



# PGIS *News*

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Quarterly Update of the Activities and Progress of the Postgraduate Institute of Science (PGIS),  
University of Peradeniya, Sri Lanka.

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## **2<sup>nd</sup> INTERNATIONAL SYMPOSIUM ON WATER QUALITY AND HUMAN HEALTH**



Lighting of the traditional oil lamp at the inaugural session of the 2<sup>nd</sup> International Symposium on 'Water Quality and Human Health: Challenges Ahead' held on 15<sup>th</sup> and 16<sup>th</sup> March 2013.

## **2<sup>nd</sup> NATIONAL WORKSHOP ON SCIENTIFIC WRITING**



Prof. H M D Namal Priyantha (Director, PGIS) addressing the inaugural session of the 2<sup>nd</sup> National Workshop on Scientific Writing held on 28<sup>th</sup> and 29<sup>th</sup> November 2013.

## **50<sup>th</sup> SHORT COURSE ON GIS AND APPLICATIONS**



Participants of the 50<sup>th</sup> Short Course on GIS and Applications held from 4<sup>th</sup> to 9<sup>th</sup> March 2013.

## **3<sup>rd</sup> REGIONAL TRAINING COURSE ON 'DISASTER RESILIENCE LEADERSHIP'**



Participants at a technical session of the 3<sup>rd</sup> Regional Training Course on 'Disaster Resilience Leadership' held from 2<sup>nd</sup> to 6<sup>th</sup> September 2013 in Bangkok, Thailand.



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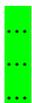
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**PGIS News**

**Editorial Board**

Prof. H M D Namal Priyantha (Chairman)  
Prof. K Dahanayake  
Prof. N S Kumar  
Prof. J P Edirisinghe  
Dr. A A S Perera  
Dr. N C Bandara (Editor)

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## **WORKSHOPS, SHORT COURSES, SYMPOSIA, ETC.**

<b>Event</b>	<b>Coordinator(s) (Board of Study)</b>	<b>Date(s)</b>	<b>No. of Participants</b>
Workshop on Sports Technique Evaluation with Bio-Mechanics	Dr. Amalka.Pinidiyaarachchi (Statistics & Computer Science)	Jan. 10	68
49 <sup>th</sup> Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	Jan. 28 - Feb. 2	7
Workshop on Scientific Writing	Dr. N C Bandara (PGIS)	Feb. 15	100
Short Course on Data Analysis using R and R-Studio	Prof. Pushpa Wijekoon (Statistics & Computer Science)	Feb. 21 - 22	49
50 <sup>th</sup> Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	March 4 - 9	37
International Symposium on Water Quality and Human Health: Challenges Ahead	Dr. S Yatigammana Mr. C Wijesundara (Environmental Science)	March 15 - 16	118
51 <sup>st</sup> Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	April 1 - 6	23
2 <sup>nd</sup> Short Course on Data Analysis using R and R-Studio	Prof. Pushpa Wijekoon (Statistics & Computer Science)	April 18 - 19	47
Workshop on “The Future of the Forests: REDD AND REDD+”	Dr. A M T A Gunaratne Dr. H S M P Madawala (Environmental Science)	May 3	69
14 <sup>th</sup> Advanced Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	May 16 - 17	9
Short Course on Human Resource Management Organized in collaboration with the Centre for Environmental Studies, University of Peradeniya (Venue - Geology Department)	Dr. Jagath Gunatilake (Earth Sciences)	May 18 - 19	128
52 <sup>nd</sup> Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	May 27 – June 1	08
4 <sup>th</sup> Faculty Development Workshop of Disaster Management MSc programme Organized in collaboration with BMGF, TU, DRLA and ADPC*	Dr. Jagath Gunatilake Prof. B SB Karunaratne (Earth Sciences)	June 1 - 2	10
Short Course on ISO Certification of Quality and Environmental Management Systems - Introductory Course on ISO 9001 and 14001 Organized in collaboration with the Centre for Environmental Studies, University of Peradeniya (Venue - Geology Department)	Dr. Jagath Gunatilake (Earth Sciences)	June 1 - 2	88
2 <sup>nd</sup> Regional Training Course on Disaster Resilience Leadership Organized in collaboration with BMGF, TU, DRLA and ADPC*	Dr. Jagath Gunatilake Prof. B SB Karunaratne (Earth Sciences)	June 3 - 7	28
Training Programme for Senior Elephant Keepers	Dr. Ashoka Dangolla (Zoological Sciences)	June 3 - 9	17
Workshop on ‘Getting started with Flowers and Foliage’	Dr. J Damunupola Dr. M Daundasekara (Plant Sciences)	June 28	49

<b>Event</b>	<b>Coordinator(s) (Board of Study)</b>	<b>Date(s)</b>	<b>No. of Participants</b>
15 <sup>th</sup> Advanced Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	July 1 - 6	12
Landslide Awareness Workshop for Disaster Resilient Leaders in the Central Province Organized in collaboration with BMGF, TU, DRLA and ADPC*	Dr. Jagath Gunatilake Prof. B SB Karunaratne (Earth Sciences)	July 12 - 13	36
5 <sup>th</sup> Faculty Development Workshop on Earthquake Vulnerability Reduction (EVR) Organized in collaboration with BMGF, TU, DRLA and ADPC*	Dr. Jagath Gunatilake Prof. B SB Karunaratne (Earth Sciences)	July 16 - 18	14
3 <sup>rd</sup> Short course on Data Analysis using R and R-Studio	Prof. Pushpa Wijekoon (Statistics & Computer Science)	July 18 - 19	31
3 <sup>rd</sup> Regional Training Course on Disaster Resilience Leadership Organized in collaboration with BMGF, TU, DRLA and ADPC* in Bangkok, Thailand	Dr. Jagath Gunatilake Prof. B SB Karunaratne (Earth Sciences)	Sep. 2 - 6	18
53 <sup>rd</sup> Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	Sep. 9 - 14	26
Workshop for Curriculum Revision 2013 - Disaster Management MSc programme - Teaching Staff and Stakeholders Organized in collaboration with BMGF, TU, DRLA and ADPC*	Dr. Jagath Gunatilake Prof. B SB Karunaratne (Earth Sciences)	Oct. 25 - 26	13
Training Course on GIS using NK-GIAS Organized in collaboration with Research and Development Centre, Nippon Koei Co. Ltd. (RDC-NK)	Dr. Jagath Gunatilake (Earth Sciences)	Oct. 26 - 27	58
Disaster Resilience Leadership (DRL) Academy Fellows Sri Lanka Forum – Progress Meeting Organized in collaboration with BMGF, TU, DRLA and ADPC*	Dr. Jagath Gunatilake Prof. B SB Karunaratne (Earth Sciences)	Nov. 24	12
2 <sup>nd</sup> National Workshop on Scientific Writing	Dr. N C Bandara (PGIS)	Nov. 28 - 29	98
54 <sup>th</sup> Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	Dec. 2 - 7	20
Disaster Resilience Leadership Academy Summit Organized in collaboration with BMGF, TU, DRLA and ADPC* in Negambo	Dr. Jagath Gunatilake Prof. B SB Karunaratne (Earth Sciences)	Dec. 9 - 11	30
Disaster Resilience Leadership Academy Forum Organized in collaboration with BMGF, TU, DRLA and ADPC* in Negambo	Dr. Jagath Gunatilake Prof. B SB Karunaratne (Earth Sciences)	Dec. 11	42
Short Course on Open Street Mapping on University of Peradeniya for students of MSc Programme in GIS and RS	Dr. Jagath Gunatilake (Earth Sciences)	Dec. 14 - 15	38
Workshop on Disaster Management Organized in collaboration with BMGF, TU, DRLA and ADPC*	Dr. Jagath Gunatilake Prof. B SB Karunaratne (Earth Sciences)	Dec. 20	22
Short Course on 'Human Resource Management' Organized in collaboration with the Centre for Environmental Studies, University of Peradeniya	Dr. Jagath Gunatilake (Earth Sciences)	Dec. 21 - 22	57

