

TWENTY SEVENTH ANNUAL CONGRESS

November 19 - 20, 2015

Plant Genetic Resources Centre (PGRC), Gannoruwa, Peradeniya

PROGRAMME

November 19, 2015

INAUGURAL SESSION

Chairperson: Prof. S. Samita, Director, PGIA

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| 8.00 a.m. | Registration |
| 8.45 a.m. | National Anthem |
| 8.50 a.m. | Traditional Lighting of the Oil Lamp |
| 9.00 a.m. | Welcome Address by Prof. S. Wimalasiri
Coordinator - PGIA Congress 2015 |
| 9.10 a.m. | Address by Mr. P. Gajanayake
President, Postgraduate Agriculture
Students' Association |
| 9.20 a.m. | Address by Prof. Gamini Pushpakumara
The Dean, Faculty of Agriculture
University of Peradeniya |
| 9.30 a.m. | Address by Prof. S. Samita
Director, Postgraduate Institute of Agriculture
University of Peradeniya |
| 9.40 a.m. | Address by Prof. U.B. Dissanayake
Vice Chancellor, University of Peradeniya |
| 9.50 a.m. | Address by the Chief Guest H.E. Mrs. Joanne
Doornewaard
Ambassador of the Kingdom of the Netherlands to Sri Lanka |
| 10.05 a.m. | Presentation of the Journal
"Tropical Agricultural Research, Vol. 27 (1)" |
| 10.10 a.m. | Keynote Address by Prof. Jonas Bergquist
"Life Style and Degenerative Diseases"
Uppsala University, Sweden |
| 10.40 a.m. | Highlights of the PGIA Annual Congress 2015 |
| 10.50 a.m. | Refreshments |

November 19, 2015

Technical Session I

Agricultural Engineering & Water Resources Management

Chairperson: Prof. Kapila Goonasekara

Venue: Main Auditorium, PGRC

- 11.15 a.m. Evaluation of Groundwater Quality for Irrigation in *Malwathu Oya* Cascade-I in Anuradhapura District of Sri Lanka
M.K.N. Kumari, S. Pathmarajah, N.D.K. Dayawansa and K.G.S. Nirmanee
- 11.35 a.m. Above Ground Biomass Estimation of Mangroves Located in Negombo-Muthurajawela Wetland in Sri Lanka Using ALOS PALSAR Images
A.R. Gunawardena, S.P. Nissanka, N.D.K. Dayawansa and T.T. Fernando
- 11.55 a.m. Bulk Soil Properties as Determinants of Soil Surface Shear Strength of Puddled Lowland Rice Soils of Sri Lanka Affected by Weed Controlling Methods
G.V.T.V. Weerasooriya, D.N. Jayatissa and M. Rambanda
- 12.15 p.m. Impacts of Land Cover Dynamics and Shallow Groundwater Abstraction on Sustainability of *Hakwatuna Oya* Irrigation System
I.P.S.K. Pelpitiya, N.D.K. Dayawansa and E.R.N. Gunawardena
- 12.35 p.m. Perception-driven Coping Strategies for Climate Change by Smallholder Farmers in Sri Lanka: A Case Study in Hakwatuna-oya Major Irrigation Scheme
D.M.N. Diyawadana, S. Pathmarajah and E.R.N. Gunawardena
- 12.55 p.m. Factors Affecting Consumers' Willingness to Join (WTJ) and Willingness to Pay (WTP) for Rain Water Harvesting System (RWHS) for Household Needs: A Case Study in the Northern Part of Sri Lanka
V. Jeyakrishnan and K. Umashankar
- 01.15 p.m. LUNCH

Invited Presentation - I

Chairperson: Dr. M.W.A.P. Jayathilaka

Venue: Main Auditorium

02.00 p.m. Scientists and the Art of Public Speaking - 5 Steps to Help
Dr. Mark Bell
Director, International Learning Center,
International Programs Office, College of Agricultural and
Environmental Sciences,
University of California-Davis,
USA.

