraj Niroshana Gunarathne  
Date of Birth : 08<sup>th</sup> of November, 1987  
Nationality : Sri Lankan  
Gender : Male  
Civil Status : Unmarried

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### CURRENT POSITION

Ph.D. student

Laboratory of Soil- and Groundwater-Management, Institute of Soil Engineering, Waste- and Water Science, Faculty of Architecture und Civil Engineering, University of Wuppertal, Germany

### RESEARCH TOPIC

Remediation of Perfluorooctane Sulfonate (PFOS) Contaminated Soils by a Novel Nano-composite Material.

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### EDUCATIONAL QUALIFICATIONS

- M.Sc. in Environmental Science (English medium), Post Graduate Institute of University of Peradeniya, Peradeniya (GPA: 3.75). Thesis title: Hydrometallurgical extraction of hazardous heavy metals from industrial sludge.
  - B.Sc. (Special Degree) in Botany (English medium) with Second Class (Upper Division) Honors (GPA: 3.43), University of Peradeniya, 2010/2014. The principal subjects included Botany, Zoology and Chemistry. Thesis title: Mycorrhizal associations in two natural landuse types in dothalugala mab reserve, sri lanka.
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### EMPLOYMENTS

- **Research Assistant** in Ecosphere Resilience Research Centre (ERRC), Faculty of Applied Sciences, University of Sri Jayewardenepura – from June 2018 to August 2020.
- **Volunteer research student** in Environmental Chemodynamics Project, National Institute of Fundamental Studies (NIFS) – from November 2017 to April 2018.
- **National Research Council (NRC) research student** in Environmental Chemodynamics Project, National Institute of Fundamental Studies (NIFS) – from January 2017 to November 2017.
- **Teaching Assistant** in the Department of Botany, Faculty of Natural Sciences, The Open University of Sri Lanka, Nawala – from December 2015 to January 2017.

- **Teaching Assistant** in the Department of Botany, University of Peradeniya – from January 2015 to November 2015.
  - **Visiting Teaching Assistant** in the Postgraduate Institute of Science, University of Peradeniya – from February 2015 to May 2015.
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## TRAINING EXPERIENCES

- Workshop on ‘Meta-Analysis for Natural Sciences’. 26<sup>th</sup> February, 2020. Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka, Makandura, Gonavila, Sri Lanka.
  - Workshop on ‘Modeling water flow and contaminant transport in soil and groundwater using hydrus and HP1 computer software packages’. 9<sup>th</sup>-11<sup>th</sup> September, 2019. IIT Mandi, Himachal Pradesh, India.
  - Workshop on ‘Seed storage and germination techniques for floriculture industry with special reference to *Livistona rotundifolia*’. 27<sup>th</sup> March, 2015. Department of Botany, University of Peradeniya, Sri Lanka.
  - Workshop on career development named ‘Resilient Researcher, Face Challenges with Confidence’ conducted by Young Researchers’ Forum. 28<sup>th</sup> January, 2014. Postgraduate Institute of Science, University of Peradeniya., Sri Lanka
  - Trainee Research Assistant in the research project of ‘Improvement of Microbial Strains and Biofilms for Ethanol Fuel Production from Cellulosic Substrates’. January to February, 2013. Microbial Biotechnology Division, National Institute of Fundamental Studies (NIFS), Sri Lanka.
  - Successfully completed the course of ‘Certificate in Computer Studies – Basic Level’ conducted by the Ministry of Education, 2008.
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## RESEARCH PUBLICATIONS

### Research articles:

- **Gunarathne, V.**, Senadeera, A., Gunarathne, U., Almaroai, Y. A. and Vithanage, M. (2020). Capacity of biochar and organic amendments on reclamation of coastal acid saline soil. *Biochar*, 1-14.
- **Gunarathne, V.**, Rajapaksha, A. U., Vithanage, M, Adassooriya, N., Cooray, A., Liyanage, S., Athapattu, B., Rajakaruna, N., Igalavithana, A. D., Hou, D., Alessi, D. S. and Ok, Y. S. (2019). Heavy metal dissolution mechanisms from electrical industrial sludge. *Science of the Total Environment*, 696, 133922.
- **Gunarathne, V.**, Rajakaruna, N., Gunarathne, U., Biswas, J. K., Raposo, Z. A., and Vithanage, M. (2019). Influence of soil water content and soil amendments on trace metal release and seedling growth in serpentine soil. *Journal of Soils and Sediments*, 1-14.

