



**Department of Botany**  
**Faculty of Science / University of Peradeniya**



**Dr. A.D. Sarangi N.P. Athukorala**

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

**Senior Lecturer**

✉ gnsu@pdn.ac.lk

✉ nalin@sci.pdn.ac.lk

☎ +94 81 239 (4532)

☎ +94 76 872 3626

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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**

University of Manitoba - Canada  
(2015)



**MSc**

University of Manitoba - Canada  
(2008)



**BSc**

University of Peradeniya - Sri Lanka  
(2004)



## Awards, Scholarships, Memberships & Fellowships



Early Career 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














## 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)



## My Teachings

-  AS409: Industry and Environment
-  BL100: Basic Biology
-  BL107: Basic Microbiology
-  BL117: Biotic Interactions
-  BT201: Plant Diversity I
-  BT302: Advanced Microbiology
-  BT307: Plant Pathology
-  BT403: Toxicology
-  BT406: Plant Molecular Genetics and Biotechnology
-  BT412: Applied Microbiology
-  BT420: Biological Nitrogen Fixation

## 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
  - Use of lichens for environmental monitoring
  - Algal biology and biotechnology - Wastewater management (Phycoremediation), therapeutic properties, eco-friendly algicides
  - Microbial Biofertilizer: Plant Growth Promoting Rhizomicrobes (PGPRs), Potassium solubilizing microbes (KSMs) for crop growth promotion and disease resistance
  - Polythene and Plastic degrading microbes

## Ongoing Research and Projects





**Characterization and application of potassium solubilizing 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**



**Formulation and commercialization of a herbal cream against oral Candida infections**



**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**



**Characterization and prevention of algae inhabiting electrical transformers**



**Diversity, physiology and applications of thermo-tolerant algae**



## 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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**<< See more on the Web >>**

## My Publications

Please goto the website.

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