

November 20, 2014

Technical Session I

Diversity and Evaluation of Animal Genetic Resources

Chairperson: Dr. Nimal Chandrasiri

Venue: Main Auditorium, PGRC

- 11.15 am Chicken inventory and pattern of entry and exit of indigenous birds at village level in Punjab (Pakistan)
S. Sadeef, M. S. Khan, M. S. Rehman, M. N. M. Ibrahim and A. M. Okeyo
- 11.35 am Determinants of willingness to pay for different indigenous chicken types by farmers: using an experimental auction
M.N.D.F. Abeykoon, J. Weerahewa, P. Weligamage and G.L.L.P Silva
- 11.55 am Mitochondrial DNA variation in indigenous sheep (*Ovis aries*) breeds of Nepal
N.A. Gorkhali, J.L. Han and Y.H. Ma
- 12.15 pm Genetic diversity and relationship of Indonesian indigenous chickens Inferred from Microsatellite DNA Markers
H. Ashari, S. Sulandari, M.S.A. Zein and J.L. Han
- 12.35 pm Effect of breeding strategies to increase productivity of indigenous chicken in-situ in Bangladesh
F. Islam, S.C. Sarker, M.N.M. Ibrahim, A. M. Okeyo, H. Jianlin, M.A.Hoque and A.K.F.H. Bhuiyan
- 12.55 pm Characteristics of appearances, productive ability of F1 (Jungle fowl male x Fayoumi chicken female) and F1 (Jungle fowl male x H'mong chicken female) reared at National Institute of Animal Sciences – Vietnam
N.T.H. Hanh, L.T. Thuy, Han Jialin, M.N.M. Ibrahim and A.M. Okeyo
- 01.35 pm LUNCH

Technical Session II

Food, Feed and Nutrition

Chairperson: Prof. P.A.J. Perera

Venue: Seminar Room, PGRC

- 11.15 am Antioxidant potential of rice bran oil prepared from red and white rice
Dilini Bopitiya and W.M.T. Madhujith
- 11.35 am Study on isolation of potentially probiotic lactobacillus species from
fermented rice
**N. Jeygowri, N. Parahitiyawa, S. Jeyatilake, S. Ranadheera and
W.M.T. Madhujith**
- 11.55 am Effect of boiling on the antioxidant concentration of Dioscorea alata (raja
ala) grown in Sri Lanka
Ranithri Abeynayake and R. Sivakanesan
- 12.15 pm Antioxidant activity and total phenolic content of different skin coloured
brinjal (solanum melongena)
**K.M. Somawathi, V. Rizliya, D.G.N.G. Wijesinghe and
W.M.T. Madhujith**
- 12.35 pm Brassinosteroids improve quality of table grapes (Vitis vinifera L.) cv.
flame seedless
**W.A. Harindra Champa, M.I.S. Gill, B.V.C. Mahajan, N.K. Arora and
Seema Bedi**
- 12.55 pm Potential of thampala (Amaranth) as a forage crop in Sri Lanka
I.K. Leukebandara, S. Premaratne and B.L. Peris
- 01.15 pm Effects of increasing levels of dietary rice bran with or without phytase, on
performance and egg parameters of Japanese quail
**H.M.W.N. Abeyrathna, N.S.B.M. Atapattu and
W.W.D.A. Gunawardane**
- 01.35 pm LUNCH

Poster Presentations

Venue: Lobby, PGRC

2.00 pm

Weighted modeling and forecasting of cocoa production in Ghana:

A multivariate approach

Sampson Ankrah, B.L. Peiris and R.O. Thattil

Feasibility study of cryogenic grinding of spices using latent heat of water:

A case study for chilli (*Capsicum AnnuL.*)

D.M.S.P Bandara, K.S.P Amarathunga, B.M.K.S Thilakaratne, D.A.N. Dharmasena, T.M.R Dissanayake and A.J Fernando

Increasing water productivity of rice by conjunctive use of rain and tank water with 'Parachute' method of crop establishment: A case study from "Udakadawala Mahawewa" tank in Kurunagala district

K.R. Thilakasiri, L.W. Galagedara and M.I.M. Mowjood

Assessment of feeding and watering practices for raising goats in Punjab, Pakistan