\* BMGF - Bill and Melinda Gates Foundation, TU - Tulane University, DRLA - Disaster Resilience Leadership Academy and ADPC - Asian Disaster Preparedness Centre

## M.Sc. DEGREE PROGRAMMES 2013/2014

M.Sc. Programme (Date of Commencement)	Board of Study	Coordinator(s)	No. of Students
<b>Clinical Biochemistry</b> (11.5.2013)	Biochemistry and Molecular Biology	Prof. R Sivakanesan (Dept. of Biochemistry, UPDN) Dr. H K I Perera (Dept. of Biochemistry, UPDN)	10
<b>Experimental Biotechnology</b> (20.4.2013)		Prof. J G S Ranasinghe (Dept. of Biochemistry, UPDN) Dr. P Samaraweera (Dept. of Molecular Biology and Biotechnology, UPDN)	13
<b>Analytical Chemistry</b> (4.5.2013)	Chemical Sciences	Prof. M M A N Navaratne (Dept. of Chemistry, UPDN)	39
<b>Nanoscience and Nanotechnology</b> (4.5.2013)		Prof. R M G Rajapakse (Dept. of Chemistry, UPDN) Dr. R G S C Rajapakse (Dept. of Molecular Biology and Biotechnology, UPDN) Dr. A C A Jayasundera (Dept. of Chemistry, UPDN)	26
<b>Industrial Chemistry</b> (4.5.2013)		Dr. M Y U Ganehenegge (Dept. of Chemistry, UPDN) Dr. C S Kalpage (Dept. of Chemical Engineering, UPDN)	17
<b>GIS and RS</b> (4.5.2013)	Earth Sciences	Dr. A A J K Gunatilaka (Dept. of Geology, UPDN)	35
<b>Disaster Management</b> (4.5.2013)		Prof. B S B Karunaratne (Dept. of Physics, UPDN) Prof. R L R Chandrajith (Dept. of Geology, UPDN) Dr. L C Kurukulasooriya (Dept. of Civil Engineering, UPDN)	32
<b>Eng Geology &amp; Hydrogeology</b> (4.5.2013)		Dr. H A Dharmagunawardhane (Dept. of Geology, UPDN) Dr. A A J K Gunatilaka (Dept. of Geology, UPDN)	13
<b>Gemmology and Ind. Minerals</b> (28.9.2013)		Dr. S Malaviarachchi (Dept. of Geology, UPDN)	4
<b>Environmental Science</b> (4.5.2013)	Environmental Science	Dr. G W A R Fernando (Dept. of Physics, Open University, Nawala)	20
<b>Biodiversity, Ecotourism and Environment Management</b> (30.11.2013)		Dr. S K Yatigammana (Dept. of Zoology, UPDN) Mr. C Wijesundara (Dept. of Zoology, UPDN)	11
<b>Industrial Mathematics</b> (4.5.2013)	Mathematics	Prof. W B Daundasekara (Dept. of Mathematics, UPDN)	19
<b>Science Education</b> (1.1.2013)	Science Education	Prof. S Karunaratne (Science Education Unit, UPDN) Dr. H M S P Madawala Weerasinghe (Dept. of Botany, UPDN) Dr. C V Hettiarachchi (Dept. of Chemistry, UPDN) Dr. D M Samarathunga (Dept. of Mathematics, UPDN) Dr. J P Liyanage (Dept. of Physics, UPDN)	17
<b>Computer Science</b> (1.4.2013)	Statistics and Computer Sc.	Prof. A A I Perera (Dept. of Mathematics, UPDN)	67
<b>Applied Statistics</b> (4.5.2013)		Dr. K Perera (Dept. of Engineering Mathematics, UPDN)	28

<b>Applied Epidemiology</b> (28.9.2013)	Zoological Sciences	Dr. S K Yatigammana (Dept. of Zoology, UPDN)	11
		Dr. N P S Kumburegama (Dept. of Zoology, UPDN)	
		Dr. A Dangolla (Dept. of Veterinary Clinical Sciences, UPDN)	

UPDN - University of Peradeniya

## **POSTGRADUATE DIPLOMA PROGRAMMES 2013/2014**

<b>Diploma Programme</b> (Date of Commencement)	<b>Board of Study</b>	<b>Coordinator(s)</b>	<b>No. of Students</b>
<b>Science Education</b> (1.4.2013)	Science Education	Prof. S Karunaratne (Science Education Unit, UPDN)	26
<b>Information Technology (IT)</b> (4.5.2013)	Statistics and Computer Science	Dr. A Pinidiyaarachchi (Dept. of Statistics and Computer Science, UPDN)	12

UPDN - University of Peradeniya

## **Ph.D. and M.Phil. DEGREES AWARDED in 2013**

### *Awardees*

### *Titles of Theses*

#### **Ph.D. – Chemical Sciences**

I P L Jayarathna      Synthesis, characterization and molecular modeling of  $\gamma$ -Fe<sub>2</sub>O<sub>3</sub> nanoparticles: water treatment and drug delivery  
(Supervisors: Dr. S V R Weerasooriya and Dr. W M A T Bandara)

#### **Ph.D. – Physics**

W P C M Alahakoon      Synthesis and characterization of doped and undoped zircon based ceramics  
(Supervisors: Dr. M E Smith, Dr. R S Dobedoe and Prof. B S B Karunaratne)