Technical Session II

Animal Science

Chairperson: Prof. K.K. Pathirana

Venue: Main Auditorium, PGRC

02.40 p.m. Tannin Binding Agents Enhanced the *In Vitro* Rumen Fermentation
Parameters of Two Tanniniferous Tree Fodder Species
S. Sujani, A.N.F. Perera and R.T. Seresinhe

03.00 p.m. The Effect of EconomasE® as a Vitamin E Replacer on Performance, Meat
Quality and Organ Weights of Broiler Birds
N.M.N. Nambapana, K. Samarasinghe and J.K. Vidanarachchi

03.20 p.m. Is Plantain (*Plantago lanceolata* L.), Chicory (*Cichorium intybus* L.) and
Clover Mixtures Effective on Weaned Lamb Growth?
S.C. Somasiri, P.R. Kenyon, P.D. Kemp, P.C.H. Morel and S.T. Morris

04.00 p.m. TEA

Technical Session III

Biotechnology

Chairperson: Prof. Athula Perera

Venue: Seminar Room, PGRC

- 02.40 p.m. Evaluation of Morphological Diversity of Conserved Tall Coconut (*Cocos nucifera* L.) Germplasm in Sri Lanka
K.N.S. Perera, H.M.N.B. Herath, D.P.S.T.G. Attanayaka and S.A.C.N. Perera
- 03.00 p.m. Genetic Diversity of Seed Storage Proteins of Rice (*Oryza sativa* L.) Varieties in Sri Lanka
L. Vithyashini and H.A.M. Wickremasinghe
- 03.20 p.m. Characterization and Detection of Yellow Vein Disease of Okra (*Abelmoschus esculentus* (L.) Moench) in Sri Lanka
H.M.S.I. Senevirathna, S.K. Wasala, D.M.J.B. Senanayake, D. Weerasekara, H.A.M. Wickamasinghe and P.K.G.A. Deepal
- 03.40 p.m. Differential Expression of Defense-Related Genes in *Sinapis alba* L. and *Brassica juncea* (L.) Czern upon Infection of *Alternaria brassicae*
N.M.C. Nayanakantha, S. Rawat, S. Ali and A. Grover
- 04.00 p.m. TEA

Poster Presentations

Venue: Lobby, PGRC

03.00 p.m.

Potential Use of Egg Parasitoids, *Trichogramma pretiosum* Riley and *Trichogramma chilonis* Ishii Against Brinjal Shoot and Fruit Borer *Leucinodes orbonalis* Guenée

R.F. Niranjana, M. Devi, W. Shanika and R. Philip Sridhar

Assessment of Nutritional Status of Pregnant Women in a Rural Area in Sri Lanka

A.M.N.T. Adikari, R. Sivakanesan, D.G.N.G. Wijesinghe and C. Liyanage

Molecular Characterization of Accessions from a Traditional Rice Cultivar, Suwandel Conserved at Plant Genetic Resources Centre, Sri Lanka

P.G.S.D. Gunasena, S.K. Wasala and V.A. Sumanasingha

Marker Assisted Backcross Breeding of Bg 358 (*Oryza sativa* L.) for the Anaerobic Germination Tolerant QTL *AG1*

A.B. Sartaj, K.S. Udawela and H.M.V.G. Herath

Evaluation of a Climate Change-Adaptive, Eco-Friendly Agronomic Package for Potato (*Solanum tuberosum* L.) Cultivation in Farmer Fields of Jaffna District of Sri Lanka

R. Eeswaran, W.A.J.M. De Costa, D.M. De Costa, W.S. Dandeniya, S. Sivakumar and L.D.B. Suriyagoda

Descriptive Osteology of Fishes Referred to the Genus *Rasboroides* Brittan (Teleostei: Cyprinidae)