M.S. Muhammad, M.S. Khan and A. Waheed

Analysis of gender differences in intra-household time allocation

R.M.S.D. Rathnayaka and J. Weerahewa

Induction of genetic variability and isolation of mutants in tuberose (*Polianthes tuberosa L.*)

Pooja Kainthura and Ranjan Srivastava

Estimation of rubber price returns using quantile regression

Kwadwo Agyei Nyantakyi, B.L. Pieris and L.H.P. Gunaratne

Postharvest life of cut chrysanthemum cultivars in relation to chemicals, wrapping material and storage conditions

Gunjan Sharma and Ranjan Srivastava

Analysis of the body condition with free grazing cattle by GPS

Choi Eun Gyu, Sang Yoon Lee, Myeong Hun Kim, Ki Yeon Kim, Han Jong Ko and Hyeon Tae Kim

The separation efficiency of livestock manure biogas by membrane

Jong Eon Kim, Sang Yun Lee, Chung Seop Lee and Hyeon Tae Kim

Effect of rice plant and urea on soil organic matter content in lowland paddy field at Bayawa minor irrigation system in Kurunagala district

T. Sellathurai, T. Sivananthawerl, L.W. Galagedara and M.I.M. Mowjood

Assessment of inorganic pollutant contamination in groundwater using Ground Penetrating Radar (GPR)

Y.N.S. Wijewardana, L.W. Galagedara, M.I.M. Mowjood and K. Kawamoto

A novel cost-effective fermentation medium for the production of *Bacillus thuringiensis* subsp. *Israelensis* (Bti) for mosquito control
G.A.Udayantha, K.D.De A.G. Abeysingha and T.C. Bamunuarachchige

Bulk soil properties as determinants of the soil compression strength of puddled low land paddy soils in Sri Lanka
G.V.T.V. Weerasooriya, D.N. Jayatissa and M. Rambanda

Gelatinization of rough Rice Using Far- Infrared (Fir) Radiation
T.M.R. Dissanayake, K.S.P Amarathunga, B.M.K.S Thilakaratne, D.M.S.P Bandara and A.J Fernando

The effect of CO₂ distribution on thermal buoyancy in a greenhouse
Hee Tae Kim, Chi Ho Kim, Eun Gyu Choi, Byung Ok Jin, Yong Cheol Yoon and Hyeon Tae Kim

Comparative analysis of the cutting load in accordance with the angle of the combine cutting knife
Byung Ok Jin, Min Ho Lee, Tae Jong Park, Chi Ho Kim, Min Ho Heo and Hyeon Tae Kim

Analysis of Internal environment of a pig house using energy recovery ventilator
Byeong Eun Moon, Hee Tae Kim, Kyu Dong Nah, Jin Hyun Kim and Hyeon Tae Kim

Monitoring of pig body temperature using infrared sensors
Jin Cheol Jang, Jun Yeop Lee, Sang Yoon Lee, Hyeok Ju Kim, Dong Yun Choi, Seong Hyeon Lee and Hyeon Tae Kim

Application of near infra-red (Nir) spectroscopy to quantify fat and total solid contents of sweetened condensed creamer
S. Subajiny, M.M. Jayasiri and Terrence Madhujith

Effects of hydro-climatic fluctuations on catchability of fish in a medium perennial Vavuniya reservoir, Sri Lanka
A.E.S Patrick, S.Kuganathan and U.Edirisinghe

High prevalence of stunted pre school children in food insecure rural households
J.Thamilini, K.D.R.R. Silva and J.M.U.K. Jayasinghe

Adsorption characteristics of Cadmium and Lead heavy metals into locally synthesized Chitosan Biopolymer
J.M. Unagolla and S.U. Adikary

A preliminary investigation on methods of reducing antibiotic resistant bacteria in broiler litter in selected farms in mid country Sri Lanka
E.M. Herath, W.S. Dandeniya, A.G.S.I. Samarasinghe, T.P.M.S.D. Bandara and R.N. Jinadasa

Invited Presentation

Chairperson: Prof. Hyeon Tae Kim

Venue: Main Auditorium

- 02.20 pm How will bio-fuel affect food and energy security in Asia?
Dr. Venkatachalam Anbumozhi
Senior Researcher, Economic Research Institute for ASEAN and
East Asia, Jakarta, Indonesia

