Department of Botany
Faculty of Science / University of Peradeniya



Dr. H.A.C.K. Ariyarathne

B.Sc.,M.Sc. (Perad.), M.Phil. (CMB), Ph.D. (UWA, Australia)

Senior Lecturer

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About Me

My research is geared towards developing plants that produce more with less and those that fit better in the natural world. Achieving this goal I need partnerships with diverse skill sets, interests, and backgrounds. I have a interests in traditional crops specifically cereals.

Higher Education Qualifications

PhD	PG. Dip.	MPhil	MSc	BSc
University of Western Australia - Australia Australia (2016)	PGIA, University of Peradeniya - Sri Lanka (2008)	IBMBB, University of Colombo - Sri Lanka (2007)	PGIA, University of Peradeniya - Sri Lanka (2003)	University of Peradeniya - Sri Lanka (2001)

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Awards, Scholarships, Memberships & Fellowships

- ACU-British Council Commonwealth Futures Climate Research Cohort -2021
- UNESCO- OWSD Early Career Fellowship -2020
- Borlaug International Agricultural Science and Technology Fellowship -2020
- ERASMUS+ Teaching Mobility Program, Cluj-Napoca, North University Centre, Baia Mare, Rumania, 2019
- KOP-NFP fellowship, Wageningen Centre for Development Innovation, Netherlands, 2018
- Overseas Travel Award, University of Western Australia - 2015
- Underwood PhD Scholarship, University of Western Australia - 2015
- Scholarships for International Research Fees (SIRF), University of Western Australia - 2012
- University International Stipend (UIS) , University of Western Australia - 2012
- University International Stipend-Top-Up Scholarship, University of Western Australia - 2012
- Research Assistantship Swedish Agency for Research Corporation with Developing Countries [SAREC] Grant for Capacity Building in Biotechnology - 2003
- Research Assistantship Australian Centre for International Agricultural Research [ACIAR] - 2002
- Mahapola Higher Education Scholarship awarded on merit basis for students to undertake tertiary education by the Mahapola Higher Education Scholarship Trust Fund - 1997

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Positions Held

- Senior Lecturer, Department of Botany, University of Peradeniya, Sri Lanka- (2011-to date)
- Lecturer, Postgraduate Institute of science, University of Peradeniya, Sri Lanka- (2015-to date)
- Teaching Assistant, BIOL1131-Plant and Animal Biology course, School of Animal Biology, University of western Australia- (2014)
- Teaching Assistant, PLNT2201- Plant Physiology: Plants in Action course, School of Plant Biology, University of western Australia- (2014)
- Teaching Assistant, PLNT2201- Plant Physiology: Plants in Action course, School of Plant Biology, University of western Australia- (2013)
- Research Officer, Plant Breeding Division, Tea Research Institute of Sri Lanka- (2005 - 2011)
- Demonstrator, Department of Botany, University of Peradeniya, Sri Lanka- (2001 - 2002)

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My Teachings

BT307: General and molecular Genetics

BT311: Plant Reproductive Biology and Plant Breeding

Research Interests (Research Fields/ Projects)

Crop genomics and Molecular breeding

Ongoing Research and Projects

In-silico mining for resistance gene analogs and identification of genetic resources for blast disease resistance in the local finger millet germplasm

Comparative genomics for pre-breeding enhancement. Funded by an Investigator Driven Research Grant awarded by NRC

Strategic recovery plan for natural wild populations of the endemic and endangered species Osbekia lanata Alston

Population genetics and conservation biology. Funded by an Investigator Driven Research Grant awarded by the Mahawelli Development Authority of Sri Lanka.

An integrated, fast-tack platform for rice breeding for drought and salinity stress tolerance targeting production environments in Sri Lanka

Rice is the staple food of Sri Lankans and half of the world population. Even in major rice farms in Asia farmers achieve 40% of the yield potential due to biotic/abiotic stresses. Therefore, elite adapted varieties are vital to enhance rice productivity. Innovative technologies can improve breeding programs for rapid variety turnover and cost effective delivery of superior varieties. The goal of this project is to develop drought and saline tolerant elite breeding lines by technology integration and effective utilization of germplasm. The project will deliver a “low-tech” and cost-effective fast-track platform for commercial rice breeding by combining leading-edge science, computing capabilities and genetic resources with marker assisted pre-breeding and selection breeding strategies. In doing so result oriented, intense breeding programs are designed through effective public-private partnerships. The project trains postgraduates, and professionals. The outcome is communicated through publications and workshops. The broader impact of the project will enhance food security, poverty reduction, and crop climate resilience. A total of 49471$ is requested from OWSD for this project.

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Key Publications

Genome - (2016)

Phylogenetic relationships and protein modeling revealed two distinct subfamilies of group II HKT genes between crop and model grasses.

Journal of Applied Genetics - (2007)

Genetic base of tea (Camellia sinensis L.) cultivars in Sri Lanka as revealed by pedigree analysis.

Conferences

PGIS Research Congress (RESCON) 2019

HELD AT : PGIS, University of Peradeniya - (11th October 2019)
TOPIC : *Eragrostis tef (Teff) as a bridging species to identify disease resistance genes in underutilized cereal crops.*

Sixth International Conference on Plants and Environment Pollution (ICPEP-6)

HELD AT : Lucknow, India - (28 Nov 2018)
TOPIC : *Phylogenetic analysis of HKT homologs in grasses identified conserved domains and potential functional sites.*

International Conference on Computational Modeling and Simulation

HELD AT : Colombo, Sri Lanka. - (19 May 2017.)
TOPIC : *Protein structure variability of OsHKT1;5 Homologous Transporters in Grasses.*

Sixth International Conference on Plants and Environment Pollution (ICPEP-6),

HELD AT : Lucknow, India. - (29 Nov 2018)
TOPIC : *Analysis of HKT homologs in grasses by comparative genomics and protein structure prediction.*

2015 meeting on Plant Genomes & Biotechnology: From Genes to Networks, Cold Spring Harbor Laboratory

HELD AT : New York, USA. - (2-5 Dec 2015.)
TOPIC : *Phylogenetic relationships and structural models reveal two distinct subclades of group II HKT genes.*

My Publications

Please goto the website.

https://sci.pdn.ac.lk/botany/staff/Chandima-Ariyarathne

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