Department of Botany
Faculty of Science / University of Peradeniya



Prof. A.D. Sarangi N.P. Athukorala

B.Sc. (Perad.), M.Sc., Ph.D. (Manitoba, Canada)

Professor in Microbiology

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About Me

I am a Microbiologist/Plant Pathologist, who is enjoying finding eco-friendly strategies in combating environmental issues and for crop improvement. I equally enjoy teaching, dancing and music.

I have been trained as a Molecular Plant Pathologist, Microbiologist, Molecular Biologist. My knowledge and skills span over a wide range of disciplines such as Plant Pathology, Microbiology, Mycology, Lichenology, Molecular phylogeny, Population genetics, Microbial interactions, Molecular biology and Biotechnology, which involved an array of different methodology such as (but not limited to) bacterial, fungal and algal culture techniques, field and greenhouse biocontrol and growth assays, phylogenetic analyses, dissecting, light and scanning electron microscopy, and molecular techniques such as Random Amplified Polymorphic DNA (RAPD), real-time PCR, gene/genome sequencing and molecular cloning and also biochemical analyses.

My research is currently focused on Environmental Microbiology, Microbial Biotechnology, Algal Biology and Algal Biotechnology, Lichenology towards finding ways to develop eco-friendly strategies to solve environmental issues and crop improvement using microbes while reaching sustainable developmental goals .

Higher Education Qualifications

PhD	MSc	BSc
University of Manitoba - Canada (2015)	University of Manitoba - Canada (2008)	University of Peradeniya - Sri Lanka (2004)

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Awards, Scholarships, Memberships & Fellowships

- Early Carrier Research Travel Award by Nature Research 2021
- Canadian Phytopathological Society
- Canadian Botanical Association
- American Botanical Association
- American Bryologists and Lichenologists Society
- Canada Graduate Scholarship offered by National Science & Engineering Research Council, Canada - 2010-2013
- Faculty of Science Graduate Student Scholarship, University of Manitoba – 2009, 2010
- Manitoba Graduate Scholarship (MGS) for Master's students- 2007
- Vernon I. Cheadle Student Travel Award awarded by Botanical Society of America 2013
- Graduate Student travel award by the Faculty of Graduate Studies, University of Manitoba – 2007, 2010, 2011, 2012, 2013
- Canadian Botanical Association graduate student travel award - 2011
- Graduate Student Association travel award, University of Manitoba – 2010, 2011, 2012
- Graduate Student Travel award by the Dept. of Biological Sciences, University of Manitoba – 2011, 2012, 2013
- International Graduate Student Entrance Scholarship from the University of Manitoba (IGSES) – 2006
- University Scholarship for academic excellence from the University of Peradeniya, Sri Lanka – 2004
- Prof. M.D. Dassanayaka gold medal for best performance in botany from the University of Peradeniya – 2004
- Sri Lankan Association for Microbiology
- Sri Lanka Association for Mycology and Plant Pathology
- Association of Commonwealth Universities Fellowship 2025
- University Research Council Multidisciplinary Research Grant 2025

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Positions Held

- Member of the research committee of the Chine-Sri Lanka Joint Research and Demonstration Centre for Water Technology (JRDC), University of Peradeniya, Sri Lanka- (1st April, 2022 – to date)
- Member of Faculty Curriculum Development Committee- (Jan 2020 - to date)
- Member of Curriculum Revision Committee, Postgraduate Institute of Science, University of Peradeniya- (Jan 2020 - to date)
- Co-coordinator for the M.Sc. in Science Education, Postgraduate Institute of Science, University of Peradeniya- (Jan, 2020 to date)
- Senior Student Counselor, Department of Botany- (Jan 2019 - to date)
- Coordinator, Faculty Science Education Unit (Biology)- (Jan 2019 - date)
- Member of Faculty Curriculum Revision Committee- (Jan 2019 - to date)
- Faculty Representative for University Arts Council- (2018)
- Board Member, Board of Study in Plant Sciences, Postgraduate Institute of Science, University of Peradeniya, Sri Lanka- (2017 - to date)
- Visiting Lecturer, Postgraduate Institute of Science, University of Peradeniya- (2015 - to date)
- Co-coordinator for the M.Sc. in Medical Microbiology programme, Post Graduate Institute of Science (PGIS), University of Peradeniya, Sri Lanka- (2015 - to date)
- Temporary Lecturer – Dept. of Botany, U of Peradeniya, Peradeniya, Sri Lanka- (June 2015 to Feb. 2016)
- Teaching Assistant – Dept. of Plant Science (2006 – 2008) and Dept. of Biological Sciences (2009 – 2015), University of Manitoba, Canada
- Grader / Marker – Dept. of Biological Sciences, University of Manitoba, Canada- (2010 – 2015)
- Research Assistant – Dept. of Botany, University of Peradeniya- (2004 – 2005)
- Visiting Teaching Assistant - Postgraduate Institute of Science, University of Peradeniya- (2005)
- Demonstrator – Dept. of Botany, University of Peradeniya- (2004 – 2005)