Technical Session III

Water Resources Management

Chairperson: Dr. H. Manthrilake

Venue: Main Auditorium, PGRC

- 03.00 pm Wastewater quality improvement by biosorbant for textile industry
A.I. Hettige and M.I.M. Mowjood
- 03.20 pm Morphometric analysis of the Gal Oya river basin using spatial data
derived from GIS
N.S. Withanage, N.D.K. Dayawansa and R.P. De Silva
- 03.40 pm Comparative performance assessment of major irrigation systems in upper
Deduru Oya Basin
W.A.S. Lakmali, E.R.N. Gunawardena and N.D.K. Dayawansa
- 04.00 pm Modelling the impact of changes in rainfall distribution on the irrigation
water requirement and yield of short and medium duration rice varieties
using APSIM during Maha season in the Dry zone of Sri Lanka
**R.P.R.K. Amarasingha, L.D.B. Suriyagoda, B. Marambe, L.W.
Galagedara, G.L.L.P Silva, R. Punyawardena, R. Wijekoon, U.
Nidumolu, and M. Howden**
- 04.20 TEA

Technical Session IV

Molecular Biology and Biotechnology

Chairperson: Prof. Athula Perera

Venue: Seminar Room, PGRC

- 03.00 pm An efficient protocol for isolation of functional RNA from peel tissue of different banana (*Musa* spp.) cultivars for gene expression studies on anthracnose development
U.M. Aruna Kumara and Devika M.De Costa
- 03.20 pm Evaluation of DNA markers linked to blast resistance genes, *Pikh*, *Pit (p)*, and *Pita*, for parental selection in Sri Lankan rice breeding
W.A.D. Jayawardana, G.A.U. Jayasekera, R.L.C. Wijesundera, D.M.N. Dissanayake, S.D.S.S. Sooriyapathirana, C.K. Weebadde, K.L.N. S. Perera, K.R.D Gunapala and P. Hettige
- 03.40 pm Genetic diversity of the Sri Lanka yellow dwarf coconut form as revealed by microsatellite markers
L.C.J. Kamaral, S.A.C.N. Perera, L.N.S. Perera and P.N. Dassanayaka
- 04.00 pm Validation of molecular markers for the analysis of genetic diversity of amylose content and gel consistency among representative rice varieties in Sri Lanka
H.K.D.H. Fernando, T.J.C. Kajenthini, S.P. Rebeira, T.C. Bamunuarachchige and H.A.M. Wickramasinghe
- 04.20 pm TEA

November 21, 2014

Technical Session V

Biosystems Engineering & Remote Sensing

Chairperson: Prof. Sarath Ilangantileke

Venue: Seminar Room, PGRC

- 08.00 am Estimation of above ground biomass in Horton Plains National Park, Sri Lanka using optical, thermal and RADAR Remote Sensing data
A.R. Gunawardena , S.P. Nissanka, N.D.K. Dayawansa and T.T. Fernando
- 08.20 am Seasonal changes in home range and habitat use of elephants in southern and north-central provinces of Sri Lanka.
M.S.L.R.P. Marasinghe, N.D.K. Dayawansa and R.P De Silva
- 08.40 am Milling recovery and quality of combine harvested paddy– Case study in Batticaloa and Ampara districts
R. Bawatharani, D.N. Jayatissa, D.A.N. Dharmasena and M.H.M.A. Bandara
- 09.00 am Vibration simulation testing of banana bulk transport packaging systems
W.M.C.B. Wasala, D.A.N. Dharmasena, T.M.R. Dissanayake and B.M.K.S. Thilakarathne
- 09.20 am Analysis of the shape of feed speed and cutting speed of Korean and Japanese combines with high-speed camera
Min Ho Lee, Byung Ok Jin, Tae Jong Park, Chi Ho Kim, Min Ho Heo and Hyeon Tae Kim

