



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



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## About Me

My primary vision is to assist the biodiversity conservation of Sri Lanka by developing the necessary knowledge and creating awareness among people, especially among students. Thus, my major research interest is to study the seed biology of ecologically important native species.

## Higher Education Qualifications

🎓 **PhD**

University of Kentucky  
USA  
(2008)

🎓 **BSc**

University of Peradeniya  
Sri Lanka  
(2003)

## Awards, Scholarships, Memberships & Fellowships






-  NSF-TWAS Young Scientists Award - (2016)
-  NSF-SUSRED Award - (2023)
-  Presidential Awards for Scientific Publications - (2012)
-  NRC Merit Awards for Scientific Publications – (2010, 2013, 2015)
-  Award for the Best Commercially Viable Research Finding at the National Symposium for Floriculture Research, Sri Lanka – (2011)
-  Prof. M.D. Dassanayake Gold Medal For Botany (University of Peradeniya, Sri Lanka) – (2003)
-  University prize for academic excellence (University of Peradeniya, Sri Lanka) – (2003)
-  Life Member, International Association for Seed Science Research
-  Tier 4\* Research Award, University of Peradeniya (2024)
-  Publons Peer Review Award - (2017)
-  India Science and Research Fellowship - (2018/2019)
-  Research Excellence Awards, Faculty of Science, University of Peradeniya (2018, 2019, 2020, 2021, 2023)

## Positions Held

-  Director, Science Education Unit, Faculty of Science, University of Peradeniya- (April, 2024 - to date)
-  Chairperson, Curriculum Development and Revision Committee, Postgraduate Institute of Science, University of Peradeniya- (November, 2023 - to date)
-  Associate Editor, Botany (Previously Canadian Journal of Botany - Impact factor 1.539)- (June, 2021 - to date)
-  Member, National experts committee on Mangrove Biodiversity- (2016 -to date)
-  Faculty Representative, University Research Committee, University of Peradeniya, Peradeniya- (June 2018- to date)
-  Member, University Admissions Committee- (2019 - to date)
-  Member, Admission Committee, Faculty Of Science- (December, 2016 - to date)
-  Board Member of the Board of Study of Plant Sciences, Postgraduate Institute of Science (PGIS), University of Peradeniya- (2010-2014, 2017- to date)
-  Editorial Board Member, International Journal of Environmental Issues, PGIS, UOP- (From: August, 2021; August, 2023)
-  Head, Department of Botany, University of Peradeniya- (September, 2019 to September 2022)
-  Secretary, Research Committee, Faculty of Science, University of Peradeniya- (June, 2018 - June 2021)
-  Visiting Lecturer for the M.Sc. Programs in Environmental Sciences, Medical Microbiology, Pharmaceutical Botany and Science Education (Biology), Postgraduate Institute of Science, University of Peradeniya- (2010 – to date)
-  Faculty Representative to Academic Development and Planning Committee- (01/2019 - 10/2020)
-  Chairmen, Curriculum Development Committee, Faculty of Science, University of Peradeniya- (2013-2018)
-  Secretary, Curriculum Development Committee, Faculty of Science, University of Peradeniya- (2011-2013)
-  Visiting Lecturer for the Department of Botany, The Open University of Sri Lanka- (2013, 2018)
-  Secretary and Board Member, Board of Study in Environmental Sciences, Postgraduate Institute of Science (PGIS), University of Peradeniya- (2014-2017)
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## My Teachings

-  BT 204: Enzymology
-  BT206: Plant Physiology
-  BT209: Biostatistics
-  BT408: Advanced Plant Physiology
-  BT416: Seed Biology and Technology

## Research Interests (Research Fields/ Projects)

Seed germination, dormancy and storage of wild native species of Sri Lanka, Seed quality improvement of horticultural and agricultural important species, Ecological dynamics of mangroves and neglected ecosystems of Sri Lanka

## Ongoing Research and Projects



### **Propagation protocols for Endangered Mangrove species**

Mangroves are one of the attractive plant communities in the tropics and subtropics. In Sri Lanka. In Sri Lanka two true mangrove species; *Lumnitzera littorea* and *Ceriops decandra* and one mangrove associate coastal species, *Xylocarpus rumphii* have been identified as critically endangered species. Further, they have restricted to a few mangrove sites in Sri Lanka. *L. littorea* was only been observed in one location in Maduganga Ramzar site (Jayatissa et al., 2002). No seedlings or saplings found in the site. Thus, this research was aimed to propagate this important mangrove species.