#### **Ph.D. – Plant Sciences**

W H M A T Herath      Evaluation of microbiological and chemical quality of commercially available bottled drinking water in Sri Lanka  
(Supervisors: Dr. C L Abayasekara, Prof. R L Chandrajith and Prof. N K B Adikaram)

D H P Peramunugama      Diversity and taxonomy of lichens in the areas affected by forest die back at Horton Plains National Park, with a view to biomonitor the ecosystem health  
(Supervisors: Prof. V Karunaratne and Dr. D S A Wijesundara)

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### ***M.Phil. – Biochemistry and Molecular Biology***

- A M T K Bandara Purification and characterization of thermostable DNases from bacteria in hot springs of Trincomalee, Sri Lanka  
(Supervisors: Dr. S G C Rajapakse and Prof. J G S Ranasinghe)
- K H K T Niroshini Study of antigenic salivary gland proteins of mosquitoes and detection of antibodies against them in humans and animals  
(Supervisors: Prof. J G S Ranasinghe and Prof. R P V J Rajapakse)

### ***M.Phil. – Chemical Sciences***

- H P S Senarath Antioxidant capacity of spices in retarding oxidation of lipids during storage of cooked herring  
(Supervisors: Dr. M S W De Silva, Dr. E M R K B Edirisinghe and Prof. B M R Bandara)
- I M C C D Bandara Development of self-cleaning and anti-microbial textile material  
(Supervisors: Prof. R M G Rajapakse and Dr. R G S C Rajapakse)
- M Makehelwala Modeling interactions of pyrite and monochlorophenols  
(Supervisors: Prof. S V R Weerasooriya and Dr. W M A T Bandara)
- R Senthoran Investigation of corrosion and corrosion inhibition of different metal surfaces  
(Supervisor: Prof. H M D Namal Priyantha)

### ***M.Phil. – Earth Sciences***

- W M C M Wijesinghe The relationship of dengue morbidity with climatic factors, distribution of vectors and risk areas of dengue in Kandy district  
(Supervisors: Dr. A A J K Gunatilaka and Dr. P H D Kusumawathie)

### ***M.Phil. – Environmental Sciences***

- S S R M D H R Wijesekara Application of zero valent iron for the treatment of landfill leachate generated from Gohagoda municipal solid waste dumpsite  
(Supervisors: Dr. M Vithanage and Prof. B F A Basnayake)

### ***M.Phil. – Mathematics***

- J Sriranganesan A mixed type finite element method for radiation and scattering problems in unbounded domains  
(Supervisor: Dr. H M Nasir)
- M A A M Faham Spherical harmonics in a non-polar spherical coordinate system and their properties  
(Supervisor: Dr. H M Nasir)

### ***M.Phil. – Plant Sciences***

- L N S Perera Effect of pre- and postharvest treatments on postharvest quality of selected varieties of decorative cut foliage  
(Supervisors: Dr. W A M Daundasekara and Dr. D S A Wijesundara)
- K M D Gunathilake Microorganisms and microbial biofilms as agents of cellulosic biodegradation of invasive weeds in Sri Lanka  
(Supervisors: Prof. S A Kulasooriya, Dr. R R Ratnayake and Prof. D N Karunaratne)

E R L B Etampawala	Some morphological and reproductive features of <i>Santalum album</i> L. and <i>Piper longum</i> L. (Supervisors: Dr. K U Tennakoon, Prof. C V S Gunatilleke and Prof. I A U N Gunatilleke)
U V A Buddhika	Biofilms with nitrogen fixing bacteria and fungi: a novel biofertilizer technology for sustainable maize ( <i>Zea mays</i> L.) cultivation (Supervisors: Prof. G Seneviratne and Dr. C L Abayasekara)

**M.Phil. – Statistics and Computer Science**

R M N B Rathnayake	Ontology driven clinic management for Sri Lankan general hospitals (Supervisors: Dr. P M Jayaweera and Prof. S R Kodituwakku)
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**M.Sc. DEGREES AWARDED in 2013**

*Awardees*

*Titles of Research Project Reports*

**Analytical Chemistry**

- |                        |  |
|------------------------|--|
| 1. D G D D Kumara      | Investigation of the interaction of glyphosate and paraquat (gramoxone) at platinum and glassy carbon electrode surfaces through electroanalytical methods |
| 2. A Manjceevan        | Hydrogeochemistry of areas with endemic chronic kidney disease with uncertain etiology in Vavuniya district  |
| 3. M C R Peiris        | Anion association and CO <sub>2</sub> reduction capacity of some selected transition metal macrocyclic complexes   |
| 4. D S W Palagama      | Investigation of corrosion inhibition of aluminium surfaces using <i>Neolitsea cassia</i> (L) (wild cinnamon) extracts                                     |
| 5. D M T M Dassanayake | Evaluation of ion removal capacity of low cost naturally available Murunkan clay for desalination of water   |
| 6. W D T J Nawarathne  | Synthesis of transition metal macrocyclics for the binding of CO <sub>2</sub>  |
| 7. G M Hapuarachchi    | Heavy metal impurities in commercially available bispyribac sodium, a fast moving herbicide in Sri Lanka   |

**Applied Statistics**

- |                         |   |
|-------------------------|---|
| 1. H H Y De Silva       | Identifying the flowering and fruiting pattern of eight <i>Shorea</i> species in Sri Lanka using directional statistics |
| 2. P Pulavan            | Statistical modeling for distribution of body surface area among cancer patients  |
| 3. K A N K Karunarathna | Statistical analysis of distribution of land snails in Knuckles forest range in Sri Lanka                               |
| 4. P L A Gunawardhana   | A time series study for renal failures in Anuradhapura district   |
| 5. S H Shajitha         | Extreme value analysis of daily rainfall in Galle, Sri Lanka  |

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## Biodiversity, Ecotourism & Environment Management

1. A M G G L K B Abeykoon Conservation importance of semi-evergreen seasonal forests of Galamuduna area in the Knuckles region
2. W A W P Wijayalath Population, environmental and climatic factors on dengue distribution in Colombo district
3. D K Hettiarachchi Diversity of aquatic plants in three selected tanks and utilization of aquatic plants by the community in the Anuradhapura district
4. H M I K Herath Flood risk identification and management in the Horowpathana urban environment

## Clinical Biochemistry

1. D A L Munasinghe Iodine content of five salt brands available at retail outlets in Kurunegala town
2. U K N A Uduuwara Comparison of embryo quality between intracytoplasmic sperm injection and in vitro fertilization in couples with unexplained sub-fertility
3. S B Nandakumara Serum progesterone, thyroid stimulating hormone (TSH) and oxidant stress in sub-fertile women
4. J Thusyanthan Camptothecin, total phenolics and flavonoids content in selected plants belonging to *Rubiacea* and *Acanthaciae* families