### Review articles:

- **Gunarathne, V.**, Rajapaksha, A. U., Vithanage, M., Alessi, D. S., Selvasembian, R., Naushad, M., You, S., Oleszczuk, P. and Ok, Y. S. (2020). "Hydrometallurgical processes for heavy metals recovery from industrial sludges." *Critical Reviews in Environmental Science and Technology*, 1-41.
- Vithanage, M., Kumarathilaka, P., Oze, C., Karunatilake, S., Seneviratne, M., Hseu, Z., **Gunarathne, V.**, Dassanayake, M., Ok, Y. S. and Rinklebe, J. (2019). Occurrence and cycling of trace elements in ultramafic soils and their impacts on human health: a critical review. *Environment International*, 131, 104974.
- **Gunarathne, V.**, Ashiq, A., Ramanayaka, S., Wijekoon, P., & Vithanage, M. (2019). Biochar from municipal solid waste for resource recovery and pollution remediation. *Environmental Chemistry Letters*, 1-11.
- Vithanage, M., **Gunarathne, V.**, & Bandara, T. (2013). Mini-Review on Influence of Biochar for Sustainable Agriculture. *Journal of Food and Agriculture*, 6(1-2).

### Abstracts:

- **Gunarathne, V.**, Rajapaksha, A.U., Cooray, A. and Vithanage, M. (2020). Evaluation of heavy metal dissolution mechanisms for battery industrial sludge. Abs. *The 8<sup>th</sup> YSF Symposium*.
- **Gunarathne, V.**, Rajapaksha, A.U., Cooray, A. and Vithanage, M. (2019). Characterization and Removal of Lead from Battery Industry Sludge by Acid Leaching. Abs. *The 4<sup>th</sup> International Conference on Biological Waste as Resource jointly with 5<sup>th</sup> International Environmental Engineering Conference*. 10<sup>th</sup>-13<sup>th</sup> December 2019, BEXCO, Busan, Korea.
- **Gunarathne, V.**, Rajapaksha, A.U., Adassooriya, N., Cooray, A. and Vithanage, M. (2019). Heavy metal fractionation and acid leaching from electrical and battery industrial sludge. Abs. *The 8<sup>th</sup> YSF Symposium*. 30<sup>th</sup> January 2019, Construction Industry Development Authority (CIDA) auditorium, Sri Lanka.
- **Gunarathne, V.** and Vithanage, M. (2018). Hydrometallurgical Process for Recovery of Metals from Two Industrial Sludge Types. Abs. *The 2<sup>nd</sup> International Conference on Bioresources, Energy, Environment, and Materials Technology (BEEM2018)*. 10<sup>th</sup> – 13<sup>th</sup> June 2018, Gangwon Province, Korea.
- **Gunarathne, V.**, Senadeera, A. and Vithanage, M. (2018). Effect of Biochar and Organic Amendments on Acid Saline Soil. Abs. *The 2<sup>nd</sup> International Conference on Bioresources, Energy, Environment, and Materials Technology (BEEM2018)*. 10<sup>th</sup> – 13<sup>th</sup> June 2018, Gangwon Province, Korea.
- **Gunarathne, V.**, Rajakaruna, N and Vithanage, M. (2017). Metal release from serpentine soils under two different soil water status and different soil amendment levels. Abs. *74<sup>th</sup> Annual Scientific Sessions of SLAAS 2018*. 2<sup>nd</sup> - 8<sup>th</sup> December 2018, The Open University of Sri Lanka, Nawala, Sri Lanka.
- **Gunarathne, V.**, Rajakaruna, N and Vithanage, M. (2017). Influence of water content, ligands and protons on metal release in heavy metal rich soils. Abs. *Kdu international research conference 2017*. 3<sup>rd</sup> and 4<sup>th</sup> August 2017, General Sir John Kotelawala Defence University, Sri Lanka.