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My Teachings

- AS409: Industry and Environment
- BL107: Basic Microbiology
- BOT2012: Plant Diversity I
- BOT2062: Microbial Ecology and Function
- BOT3042: Plant Pathology
- BOT3122: Biotic Interactions and applications
- BOT3132: Plants, Life and Skills
- BT420: Biological Nitrogen Fixation
- MIC3062: Environmental Microbiology
- MIC3072: Symbiosis
- MIC3092: Microbial Agents for Plant Disease Management
- MIC3162: Microbes for sustainability
- MIC4052: Toxicology
- MIC4072: Microbiological Applications

Research Interests (Research Fields/ Projects)

Environmental Microbiology, Microbial Biotechnology, Algal Biotechnology, Plant Pathology

- Molecular and biochemical mechanisms of microbial interactions parasitism to mutualism: Impact of climate change on microbial interactions
- Sustainable use of microorganisms
  - for value added eco-friendly product development
  - for wastewater management, environment remediation and crop irrigation
  - for developing hydroponic systems for rice
  - for desalination of water and soil
  - for environmental monitoring

Ongoing Research and Projects

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- **• Mycelial based biocomposites from agricultural, textile and polythene wastes: Funded by National Research Council Target Oriented Grant (NRC TO) 2026 - Rs. 20 Mn for 5 years**
- **Characterization and application of potassium solubalizing microorganisms as a biofertilizer for crop improvement**
- **Cyanobacteria and algae for wastewater treatment (heavy metals and laboratory and industrial wastewaters)**
- **Development of eco-friendly algicides**
- **Therapeutic properties of micro green algae and lichens: antimicrobial and anti-cancer**
- **Effect of air pollution on lichen diversity, secondary metabolite production and their antimicrobial activity - Biomonitors for air pollution monitoring in Kandy city**
- **Diversity, physiology and applications of thermo-tolerant algae**
- **Effect of climate change on Fusarium pathogenesis in Sorghum**
- **Microalgal based hydroponic systems for rice**
- **Microalgal based biofertilizer for rice**
- **Characterization of microalgae for valuable biomolecules**
- **Microalgae for desalinization of water and soil**
- **Polythene and Plastic degrading microbes**
- **Antibiotic resistance in microalgae and cyanobacteria**

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Key Publications

Journal of Applied Phycology - (2020)

Application of live Chlorococcum aquaticum biomass for the removal of Pb (II) from aqueous solutions

Can. J. Microbiol - (2015)

Recognition- and defense-related gene expression at 3 resynthesis stages in lichen symbionts.

Conferences

Canadian Botanical Association annual meetings

HELD AT : Montreal, Canada - (2014)

Botanical Society of America annual meetings

HELD AT : New Orleans, USA - (2013)

Canadian Botanical Association – Botanical Society of America joint meetings.

HELD AT : Columbus, USA - (2012)

Canadian Botanical Association annual meetings

HELD AT : Halifax, Canada - (2011)

Canadian Botanical Association annual meetings.

HELD AT : Ottawa, Canada - (2010)

9th International Congress of Plant Pathology

HELD AT : Italy - (2008)

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My Publications

Please goto the website.

https://sci.pdn.ac.lk/botany/staff/Sarangi-Athukorala

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