## Computer Science

1. D N Jayawardane Online student registration system with SMS based course management
2. M Mafas Time sheet and human resource management system for 'Bizycorp (Pvt) Ltd'
3. L L N Wanigasuriya Development of a reporting module for payphone system
4. W A S Priyadarshani Predicting a suitable path for G.C.E. (O/L) students
5. K Selvarajah Identification of the human race using skin color (HRI-system)
6. W P L Jayasinghe Identity authentication based on keystroke latencies
7. M A C A Jahan Natural language question answering system for locating resources in an e-library
8. M A C Jiffriya Plagiarism detection on electronic submissions of text based assignments
9. P H S S Wijayarathna Developing a web based student information system for the University of Vocational Technology
10. R Sabaratnam Information Management System for Trincomalee Multipurpose Cooperative Society, Sri Lanka
11. A Selvarangini Medical Information Management System for Vavuniya General Hospital'
12. S M N Samarasinghe On-line Staff and Student Management System for Ruwanpura National College of Education
13. U T Tilakaratne Image steganographic scheme based on reversible and inverse embedding strategies
14. M G N T B Kumarasinghe Face recognition based on Eigen faces
15. M Y Thasneem Influencing the performance and energy consumption of modern storage devices by reevaluating input/output architecture for green IT

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16. W M C B B Wanigasekara Design of an Inventory Control System for value added tea industry
  17. N R Meddage 'AVQUICK' meta search engine for quick audio visual searching
  18. V Vinoharan A wheel-based side-view car detection using Snake algorithm
  19. M N S Perera Web-based HR System and Payroll System for Green Apparel (Pvt) Ltd
  20. I S Karunawansa Construction and performance evaluation of multi-core workstation cluster under Windows and Linux Operating Systems
  21. R M C A B Rathnayake Multi Agent System for cooperative tasks
  22. L R C U Bandara Remote Monitoring Loan Management System
  23. W H M P P B Wijekoon Mobile Access Asset Control System
  24. J A S P Mahindapala Global Position Tracking System for public transportation in Sri Lanka
  25. M P S R Samarawickrama Development of a SMS-based Library Management System
  26. C A Thotawatthage Web-based Information Management System (IMS) for a research institute
  27. V G S Pradeepika Design and development of a virtual academy
  28. P M Satharasinghe An improved Steganographic System for PCs and mobile devices
  29. K Venugoban Image classification of paddyfield insect pests using gradient-based features
  30. S H R V Karunarathne Management Information System for 'Agricultural Product Export Company'
  31. L H A Nilmini Content-based Image Retrieval System
  32. L A M W I Samarasekara A graph colouring model for timetabling problem
  33. P Thiyagarajah Design and development of a Meeting Booking System
  34. P A C Deepani Online system for exam registration and results processing
  35. W M M K Weerasekara Comparing the efficiency of two data encryption standards "TDEA" and "AES" in microcontrollers
  36. J A R Surendra Web and smart device based ordering and billing system for large scale restaurants
  37. P H M N K Herath An artificial neural network model for predicting dengue outbreaks
  38. V Nanthakumar E-monitoring and evaluation system for internship teacher trainees
  39. B P Somaratne Image steganography for secure message communication over android mobile device
  40. P K Samarakoon Development of a web based document management system with short message service facility for the Veterinary Research Institute
  41. T G C Piyasena Development of a web-based training management system with short message service technology
  42. W M S M Dhanapala Optical Braille Recognition (OBR) system for Sinhala language
  43. K Pratheepan Modeling and alerting of network attacks based on network traffic flow pattern observation
  44. K G G U Kumari Design and implementation of 'Headway Sinhala Engine'
  45. R D Jeyarajah Online maintaining information system for Paddiruppu educational zone
  46. R A S A Bandara Enhancement of existing animal disease reporting network
  47. M I Weerawarna An intelligent approach in language translation
  48. B H S D Hettiarachchi Development of a road traffic avoiding system

*Continued on page 17*

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## PGIS ACTIVITIES IN FOCUS

### SHORT COURSES ON GIS AND APPLICATIONS



Participants of the 49<sup>th</sup> Short Course (January 28 - February 2, 2013) at a field class



Lighting of the traditional oil lamp at the inaugural session of the 50<sup>th</sup> Short Course (March 4 - 9, 2013)



Participants of the 51<sup>st</sup> Short course (April 1 - 6, 2013) attending a technical session



Participants of the 53<sup>rd</sup> Short Course (September 9 - 14, 2013)



Participants of the 54<sup>th</sup> Short Course (December 2 - 7, 2013) during a field class



A technical session of the 14<sup>th</sup> Advanced Short Course (May 16 - 17, 2013)

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**WORKSHOP ON SPORTS TECHNIQUE EVALUATION WITH BIO-MECHANICS**



Participants at technical sessions of the Workshop on Sports Technique Evaluation with Biomechanics held on January 9, 2013

**2<sup>nd</sup> NATIONAL WORKSHOP ON SCIENTIFIC WRITING**



Participants at the inaugural session of the 2<sup>nd</sup> National Workshop on Scientific Writing held on November 28 and 29, 2013

**2<sup>nd</sup> INTERNATIONAL SYMPOSIUM ON WATER QUALITY AND HUMAN HEALTH:  
CHALLENGES AHEAD**



Participants at the inaugural session of the 2<sup>nd</sup> International Symposium on Water Quality and Human Health: Challenges Ahead held on March 15 and 16, 2013

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## SHORT COURSES ON DATA ANALYSIS USING R AND R-STUDIO



Participants at a technical session of the 1<sup>st</sup> Short Course on Data Analysis using R and R-Studio held on February 21 and 22, 2013



Participants at a technical session of the 3<sup>rd</sup> Short Course on Data Analysis using R and R-Studio held on July 18 and 19, 2013

## WORKSHOP ON “THE FUTURE OF THE FORESTS: REDD AND REDD+”



Participants at the inaugural session of the Workshop on ‘the Future of the Forests: REDD and REDD+’ held on May 3, 2013



## FACULTY DEVELOPMENT WORKSHOPS OF DISASTER MANAGEMENT MSc PROGRAMME



Participants of the 4<sup>th</sup> Faculty Development Workshop (June 1 - 2, 2013) at a discussion



5<sup>th</sup> Faculty Development Workshop on “Earthquake Vulnerability Reduction (EVR)” held from July 16 to 18, 2013 at the PGIS