S. Batuwita, S. Udugampala and U. Edirisinghe

Abundance and Diversity of Sea Cucumbers in Point Pedro Coastal Waters in the Jaffna Peninsula of Sri Lanka

K. Veronika, U. Edrisinghe, K. Sivashanthini and A.R.S.B. Athauda

Need for Adjusting Variables in Constructing Composite Indices:

Illustrated By Colombo District Data

J.S.N.P. Dharmawardena, R.O. Thattil and S. Samita

Relationship Between Soil Moisture Deficit and Productivity of Paddy Lands in a Major Irrigation System in Intermediate Zone of Sri Lanka

A.C.S. Perera, E.R.N. Gunawardena and B.V.R. Punyawardena

Effects of Dietary Coconut Oil Meal with or without an Enzyme Mixture on Laying Performance of Japanese Quail (*Coturnix coturnix*)

T.S. Abeysekara and N.S.B.M. Atapattu

Development of Olu (*Nymphaea pubescens* Willd.) Seed Flour

Incorporated Cookies and Determination of Organoleptic Properties

N. Nizam and P.C. Arampath

Enhancement of Crop Wild Relatives in Eggplant Breeding for Adaptation to Climate Change: Results of Interspecific Hybridization

P. Gramazio, M. Plazas, R.M. Fonseka, A. Kouassi, S. Vilanova, H. Fonseka, A. Kouassi, A. Rodríguez-Burruezo, T. Welegama, B. Kouassi, A. Fita, L. Niran R.H.G. Ranil, F. J. Herraiz, A. Dissanayake and J. Prohens

04.00 p.m.

TEA

November 20, 2015

Invited Presentation - II

Chairperson: Prof. A.N. Jayakody

Venue: Main Auditorium

08.30 a.m. Land Carbon: A knowledge gap in the global carbon cycle
Dr. Umakant Mishra
Geospatial Scientist, Environmental Science Division
Argonne National Laboratory
USA.

Technical Session IV

Crop Production

Chairperson: Prof. H.P.M. Gunasena

Venue: Main Auditorium, PGRC

09.15 a.m. Assessment of the Suitability of Temperature and Relative Humidity for Rice Cultivation in Rainfed Lowland Paddy Fields in Kurunegala District
W.M.U.K. Rathnayake, R.P. De Silva and N.D.K. Dayawansa

09.35 a.m. Physiological, Biochemical and Proteomic Responses of Rice (*Oryza sativa* L.) Varieties Godaheenati and Pokkali for Drought Stress at the Seedling Stage
J.K.P.T.P. Jayaweera, H.M.V.G. Herath, D.V. Jayatilake, G.S. Udumulla and H.A.M. Wickramasinghe

09.55 a.m. A Comparison Between Farmers' and Breeders' Participation of Varietal Selection in Cowpea (*Vigna unguiculata* (L.). Walp. Improvement
M.C. Millawithanachchi, V.A. Sumanasinghe, A.P. Bentota, B.N. Samaranayake and N.T. Prathapasinghe

10.15 a.m. Growth Performance and Carbon Accumulation of Khaya (*Khaya senegalensis*) in Sri Lanka
W.M.R.S.K. Warnasooriya and T. Sivananthawerl

10.35 a.m. TEA

Technical Session V

Entomology

Chairperson: Prof. Daya Ahangama

Venue: Seminar Room, PGRC

- 09.15 a.m. Effects of Changing Rainfall and Soil Temperature on Population Density of *Pratylenchus loosi* in Tea Lands at Different Elevations
P.G.D.S. Amarasena, K.M. Mohotti and D.M. De Costa
- 09.35 a.m. Potential for Mass Rearing of the Egg Parasitoids, *Trichogramma chilonis* and *Tricogramma achaeae* (Hymenoptera: Trichogrammatidae) on *Corcyra cephalonica* Eggs
S.A.A. Singhamuni, K.S. Hemachandra and U.G.A.I. Sirisena
- 09.55 a.m. Developmental Biology and Feeding Efficiency of *Menochilus sexmaculatus* (Coleoptera: Coccinellidae) (Fabricius) reared on *Aphis craccivora* (Hemiptera: Aphididae) (Koch)
T.D.C. Priyadarshani, K.S. Hemachandra, U.G.A.I. Sirisena and H.N.P. Wijayagunasekara
- 10.35 a.m. TEA