Technical Session VI

Agronomy and Plant Breeding

Chairperson: Prof. R.B. Mapa

Venue: Main Auditorium, PGRC

- 08.00 am Effect of root and foliar application of soluble silicon on anthracnose disease, plant growth and some fruit quality parameters of Capsicum
H.A.R.K. Jayawardana, H.L D. Weerahewa and M.D.J.S. Saparamadu
- 08.20 am Morphological variation in selected Sri Lankan rice (oryza sativa L.) accessions in relation to the vegetative parameters
H.C.D. Wijayawardhana, H.M.V.G. Herath, P.A. Weerasinghe and H.M.D.A.K. Herath
- 08.40 am Performance of pedigree, single seed descent and modified bulk selection methods in F4, F5 and F6 generations in cowpea (Vigna unguiculata L. Walp) breeding
M.C. Millawithanachchi, V.A. Sumanasinghe, A.P. Bentota and S. de Z. Abeywardena
- 09.00 am Consequences of presently used fertilizer mixtures for tea growing soils of the low country of Sri Lanka on ammonia volatilization
L.R.M.C. Liyanage, A.N. Jayakody and G.P. Gunaratne
- 09.20 am Soil chemical properties of low land rainfed paddy fields and their suitability for rice cultivation – a case study in Kurunegala district
W.M.U.K. Rathnayake, R.P. De Silva and N.D.K. Dayawansa

Invited Presentation

Chairperson: Prof. E.R.N. Gunawardena

Venue: Main Auditorium

- 9.40 am Global warming and plant resilience: understanding the role of plant carbon metabolism
Prof. Owen Atkin
ARC Centre of Excellence in Plant Energy Biology, Australian National University, Canberra, Australia.

- 10.20 am TEA

Technical Session VII

Plant Protection

Chairperson: Dr. Nimal Dissanayake

Venue: Seminar Room, PGRC

- 10.50 am Evaluation of *Trichogramma chilonis* Ishii (Hymenoptera: Trichogrammatidae) as a potential biocontrol agent
S.A.A. Singhamuni, M.I.U.F. Jayasuriya, K.S. Hemachandra and U.G.A.I. Sirisena
- 11.10 am Isolation of Bacteriophages and determination of their efficiency in controlling *Ralstonia Solanacearum*, the bacterial wilt pathogen of tomato
M.D. Kalpage and D.M. De Costa
- 11.30 am A comparison on termite assemblages in plantations and semi-evergreen forest –A case study from north Wayanad, Kerala, India
K.V. Bhavana, Amina Poovoli and K. Rajmohana
- 11.50 pm Scanning electron microscopy of mealybugs (Hemiptera: Pseudococcidae) of Sri Lanka
U.G.A.I. Sirisena, G.W. Watson, K.S. Hemachandra, Obediah Sage and H.N.P. Wijayagunasekara
- 12.10 pm *Trichogrammatoidea bactrae* Nagaraja (Hymenoptera: Trichogrammatidae): A potential biocontrol agent of rice leaf folder
M.C.D. Perera, K.S. Hemachandra and U.G.A.I. Sirisena
- 12.30 pm LUNCH

Technical Session VIII

Statistics and Economics

Chairperson: Prof. C. Bogahawatte

Venue: Main Auditorium, PGRC

- 10.50 am Equal-weighted information criterion for model selection in univariate time series analysis
Sampson Ankrah, B.L. Peiris and R.O. Thattil
- 11.10 am Weighted ranking procedure for combining univariate time series models
Sampson Ankrah, B.L. Peiris, and R.O. Thattil
- 11.30 am An evaluation of maize contract farming system in Sri Lanka; adoption, problems and future prospects
P.A. Jayamini Champika and L.M Abeywickrama
- 11.50 am Effect of regionalism on south Asian trade, a gravity model analysis,
P. Dembatapitiya and Jeevika Weerahewa
- 12.30 pm LUNCH

Invited Presentation

Chairperson: Prof. H.W. Cyril

Venue: Main Auditorium

- 01.15 pm Global food and meat industry – Trends and challenges
Prof. Dong Uk Ahn
Animal Science Department, Iowa State University, USA