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## **2<sup>nd</sup> REGIONAL TRAINING COURSE ON DISASTER RESILIENCE LEADERSHIP**



**Left: Participants at a technical session of the 2<sup>nd</sup> Regional Training Course on “Disaster Resilience Leadership” held from June 3 to 7, 2013 at Earl’s Regency Hotel, Kandy. Right: Group photograph of the participants**

### **TRAINING PROGRAMME FOR SENIOR ELEPHANT KEEPERS**

### **LANDSLIDE AWARENESS WORKSHOP FOR DISASTER RESILIENT LEADERS IN THE CENTRAL PROVINCE**



**Participants at a technical session of the Training Programme for Senior Elephant Keepers held from June 3 to 9, 2013**

**Participants of the Landslide Awareness workshop for disaster resilient leaders in the Central Province held on July 12 and 13, 2013**

### **WORKSHOP ON GETTING STARTED WITH FLOWERS AND FOLIAGE**



**Left: Lighting of the traditional oil lamp at the inaugural session held on June 28, 2013  
Right: Participants at a technical session of the workshop**

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***'My Experiences of being a Scientist' – Lecture by a Nobel Laureate***



**Prof. Yuan Tseh Lee, Nobel Laureate in Chemistry (1986) at the Chemistry Upper Theatre on September 14, 2013. The lecture was organized by the PGIS, Faculty of Science and Institute of Fundamental Studies (IFS).**

***PROFESSOR F P AMARASINGHE MEMORIAL POSTGRADUATE RESEARCH AWARD 2013***



**Prof. Sriyal Peiris, Chair Professor, Department of Microbiology and Scientific Director, HKU-Pasteur Research Centre, University of Hong Kong (HKU) delivering the 'Professor F P Amarasinghe Memorial Lecture' on November 22, 2013 at the PGIS Auditorium.**



**Presentation of Professor F P Amarasinghe Memorial Postgraduate Research Award to Ms. U A Jayawardana by Dr. Priyani Amarasinghe (International Water Management Institute, Hyderabad, India).**

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**YOUNG RESEARCHERS' FORUM (PGIS - YRF) ACTIVITIES**



**YRF Annual Cricket Match 2013 between members of YRF and academic staff of Faculty of Science, University of Peradeniya**

**YRF members at a seminar of the YRF Colloquium Series**



**YRF members, the official student body of the PGIS, at the exhibition stall providing guidance on postgraduate opportunities available at the PGIS, at the EDEX 2013 held on 29<sup>th</sup> and 30<sup>th</sup> June 2013 at Kandy City Center**



**At the 'Eleven-A-Side Triangular Cricket Tournament' Science and PGIS staff**



**Enjoying the biodiversity of Montane Evergreen forests and Grasslands at Horton Plains during YRF Annual Trip on 14<sup>th</sup> November 2013**

*Continued on page 25*

### **Disaster Management**

1. D D M L Dassanayake Establishment of pre-hospital emergency medical system in the municipality of Anuradhapura
2. M P N C Amarathunga Mahawewa landslides - causes of reactivation and some suggestions for mitigation
3. A A C Priyantha Some geochemical aspects of Tsunami affected soils in south western coast of Sri Lanka: present status
4. W M S B Wanninayake Study of human elephant conflict in Kurunegala district
5. B M R K Balasooriya Assessment of land subsidence susceptibility within industrial estate at Achchuvely in Jaffna
6. N S Pathirana A sociological study of military disables at the Salawa Ranaviru Village in Avissawella
7. M H M Naseem Investigation on suitability of groundwater in Gampola town for domestic consumption: a post epidemic investigation
8. R M N P Rathnayake Carbon sequestration capacity of *Rhizophora mucronata* (Lam.) and community perception towards mangrove afforestation
9. M A N S Fernando A Water Quality Index (WQI) to analyze risk distribution in groundwater: A study in the Kalpitiya peninsula

### **Engineering Geology and Hydrogeology**

1. P H E Dulanjalee Rock slope stability assessment using stereographic projection method and limit equilibrium analysis

### **Environmental Science**

1. S D Muralitharan Monitoring the eutrophication process in Uranikudha of the Batticaloa lagoon
2. S J Bootawatta A study on water pollution in the Matale urban area
3. H M A B Herath Forest die-back at Rajawaka forest reserve
4. A M H V Adikari A study on environmental issues due to the development of Nuwara Eliya - Badulla road
5. N D Hettige Deterioration of coastal water quality from land-based activities in western province, Sri Lanka
6. L M M U  
Lekammudiyanse Two dimensional multi electrode resistivity survey for subsurface mapping: a case study from Matale district
7. R A S P Ranaweera Application of floating wetlands to improve water quality in Kandy lake
8. C H T Rubesinghe Investigation on level of heavy metals in ecosystem in the Norochcholai vicinity area, Puttalam lagoon and coastal area
9. C Rubasinghe A conceptual model for evaluation of ecological impacts in environmentally sensitive areas
10. D M Wijesundara Soil and water contamination from tannery waste; fate, distribution and remediation of chromium
11. W M D Wijesekara Quality of source water in Hali-Ela area for drinking purposes
12. T M T C Tennakoon Analysis and assesment of heavy metal pollution in water and sediments of the Diyawanna Oya, Colombo capital, Sri Lanka

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- 13 D M R E A  
Dissanayake Removal of Pb(II) from aqueous solutions by *Hydrilla verticillata* using a fixed-bed column: biosorption and desorption studies

### Experimental Biotechnology

1. S A Usoof Use of PCR technique to detect human Rickettsia and Ehrlichial pathogens in Ixodid ticks
2. S Maheswaran A comparative phylogenetic analysis of selected species of *Exacum* of Sri Lanka with *Osbeckia octandra*
3. S N J Pathirana Isolation of lipolytic fungi and partial purification of lipases
4. P Paramasamy Characterization of molecular diversity and physiological properties of Rhizobial populations in *Crotalaria juncea*
5. N S Wickramasinghe Isolation and identification of petroleum degrading fungi and bacteria from petroleum contaminated soil

### GIS & Remote Sensing

1. I L M Zahir Land suitability analysis for agricultural crops: A case study of Padiyatalawa Divisional Secretariat Division
2. P A N P K  
Piyadigama GIS-based Decision Support System for Matara Divisional Secretariat Division
3. W M M Priyanthi Establishment of GIS-based land bank
4. W C Fonseka Influence of unplanned human settlements on urban land: a case study of Colombo municipal council
5. A A D C Alahakoon Coordinate transformation tool for Android mobile devices

### Industrial Chemistry

1. S H S Dananjaya Extraction and characterization of bixin from the annatto seeds and its possible use in the colour enhancement of gold fish