Technical Session VI

Soil Science

Chairperson: Prof. R.B. Mapa

Venue: Main Auditorium, PGRC

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| 11.00 a.m. | Exploring the Short-scale Spatial Variability of Calcic Red Latosol Soil Using DUALEM-1S Proximal Soil Sensor
R.A.A.S. Rathnayaka and W.A.U. Vitharana |
| 11.20 a.m. | An Assessment of Antibiotic Resistant Bacteria in Poultry Litter and Agricultural Soils in Kandy District, Sri Lanka
E.M. Herath, A.G.K.N. Palansooriya, W.S. Dandeniya and R.N. Jinadasa |
| 11.40 a.m. | Beneficial Nutrient Management Practice for Improving Maize (<i>Zea mays</i> L.) Yield in a Tropical Entisol
A.A. Mariaselvam, W.S. Dandeniya, S.P. Indraratne and R.S. Dharmakeerthi |
| 12.00 noon | Determination of Desirable Properties of Bacteria, Fungi and Their Biofilms Associated with Rubber Rhizosphere
R.P. Hettiarachchi, R.S. Dharmakeerthi, G. Seneviratne, A.N. Jayakody, K.E. De Silva, T. Gunathilake and A. Thewarapperuma |
| 12.20 p.m. | Beneficial Management Practices on Growth and Yield Parameters of Maize (<i>Zea mays</i> L.) and Soil Fertility Improvement
J.A.S. Chathurika, S.P. Indraratne, W.S. Dandeniya and D. Kumaragamage |
| 12.45 p.m. | LUNCH |

Technical Session VII

Food & Nutrition

Chairperson: Prof. U. Samarajeewa

Venue: Seminar Room, PGRC

- 11.00 a.m. Glycaemic Response of Traditional Breakfast Foods in Adults with Type 2 Diabetes Mellitus
M.P.M.S.H. Perera, R. Sivakanesan, D.T.D.J. Abeysekara and K.H. Sarananda
- 11.20 a.m. Effect of *Asparagus falcatus* and *Taraxacum javanicum* Inulins on Growth of *L. acidophilus* La-5 and *B. animalis* subsp. *lactis* Bb-12, Co-Cultured in Skim Milk
D.C. Mudannayake, K.M.S. Wimalasiri, K.F.S.T. Silva and S. Ajlouni
- 11.40 a.m. Phenolic Content and Antioxidant Capacity of Selected Underutilized Fruits Grown in Sri Lanka
A.L.I. Piyathunga, M.A.L.N. Mallawaarachchi and W.M.T. Madhujith
- 12.45 p.m. LUNCH

Open Forum

“Crop Protection Products and Possible Relationship to CKDu”

Chairperson: Prof. Buddhi Marambe

Venue: Main Auditorium, PGRC
(01.30 - 03.30 p.m.)

Speaker I : Prof. Herman Autrup
Department of Environmental and Occupational Medicine
University Of Aarhus
Denmark

Speaker II: Dr. Daniel Goldstein
Medical Science and Outreach Division
Monsanto Company
USA

Panel Discussion

Closing Session

Chairperson: Prof. S. Wimalasiri

Venue: Main Auditorium, PGRC

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| 4.00 p.m. | Invited Presentation by Distinguished PGIA Alumnus
Role of PGIA in supporting Sri Lanka achieve sustainable development
Dr. Vishaka Hidellage |
| 4.40 p.m. | Presentation of Awards |
| 5.00 p.m. | Vote of Thanks
Ms. Kamani Dissanayake
Secretary, Postgraduate Agriculture Students' Association |