Technical Session IX

Improvement and Management of Animal Genetic Resources

Chairperson: Dr. R.T.G. Rathnayake

Venue: Main Auditorium, PGRC

- 01.55 pm Pattern of pathological changes of the liver in broiler birds under different management conditions
S.S.H.M.M.L. Senanayake, J.G.S. Ranasinghe, R. Waduge, K. Nizanthand and P.A.B.D. Alexander
- 02.15 pm Fertility and hatchability of eggs and growth performance of mini-incubator hatched indigenous chicken in rural areas of Bangladesh
N.H. Desha, F. Islam, M.N.M. Ibrahim, M. Okeyo, H. Jianlin and A.K.F.H. Bhuiyan
- 02.35 pm Ex situ improvement of indigenous chicken in Bangladesh
S. Faruque, M.N. Islam and A.K.F.H. Bhuiyan
- 02.55 pm
- 03.15 pm Goat management systems in Bulathkohupitiya veterinary range
R.A.U.K. Wijethunga, S. Premaratne and B.L. Peiris
- 03.35 am TEA

Technical Session X

Agricultural Extension and Education

Chairperson: Prof. C . Sivayoganathan

Venue: Seminar Room, PGRC

- 01.55 pm Initiate m-learning among a group of young farmers from Kandy district Sri Lanka: activity theory based approach
Uvasara Dissanayeke, K.P. Hewagamage Robert Ramberg and Gihan Wikramanayake
- 02.15 pm Factors influencing motivation to transfer training: an empirical study of government sector training program in Sri Lanka
G.T. Madagamage, B.N.F. Warnakulasooriya and H.V.A. Wickramasuriya
- 02.35 pm University students' intention to pursue overseas jobs: A Case of the University of Peradeniya
C.A.K. Weerasinghe and S. Kumar
- 02.55 pm Factors predicting the intention of academics of faculties of agriculture of the state universities in Sri Lanka to engage in outreach activities
R.M.S. Wijerathna, H.V.A, Wickramasuriya and B. Marambe
- 03.35 am TEA

Closing Session

Chairperson: Dr. S. Pathmarajah

Venue: Main Auditorium, PGRC

- 4.00 p.m. Invited Presentation by Distinguished PGIA Alumnus
PGIA and its contribution to human resource development in the region; a personal perspective
Dr. A.P.G.S. De Silva
- 4.40 p.m. Presentation of Awards
- 5.00 p.m. Vote of thanks
Ms. Kamani Dissanayake
Secretary, Postgraduate Agriculture Students' Association

*The Director - PGIA, Congress Coordinator
&
The Congress Organizing Committee
Appreciate the generous support given by the following
Sponsors and Contributors*

*University Grants Commission
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Council for Agricultural Research Policy (CARP)
People’s Bank, Peradeniya
Bank of Ceylon, Peradeniya
Ceylon Tobacco Company PLC*

Message from the Director

Prof. S. Samita
Director
Postgraduate Institute of Agriculture



It is a great pleasure and privilege to write this message on the occasion of 26th Annual Congress of the Postgraduate Institute of Agriculture, 2014. The Annual Congress of the Institute is one of the most important events of the PGIA Calendar. From the inception of the Annual Congress in 1989, Annual Congress has been improving continuously. Compared to 1989, now it has achieved a tremendous improvement. The uniqueness of the PGIA Annual Congress is that this is the only forum in Sri Lanka specifically organized for postgraduate research work to be presented. Initially, opportunities were given only for Sri Lankan postgraduate work to be presented but now it is open for postgraduate work taking place in other countries as well. With the international participation, Sri Lankan postgraduates have the opportunity to compete with postgraduates of international standards. In fact this international participation has paved the way to improve the standards of the PGIA Annual Congress.

Organizing the Annual Congress has been a hard task for all Congress Coordinators. As the Director of the Institute, I congratulate the Coordinator of 26th Congress Dr. S. Pathmarajah and his team, referees and editors for this untiring effort to make the 26th Annual Congress a grand success.

I appreciate the support and cooperation received from the members of the Organizing Committee, Boards of Study, PGIA staff and students towards making this event a remarkable one. I also take this opportunity to express my sincere gratitude to the sponsors and contributors to make this event a monumental success.

Prof. S. Samita



Message from the Chief Guest

Dr. Steven J. Staal
ILRI Regional Representative for East and
Southeast Asia

I am delighted and honoured to participate in the 2014, 26th Annual Congress of the Postgraduate Institute of Agriculture (PGIA) of the University of Peradeniya. I believe that the aims of my organization, the International Livestock Research Institute (ILRI) align very closely with those of the University, with which ILRI has partnered for many years.