### Industrial Mathematics

- 1 L S L Dias Rainfall forecasting using Artificial Neural Networks

### Medical Microbiology

1. K A H G A C  
Gamage Detection of Carbapenemase production and the metallo- $\beta$ -lactamase production among the carbapenem resistant gram negative isolates
2. D G D Jayasuriya Genotyping of Hepatitis B Virus (HBV) using previously HBV positive serum samples from individuals referred from the Surgical Clinic, Teaching Hospital, Peradeniya
3. D I I Nagasena Attitudes of Sri Lankans on 'Diyabath', its physical properties and microbiology
4. W V S M Perera Detection of *Legionella* species and other microbiological and physicochemical properties in natural and man-made water systems in the Colombo district
5. D M D P K Bandara Detection of Wnt modulator In Surface Ectoderm (*Wise*) gene in *Mycobacterium tuberculosis*
6. N A S N Rathnapala Laboratory identification of *Pneumocystis jiroveci* in clinically suspected *Pneumocystis* pneumonia patients

7. G C Herath Group B streptococcus colonization in pregnancy
8. A Muthulingam Viral aetiology in children less than 3 years with acute respiratory tract infection
9. T Veluppillai Role of brackish water breeding *Aedes aegypti* and *Aedes albopictus* in transovarian transmission of dengue virus
10. J A J Shafiya Aetiological agents of human dermatophytosis
11. U V Sirisena Prevalence and identification of *Cryptosporidium* infection in pediatric patients
12. H D Koswatta Screening for 'Selective Immunoglobulin Deficiency' among blood donors in Sri Lanka

### Medical Physics

1. A R Nihmiya Patient dose management in computed tomography and interventional fluoroscopy with special emphasis on pediatric patients

### Nanoscience & Nanotechnology

1. W A P N Wickramaarachchi Transparent nano-composite electrodes for dye-sensitized solar cells
2. S Sivayoganathan Photocatalytic degradation of methylene blue on FeTiO<sub>3</sub>/TiO<sub>2</sub>/PbS hetero-junctions
3. V Karmegam Antimicrobial efficacy of nano-zinc oxide-coated cross-linked cotton
4. R M I S Ratnayake Fabrication of ZnO based dye-sensitized solar cells using Screen Printing technique
5. J M I U Jayasekara Copolymerization of 8-hydroxyquinoline with aniline and intercalation of 8-hydroxyquinoline into montmorillonite clay
6. E K D H D Siriwardena Influence of the particle size of CaCO<sub>3</sub> coating layer on the efficiency enhancement of SnO<sub>2</sub>-based dye sensitized solar cells
7. R A D M Ranasinghe ZnO nanostructures via chemical bath deposition for applications in dye-sensitized solar cells

### Physics of Materials

1. W G C Kumarage Growth of CuO thin films for possible photovoltaic (PV) applications
2. E M B S Ekanayake Efficiency enhancement by mixed cation effect in dye-sensitized solar cells based on poly(ethylene oxide)

### Science Education

1. A M U Dharmapala Gender difference in learning electricity
2. R D N D K Dissanayake Use of concept maps to improve teaching geometry in G.C.E. (O/L) classes
3. M T Z Farzana Enjoyment of learning the unit of human organ systems in the Grade 10 classes using problem-based learning
4. M K Rathnaweera An interactive computer-based study package on the structure and functions of the human digestive system for the G.C.E. (A/L) biology syllabus
5. N T N Ravishankar Effectiveness of activity-based learning in teaching biological concepts to primary students
6. K H Gurukandura Motivating G.C.E. (A/L) students towards chemistry related projects

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7. S K Wathurakumbura Effectiveness of understanding chemistry concepts in Grade 8 students through problem-based learning
  8. H U K Anoma Addressing students' misconceptions in some selected topics in G.C.E. (A/L) chemistry syllabus
  9. M V D N R Wimalasena Investigation of the waste composition of households and the preparation of a supplementary book on waste management for G.C.E. (A/L)
  10. R P H Ranasinghe Motivation of G.C.E. (A/L) students to understand organic chemistry through real life applications
  11. D M C R K Dissanayake Identification of difficulties in teaching and learning G.C.E. (A/L) biology subunit, 'Reproduction in plants'
  12. S Ahilan Problems encountered in teaching physics concepts at G.C.E. (O/L) by science teachers: a case study conducted in the Jaffna education zone
  13. M G W S Premalatha Introducing active teaching-learning methods to enhance achievement on 'Plant Diversity' in Grade 6
  14. A M L Athapattu Effectiveness of bilingual education in Kandy district
  15. I A D V R Iddamalgodra Improvement of understanding of a biology unit for Grade 10 using School-Based Assessment (SBA)
  16. P S Pushpakumara Impact of 2007 Education Reforms on G.C.E (O/L) mathematics results
  17. V T Amaratunga A comparative study of student performance on theoretical and practical teaching methodology adopted in the lesson on 'Traditional food preservation techniques' for G.C.E. (O/L) students
  18. N Alahakoon Implementing a unit plan with School-Based Assessment (SBA) modalities for Grade 10 mathematics
  19. A A M Jazil Success and failure of the student-centered learning method in Sri Lankan schools
  20. P Raveendranathan Use of biology practicals to enhance learning of Grade 11 students
  21. K M M W C K Narampanawe Teaching 'Properties of matter and their uses' to eighth graders using problem-based learning method
  22. M R Fernando Use of computers in teaching and learning Grade 10 mathematics among the schools in Kandy district
  23. T M P R K T Dankanda Factors affecting on decision making and achievements in educational pursuits of students in selecting careers
  24. M S Dedduwa Perception of past advanced level biology students towards the biology curriculum
  25. M T Zareeha Use of problem-based learning to teach properties, applications and reactions of substances at Grade 9
  26. D R Wijayasiri Effectiveness of in-service teacher training on development of secondary school level physics education
  27. R M A I Wijesooriya The degree of predictability of the performance of mathematics at G.C.E. (O/L) on the success of combined mathematics at G.C.E. (A/L)
  28. B M Niyas Effective leadership practices in schools
  29. I L A Hakeem Effect of a problem based simulations on the conceptual understanding of the subject electronics among G.C.E. (A/L) students
  30. M A M Unais Enhancing biology learning of twelfth graders on nutrition through problem-based learning
  31. H M R P K Herath Effect of the use of simple models for learning chemistry in an enjoyable manner
  32. G Nakeeran Implementation of computer assisted animations to teach resonance in G.C.E. (A/L) chemistry
  33. B M S S Kumari A study about the usage of group activities to teach science in Grade 9 classes in the Kuliypitiya education zone