- **Gunarathne, V.,** Rajakaruna, N and Vithanage, M. (2017). Influence of Soil Water Content on Metal Release in Serpentine Soil. Abs. *The 9<sup>th</sup> International Conference on Serpentine Ecology*. 4<sup>th</sup>-9<sup>th</sup> June 2017, Tirana and Pogradec, Albania.
- **Gunarathne, R.M.V.N.,** Madawala, H.M.S.P. and Perera G.A.D. (2015). Arbuscular mycorrhizal fungi in montane forests and grasslands of Dothalugala MAB Reserve, Sri Lanka. Abs. *iPURSE*. 2015, University of Peradeniya, Sri Lanka.
- **Gunarathne R. M. V. N.,** Weerasinghe H. M. S. P. M. and Perera G. A. D. (2015). Influence of arbuscular mycorrhizal fungi on natural regeneration of grassland disclimaxes in Dothalugala MAB Reserve, Sri Lanka. Abs. *The 6<sup>th</sup> Student Conference on Conservation Science-Bengaluru*. 8<sup>th</sup>-11<sup>th</sup> September, 2015, IISc, Bengaluru.

#### Book Chapters:

- **Gunarathne, V.,** Senadeera, A., Gunarathne, U., Almaroai, Y. A. and Vithanage, M. (2020). Reclamation of salt affected soils. In *Soil and groundwater remediation*.
- **Gunarathne, V.,** Gunatilake, S. R., Wanasinghe, S. T., Atugoda, T., Wijekoon, P., Biswas, J. K. and Vithanage, M. (2020). Phytoremediation for e-waste contaminated sites. In *Handbook of Electronic Waste Management* (pp. 141-170). Butterworth-Heinemann.
- Rajapaksha, A. U., Premarathna, K. S. D., **Gunarathne, V.,** Ahmed, A., & Vithanage, M. (2019). Sorptive removal of pharmaceutical and personal care products from water and wastewater. In *Pharmaceuticals and Personal Care Products: Waste Management and Treatment Technology* (pp. 213-238). Butterworth-Heinemann.
- **Gunarathne, V.,** Mayakaduwa, S., Ashiq, A., Weerakoon, S. R., Biswas, J. K., & Vithanage, M. (2019). Transgenic Plants: Benefits, Applications, and Potential Risks in Phytoremediation. In *Transgenic Plant Technology for Remediation of Toxic Metals and Metalloids* (pp. 89-102). Academic Press.
- Ashiq, A., **Gunarathne, V.,** & Vithanage, M. (2018). Overview Scheme for Nickel Removal and Recovery from Wastes. In *Nickel in Soils and Plants* (pp. 319-340). CRC Press.
- **Gunarathne, V.,** Ashiq, A., Ginige, M. P., Premarathna, S. D., de Alwis, A., Athapattu, B., & Vithanage, M. (2018). Municipal waste biochar for energy and pollution remediation. In *Green Adsorbents for Pollutant Removal* (pp. 227-252). Springer, Cham.
- **Gunarathne, V.,** Mayakaduwa, S., & Vithanage, M. (2017). Biochar's influence as a soil amendment for essential plant nutrient uptake. In *Essential Plant Nutrients* (pp. 47-67). Springer, Cham.

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#### DISSEMINATION OF KNOWLEDGE AND POPULARIZATION OF SCIENCE

- Participated as an assistant for the workshop conducted for world water day in S De S Jayasinghe Central College, Dehiwala and demonstrated water quality testing methods for students. 22<sup>th</sup> March 2017.

- Worked as a volunteer teaching assistant in the Science Education Unit of the University of Peradeniya and involved to disseminate scientific knowledge among the high school students. From January to October, 2015.
  - Participated as a demonstrator for the Science Camp held at the Sri Sumangala National School, Nildandahinna in order to broadening the practical knowledge of science among the school children. 14<sup>th</sup> – 15<sup>th</sup> March 2015. Nildandahinna.
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#### **TECHNICAL SKILLS AND COMPUTER LITERACY**

- Atomic Absorption Spectroscopy (AAS), Fourier Transform Infrared Spectroscopy (FTIR), X-ray Powder Diffraction (XRD), UV-Visible Spectrophotometer, Microwave digestion, Sample preparation techniques.
  - Microsoft Office Package (*Ver.* 2003, 2007, 2010, 2013), Photo Editing Softwares (Adobe Photoshop, Adobe Lightroom), Statistical Analyzing Packages (MINITAB), Data Analysis Software (Origin, SigmaPlot).
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