*ILRI works to improve food security and reduce poverty in developing countries through research for better and more sustainable use of livestock, in essence “better lives through livestock”. ILRI is a member of the **CGIAR Consortium** which works for a food-secure future. In ILRI’s new strategy to 2022 (<http://ilri.org/mission>) we are focusing on three main areas of achievement: developing, testing and promoting science-based livestock system practices, providing compelling evidence to persuade decision makers that smarter policies and larger livestock investments can deliver significant socio-economic and other dividends to nations and households, and to partner to increase capacity of key stakeholders to make better use of livestock science and investments for better lives through livestock. Many of the issues we address in our research cut across all agricultural commodities and include the dynamic forces and consequent challenges that face the smallholder agricultural producers who continue to produce most of the food in developing countries, and whose evolution and welfare is critical to rural development. I will address some of these issues in my talk to the Congress.*

ILRI is proud to have partnered with the University of Peradeniya since 1998, when at the request of the Ministry of Livestock and Rural Development, we jointly assisted the Sri Lankan Government to conduct an appraisal of the dairy sector in Sri Lanka, the recommendations from which I understand have been brought into practice by many different livestock stakeholders. We subsequently partnered in a multi-country (Bangladesh, Pakistan, Sri Lanka and Vietnam) project on ‘Indigenous Farm Animal Genetic Resources, for which the University of Peradeniya was the national executing agency. As this project is shortly coming to an end, a 1-day symposium on ‘Farm Animal Genetics Resources: Conservation through Utilization’ under the auspices of PGIA/UNIPER will be held on 22nd November, shortly after this Congress and will be attended by scientists Bangladesh, Pakistan, Vietnam, India, Philippines, Nepal, Indonesia and of course, Sri Lanka. Over the years ILRI has also supported the training of scientists from multiple faculties in Sri Lanka on molecular characterization techniques at the ILRI-CAAS joint lab in Beijing, China. On a personal note, I was part of the initial ILRI collaboration with the University in 1998, and so am particularly pleased to return to participate in this important event. I look forward to hearing about the exciting science emerging from the research of the students of PGIA, and extend my best wishes for their continued growth and contributions to meeting the needs of agricultural producers and systems in Sri Lanka and far beyond.

Steven J. Staal

Message from the Vice-Chancellor

Prof. Atula Senaratne
Vice Chancellor
University of Peradeniya



I am most privileged to issue a message to the 26th Annual Congress of the Postgraduate Institute of Agriculture of the University of Peradeniya to be held from 20th - 21 November, 2014.

The Annual Congress is the most important scientific event organized by the Postgraduate Institute of Agriculture. The congress provides an opportunity for postgraduate students to present their research findings to a wider audience and to interact with experts in their relevant fields. I am confident that research output of the postgraduate students will immensely benefit to develop partnerships with the industry which leads towards the sustainable economic development of the country.

I take this opportunity to congratulate the Director of the PGIA, Congress Coordinator and the Congress Organizing Committee for their tremendous efforts in organizing the “26th PGIA Annual Congress” in a very professional manner. I am certain that this congress too will offer more prospects to strengthen the research network in sharing information, knowledge and to assess the quality of postgraduate studies in agriculture and related fields.

I wish the congress a great success.

Prof. Atula Senaratne

Message from the Dean

***Prof. K. Samarasinghe
Dean
Faculty of Agriculture***



It is a great pleasure to release this message to the 26th Annual Congress of the Post Graduate Institute of Agriculture which is renowned as one of the oldest annual scientific fora in the island and recognized as a prominent event of the University of Peradeniya. The annual congress has been continuously held successfully in a well organized manner for more than 25 years, broadening its wings to reach the horizons far beyond the country. I strongly believe the 26th Annual Congress is another successful footsteps taken forward in the pathway of knowledge generation and dissemination by the PGIA.

It is tremendously important and vital to blend the wisdom of young scientists especially in the field of agricultural sciences who are capable and enriched with knowledge and skills in addressing pressing issues of the present globe in the streams of food security, sustainability, environmental conservation, energy and human health. I have no doubts that the 26th Annual Congress will provide a unique platform for young scientists, the torchbearers of future mankind to present their research findings, share knowledge and advances in research and development to build networks of professionals, researchers, educators and policy-makers in agriculture and allied sectors while exposing to a wider range of audience. Further, it will promote forward-thinking, insightful and valuable perspectives on the strategic challenges of the agriculture and allied sectors.