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|----|-------------------|--|
| 34 | T Sakeetharan     | Use of cooperative learning to improve science learning among Grade 7 students                                 |
| 35 | S M K N Tennakoon | Implementation of school-based assessment in teaching science for Grades 10 and 11 in Galewela education zone  |
| 36 | T D D Silva       | An evaluation of the assessment aspects of students on 'Structure of matter and quantity' of Grade 10 students |
| 37 | K Vanimuhunthan   | A computer based self learning package on intermolecular interactions for G.C.E. (A/L) chemistry students      |

## **POSTGRADUATE DIPLOMAS AWARDED in 2013**

### **Analytical Chemistry**

1. D S S Zoysa
2. D H V Vithanage

4. R Narendra
5. P Guhanathan
6. S Jinnah
7. C P Mapitigama
8. U S K Niroshan
9. R D N K Rupasinghe

### **Applied Statistics**

1. M F M Akram
2. K C U Hettigoda
3. K Mugunthan
4. P K W De Silva
5. R R A Wijayarathne
6. P G R S Ranasinghe
7. S M S M Samarakoon
8. A D C R Munasinghe
9. K Nithilan
10. P Thavarajah
11. R Suthakaran

10. S Nishantha
11. B Navaratnasamy
12. S Rajakumar
13. B Sevwerl
14. M M M Muzain
15. S J Gunasekara
16. K H S Chandralal
17. M T M N N Tennakoon
18. M P Jayasiri
19. S Jeganeethan
20. M M A U B Munasinghe
21. W D D P Sumathipala
22. D S Udahentenna

### **Clinical Biochemistry**

1. S Sayanthooran

### **Disaster Management**

### **Computer Science**

1. K A U N Kapurubandara
2. M N Thalgahagoda
3. S I Umasuthan

1. S A M C Priyankara
2. Y M E N L Abeyrathna
3. P P K Karunarathna
4. A S M Ziyath

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**Environmental Science**

1. A B Galahawela
2. L A A D B Liyandeniya
3. S L Gunasekara

**Experimental Biotechnology**

1. H I Sandanayake

**Industrial Mathematics**

1. N M P S K Bandara

**Industrial Chemistry**

1. K Rohan
2. I S Panandeniya

**Medical Microbiology**

1. A D K Gunaratne
2. B P K Jayasundera
3. K A H G Asanka

**Nanoscience & Nanotechnology**

1. M M P N Piyasena

**Physics of Materials**

1. S M M B B Dissanayake
2. K M N Kulathunga

**Science Education**

1. K Kanaharetnam
2. M Selvanayagam
3. S J Wijewardhana
4. A Jeyatheesan
5. G G N Jayawickrama

6. D W A S U Menike
7. D M R N Dhanasekara
8. J C K Ekanayake
9. C S Gunarathna
10. N L C M Gunasinghe
11. S G N Hemasiri
12. H M S P Herath
13. H J N Hettiarachchi
14. M A M Jesmin
15. H M I M Kumari
16. G P K Maralanda
17. H B A P P Obeysekera
18. C F Rodrigo
19. S B R S A Samarakoon
20. A K G P Samarasingha
21. M G D N Wijayasinghe
22. N D A Premachandra
23. R A D K Ranathunga
24. J A A S J Jayakodi
25. W P C Meegasdeniya
26. J M A D Thilakarathna
27. T M G K Kumarihami
28. B N Mendis
29. H P J R K Perera
30. K Kuhakumararajah
31. A L A Raheem
32. S R A K Samarathunga
33. A A K Weeragala
34. D M S B Dissanayake
35. R Jegathasan

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## **YOUNG RESEARCHERS' FORUM (PGIS-YRF)**

Young Researchers' Forum (YRF) is the official consortium of the researchers registered for postgraduate Studies at the PGIS, University of Peradeniya. The forum was established in 2005 at the seminar on "Challenges and Opportunities in Scientific Research for Young Researchers" aimed at bringing young researchers to collaborate and share their experience and knowledge for the common goal of enlightening the future of researchers at the early stages of their career.

### **Executive committee of YRF (2013/2014)**

(Committee was elected at the Annual General Meeting held on 29<sup>th</sup> April 2013 at the PGIS auditorium.)

- Patron: Prof. Namal Priyantha (Director, PGIS)  
President: Yasoja Athugala  
Secretary: Thanuja Kulasooriya  
Members: Anushka Liyandeniya, Hasitha Dammika, Malaka Wijayasinghe, Mihira Wanninayaka, Pathum Chamikara, Nayana Wijethilaka, Piyal Karunarathne, Randika Lakmali, Sarath Kumara.

### **Activities carried out in the year 2013:**

#### **YRF Annual Cricket Match 2013**

A Cricket match was organized by the newly elected office bearers. Prof. Namal Priyantha, Director of the PGIS and a large number of YRF members and staff members of the Faculty of Science were present at this event.

#### **Colloquium Series**

A monthly-talk series was conducted on common topics important for the research career of YRF members. The following talks were held during 2013.

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<i>Title</i>	<i>Presenter and Affiliation</i>	<i>Date</i>
<i>'How to conduct research successfully'</i>	<i>Prof. Namal Priyantha Director, PGIS</i>	<i>June 17</i>
<i>.'EXAFS: Tool to determine local structure of specific atoms'</i>	<i>Dr. Sunil Dehipawala Department of Physics and Astronomy, Queens Borough College New York, USA</i>	<i>August 19</i>
<i>.'Submitting papers to international journals - Tips and hints'</i>	<i>Prof. Rohan Chandrajith</i>	<i>October 16</i>
<i>.'21<sup>st</sup> century: Is it the century of biology?'</i>	<i>Dr. Gehan Jayasuriya</i>	<i>December 3</i>

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#### **EDEX Exhibition 2013**

YRF organized a stall at the exhibition, EDEX 2013, held on 29<sup>th</sup> and 30<sup>th</sup> June 2013 at the Kandy City Center (KCC). YRF members provided fruitful guidance for those interested in postgraduate careers and clarified queries from various subject areas. This opportunity was utilized to introduce the role of YRF as the official student society of the PGIS.

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### Eleven-A-Side Triangular Cricket Tournament

An 'Eleven-A-Side Triangular Cricket Tournament' was held in collaboration with the staff of the PGIS on October 16, 2013. At this event, the PGIS staff, YRF members and the academic staff of the Faculty of Science formed three teams. YRF members contributed to the success of this event.