### **Propagation of Medicinal plants**

In the modern world, herbal medicines are in great demand especially in the developed countries because of their efficacy, safety and lesser side effects (WHO, 2008). However, medicinal plants are becoming rare in Sri Lanka as there is less emphasis on local medicine among the people. This research focused to identify propagation protocols for medicinal plants in Sri Lanka and to popularize these plants among the public.



### **Mangrove community ecology**

Being a tropical island, Sri Lanka also possesses a rich mangrove community. According to the unpublished data of the Forest Department, the extent of the mangroves in the country was 15,699 ha by 2010. Mangrove ecosystems in Sri Lanka have been studied by several researchers (Abeywickrama 1960; Arulchelvam, 1968; De Silva and Balasubramaniam, 1984; Nanayakkara 1986; Pinto, 1986; Jayawardane, 1986; Amarasinghe, 1997; Liyanage, 1997 and Jayatissa et al., 2002). However, only few studies have been conducted on the diversity and physiognomy of mangroves situated in the east coast of Sri Lanka. Thus, this project aims to study the mangrove plant communities in the eastern cost of Sri Lanka.



### **Seed germination ecology of wild plant species of Sri Lanka**

Lack of knowledge on the germination bahviour of the native species is a drawback in restoring degraded ecosystems in Sri Lanka. Thus, this study aims to understand the seed germination behavior of native Sri Lankan species to assist in using them for restoration activities.



### **Ex-situ seed storage of Sri Lankan wild plant species**

Large number of Sri Lankan montane and lowland rain forest species were endemic and some of them are threatened species. As a safer alternative to in-situ conservation ex-situ conservation of these species are important to conserve their genetic diversity to the future. Artificial seed banking is one such ex-situ conservation strategy. However, basic information on seed storage of our native species are scant. Thus, this project focused in to increase the knowledge on seed storage behavior of Sri Lankan native species.



## Key Publications



American Journal of Botany - (2010)

Recalcitrancy and a new kind of epicotyl dormancy in seeds of the understory tropical rainforest tree *Humboldtia laurifolia* (Fabaceae, ceasalpinoideae).



Annals of Botany - (2008)

Cycling of sensitivity to physical dormancy-break in seeds of *Ipomoea lacunosa* (Convolvulaceae) and ecological significance.

## Conferences



**Seed Ecology III**

**HELD AT :** University of Utah, Salt Lake City, UT, USA - (20-24, June 2010)

**TOPIC :** *Cyclic sensitivity patterns in seeds with physical dormancy (Plenary Speech)*



**IUFRO (International Union of Forest Research Organization) Tree Seed Symposium: Recent Advances in Seed Research and Ex Situ Conservation.**

**HELD AT :** Taiwan Forestry Research Institute, Taipei, Taiwan - (16-18, August, 2010)

**TOPIC :** *Dormancy and storage behavior of seeds of thirty tropical Fabaceae tree species in Sri Lanka.*



**Seed Ecology IV**

**HELD AT :** Chinese Academy of Science, Shenyang, China - (22-25, June, 2013)

**TOPIC :** *Seed dormancy and storage behavior in tropical fabaceae: A study of 100 species from Sri Lanka.*



**Seed Ecology II**

**HELD AT :** University of Western Australia. Australia. - (9-13, September, 2007)

**TOPIC :** *Morphology, anatomy and ontogeny of the water gap in seeds of Ipomoea lacunosa (Convolvulaceae).*

## My Publications

Please goto the website.

<https://sci.pdn.ac.lk/botany/staff/Gehan-Jayasuriya>