The participants will witness challenging and enriching series of research projects carried out by postgraduates and researchers from both Faculty of Agriculture and PGIA. The students are provided with substantial opportunities to interact with distinguished experts and work in collaboration with industries to capture the insights of the industry requirements, discipline thinking and develop skills in order to work harmoniously with the research needs of the industry outside academia. It endeavors to interlace the learning and education process with ideals to shape the students and mold them into professionals with a strong sense of work ethics.

Beyond a shadow of a doubt, I can expect that high quality research sessions and the unique inaugural session will cater the demands of the participants to a maximum level of satisfaction and guarantee a memorable experience. I take this opportunity to congratulate this year's Congress Coordinator, Director/PGIA and the Organizing Committee for their untiring effort in organizing the event. Finally, I wish all the postgraduates a successful career and I expect that they will step forward to make a notable and significant impact all over the globe.

I wish the 26th Annual Congress every success.

Prof. K. Samarasinghe

Message from the President

***Ms. Dinali Fernando
Postgraduate Institute of Agriculture
Postgraduate Agriculture
Students Association (PASA)***



It is with great pleasure I convey this message on behalf of the Postgraduate Agriculture Students' Association (PASA) on the occasion of 26th Annual congress of the Postgraduate Institute of Agriculture (PGIA).

PGIA is the pioneer institute in postgraduate agricultural education in Sri Lanka. It contributes not only for the agricultural and economic development of the country through advancement of knowledge and technology, but also for the whole agricultural world by creating professional human resources.

The Annual Congress is the most prestigious event organized by the staff and the students of the PGIA. It provides a precious opportunity for graduate research students in Agricultural and Allied Science disciplines to present their latest research findings at an international forum. It also creates the environment for those students to get exposed and experienced of an international scientific event and to interact with the experts in their fields. I really appreciate the initiative taken by PGIA, and invite all my peer graduate students to make use of this magnificent opportunity to enrich their research careers.

I wish to take this opportunity to congratulate the Director of the PGIA, the Coordinator and the Organizing Committee of the 26th Annual Congress, for the untiring efforts made to make this event a success.

PASA wishes the 26th Annual Congress of the PGIA a grand success.

Ms. Dinali Fernando

Message of the Congress Coordinator

***26th Annual Congress
Postgraduate Institute of Agriculture***



***Dr. S. Pathmarajah
Department of Agricultural Engineering
Faculty of Agriculture
University of Peradeniya***

It is my great pleasure to write this message on behalf of the Organizing Committee of the 26th Annual Congress of the Post Graduate Institute of Agriculture (PGIA), University of Peradeniya, Sri Lanka. First of all, let me welcome you all to this leading annual congress that has been providing platform for young scientists to present, discuss, debate and validate their postgraduate research findings at a distinguished forum.

We have outstanding events in line for you for two days, and for that, I thank all of you - the PGIA administration, the organizing committee members, the authors, the reviewers, the invited speakers, the sponsors, and the audience. This event would not be a success if it weren't for your involvement.

The theme of the congress for this year is "Farmer, Family and Food Security". The theme was acquired to mark the international year of family farming. This year, we received 108 submissions. The peer review process resulted in accepting 49 full papers and 24 posters to present at this congress and publish in the Journal Tropical Agricultural Research, Vol. 26, which will be published in four issues. In addition, the event is enriched by invited presentations of the eminent scientists from different institutions from different parts of the world.

I take this opportunity to thank and congratulate the past coordinators of the PGIA Annual Congress and their teams for keeping the flame of knowledge burning for the past 25 years. I also wish to thank my own organising committee and the supporting staff who enabled me to carry the torch throughout this year.

I wish all the presenters and the participants a very successful congress and pleasant stay in Kandy.

***Dr. S. Pathmarajah
Congress Coordinator - 2014***

Past Directors

<i>Prof. Colin N. Peiris</i>	<i>October 2011 – June 2014</i>
<i>Prof. A.L.T. Perera</i>	<i>August 2006 - September 2011</i>
<i>Prof. R.O. Thattil</i>	<i>January 2002 – August 2006</i>
<i>Prof. Y.D.A. Senanayake</i>	<i>January 1987 – March 1997</i>
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