### YRF Annual Trip to Horton Plains

A trip to Horton Plains was made on November 14, 2013 for fellowship among YRF members. Members witnessed the rare opportunity of one of the nature's wonders in Horton Plains, blooming of 'Nelu' (*Strobilanthes* sp.), which occurs once in 8-11 years. Horton plains nurture many other species of fauna and flora such as butterflies, lizards, mammals, reptiles and endemic plant species in the Montane Evergreen forests and Grasslands. The participants had a wonderful opportunity to be with nature.

### Launching the Official Website of YRF

This event was an important milestone in YRFs' pathway. The website was officially launched by Prof. Namal Priyantha, the Director of the PGIS on December 3, 2013. The website allows YRF members to maintain personal profiles, submit articles to YRF magazine and post their publication citations, etc. The official website can be visited via URL: <http://www.pgis.lk/yrf>. The official website has provided an e-space for all YRF members to share their ideas, carryout different activities and gather as a strong student union.

**Contact details:** E mail: [yrfpgis@gmail.com](mailto:yrfpgis@gmail.com); Website: <http://www.pgis.lk/yrf>

## PUBLIC LECTURES

<i>Title</i>	<i>Speaker and Affiliation</i>	<i>Date</i>
<i>What you can do with a degree in science</i>	<i>Dr. G Gunawardana Principal Research Investigator Analytical Research and Development, Array BioPharma Boulder, Colorado, U.S.A.</i>	<i>February 20, 2013</i>
<i>To explain or to predict?</i>	<i>Prof. Galit Shmueli SRITNE Chaired Professor of Data Analytics Indian School of Business, Hyderabad, India</i>	<i>February 23, 2013</i>
<i>Chromosome numbers and polyploidy in angiosperms: Prospects from studies of Nicotiana (Solanaceae)</i>	<i>Prof. M W Chase Director of the Jodrell Laboratory Royal Botanic Gardens, Kew. U.K.</i>	<i>March 5, 2013</i>
<i>Education and Training of Scientists</i>	<i>Prof. Yuan Tseh Lee Nobel Laureate in Chemistry (1986)</i>	<i>September 14, 2013</i>
<i>Venue: Chemistry Upper Theatre, Faculty of Science, University of Peradeniya</i>		

## NEW DIRECTOR OF THE PGIS



*Prof. H M D Namal Priyantha, Professor in Chemistry at the University of Peradeniya assumed duties on 25<sup>th</sup> March 2013 as the new Director of the PGIS.*

*The former Director, Prof. B S B Karunaratne, Professor in Physics, served the PGIS for five years from 18<sup>th</sup> August 2008 to 24<sup>th</sup> March 2013. His valuable contributions towards the progress of the PGIS during this period are very much appreciated.*



### PGIS ACTIVITIES IN FOCUS (continued from page 16)

#### MSc PROGRAMMES 2013/2014 – INAUGURAL SESSIONS



**Vice-Chancellor of University of Peradeniya, Director of PGIS, Dean of Faculty of Science, Chairpersons of Boards of Study of PGIS, Coordinators, Resource persons and students at the inauguration of the twelve M.Sc. programmes held on March 22, 2013.**



**Prof. H M D Namal Priyantha (Director, PGIS) addressing the participants at the inaugural session of two M.Sc. programmes held on September 28, 2013.**

## Opportunities for a higher degree of your choice ...

- ❖ **M.Sc. by course work (1 year)** – available for some programmes only
- ❖ **M.Sc. by course work and research (1.5 years)**
- ❖ **M.Sc. by research (2 years)** – available for some programmes only
- ❖ **M.Phil. by research (2 - 3 years)**
- ❖ **Ph.D. by research (3 - 4 years)**

**The Postgraduate Institute of Science (PGIS)** is a national institution attached to the University of Peradeniya, Sri Lanka. The PGIS offers postgraduate training in various specialities in science. The academic programmes of the PGIS are conducted through ten Boards of Study:

- **Biochemistry and Molecular Biology**
- **Chemical Sciences**
- **Earth Sciences**
- **Environmental Science**
- **Mathematics**
- **Physics**
- **Plant Sciences**
- **Science Education**
- **Statistics and Computer Science**
- **Zoological Sciences**

In addition to the M.Sc., M.Phil. and Ph.D. programmes the PGIS routinely conducts workshops, certificate courses and short-term training programmes, and offers consultancy services.

Academic staff members with postgraduate qualifications from world-recognized universities serve in the teaching staff of the PGIS. PGIS and the Faculty of Science provide excellent laboratory facilities to provide research training to students to face global challenges. Additionally, other science-based faculties of universities, research institutions and some industries also provide research training to PGIS students.

## M.Sc. DEGREE PROGRAMMES

At present, the PGIS offers M.Sc. degree programmes in the following specialized disciplines:

- **Analytical Chemistry**
- **Applied Epidemiology**
- **Applied Statistics**
- **Biodiversity, Ecotourism and Environment Management**
- **Clinical Biochemistry**
- **Computer Science**
- **Disaster Management**
- **Environmental Science**
- **Experimental Biotechnology**
- **Gemmology & Industrial Minerals**
- **GIS and Remote Sensing**
- **Industrial Mathematics**
- **Industrial Chemistry**
- **Medical Microbiology**
- **Medical Physics**
- **Nanoscience and Nanotechnology**
- **Physics of Materials**
- **Plant Science**
- **Postharvest Technology of Fruits and Vegetables**
- **Science Education**
- **Water Resources Management**

All M.Sc. programmes consist of two semesters of course work. Most M.Sc. programmes are conducted on Fridays and weekends. The minimum requirements for registration for an M.Sc. degree programme is a B.Sc. degree in the relevant discipline from a recognized university or any other equivalent qualification.

Interested applicants are requested to visit the PGIS website <http://www.pgis.lk> for course contents and other details.

## M.Phil./Ph.D. RESEARCH DEGREE PROGRAMMES

The PGIS offers postgraduate research degree programmes leading to the Degrees of Master of Philosophy (M.Phil.) and Doctor of Philosophy (Ph.D.). Candidates registered for these degrees are required to engage in a research project under the guidance of a supervisor. The minimum requirements for registration for an M.Phil. or Ph.D. degree is either an M.Sc. degree or a B.Sc. degree in the relevant area of study from a recognized university or any other equivalent qualification. Research programmes are available for M.Phil./Ph.D. candidates under different Boards of Study.

**Occasional studentships** are available for those who wish to follow courses of choice and use other facilities over short periods without being registered for a postgraduate degree programme.

The PGIS welcomes applications from prospective students for M.Phil./Ph.D. (full-time or part-time) programmes. Please see the PGIS home page (<http://www.pgis.lk>) for more details and application forms.

## INQUIRIES

Director  
Postgraduate Institute of Science (PGIS)  
P.O. Box 25, Peradeniya  
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Home Page: <http://www.pgis.lk>