



# PGIS News

Volume 13, 2012, Nos. 1 - 4

Printed in March 2013

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

ISSN 1391 - 5754

## CONFERENCE ON HERPETOLOGICAL CONSERVATION AND BIOLOGY



Prof. Atula Senaratne (Vice-Chancellor, University of Peradeniya) lighting the traditional oil lamp during the inauguration of the Conference on Herpetological Conservation and Biology held at the PGIS from 28<sup>th</sup> to 29<sup>th</sup> November 2012. Prof. S H P P Karunaratne (Dean, Faculty of Science) and Mr. Kelum Manamendra-arachchi (Postgraduate Institute of Archaeology) are also in the picture.

## SHORT COURSE ON RESEARCH DESIGN FOR FIELD BIOLOGISTS



Participants of the Short Course on Research Design for Field Biologists held at the PGIS from 29<sup>th</sup> June - 3<sup>rd</sup> July 2012.

Resource Persons of the short course were Prof. Kathryn Sieving (2<sup>nd</sup> row: 5<sup>th</sup> from left) and Ms. Fangyuan Hua (1<sup>st</sup> row: 5<sup>th</sup> from left) from Department of Wildlife Ecology and Conservation, University of Florida, USA and Dr. Nilmini Jayasena (2<sup>nd</sup> row: 4<sup>th</sup> from left) from Department of Basic Veterinary Sciences, University of Peradeniya, who was also the coordinator of the short course.

## INTERNATIONAL SYMPOSIUM ON WATER QUALITY AND HUMAN HEALTH



Prof. B S B Karunaratne (Director, PGIS) addressing the inaugural session of the symposium held from 22<sup>nd</sup> to 23<sup>rd</sup> March 2012. Seated (L to R): Dr. S K Yatigammana (Chairperson, Board of Study in Zoological Sciences and Symposium Coordinator), Prof. Tomonori Kawakami (Chairman, Department of Environmental Engineering, Toyama Prefectural University, Japan), Prof. S R Kodituwakku (Acting Dean, Faculty of Science) and Prof. H M D N Priyantha (Chairman, Board of Study in Environmental Science).

## FACULTY DEVELOPMENT WORKSHOP FOR TEACHING STAFF OF DISASTER MANAGEMENT MSc PROGRAMME



Participants of the Faculty Development Workshop held at the Earl's Regency Hotel, Kandy from 22<sup>nd</sup> to 24<sup>th</sup> December 2012. Prof. B S B Karunaratne (Director, PGIS), Dr. Jagath Gunatilaka (Workshop Coordinator), and members of a delegation from Chiang Mai University, Thailand - Mr. N M S I Arambepola [Director, Asian Disaster Preparedness Centre (ADPC), Thailand], Mr. Sisira Kumara (ADPC), Miss Mutarika Pruksapong (ADPC) and Dr. Buddhi Weerasinghe (ADPC) are also in the picture.



**Postgraduate Institute of Science  
(PGIS)**

University of Peradeniya  
P.O. Box 25, Peradeniya 20400  
Sri Lanka

**Website: [www.pgis.lk](http://www.pgis.lk)**

**Director**

Prof. B S B Karunaratne  
081-2387218; 081-2394781  
e-mail: [director@pgis.lk](mailto:director@pgis.lk)

**Senior Assistant Registrar**

Mrs. W M D P Madawala Hulugalla  
081-2387542; 081-2394782  
e-mail: [sar@pgis.lk](mailto:sar@pgis.lk)

**Senior Assistant Bursar**

Mr. W M M S Mahesh Iddawela  
081-2389027; 081-2394783  
e-mail: [sab@pgis.lk](mailto:sab@pgis.lk)

**PGIS Office**

081-2385660; 081-2394788 / 2394796  
Fax: 081-2389026 (Local)  
+94-81-2389026 (International)

*Printed at*

**CONTENTS**

<i>Symposia, Conferences, Workshops and Short Courses</i>	3
<i>M.Sc. Degree Programmes 2012/2013</i>	4
<i>Postgraduate Diploma Programmes 2012/2013</i>	5
<i>Ph.D. and M.Phil. Degrees Awarded</i>	5
<i>PGIS Activities in Focus</i>	7
<i>M.Sc. Degrees Awarded</i>	10
<i>Postgraduate Diplomas Awarded</i>	13
<i>Public Lectures</i>	14
<i>NSF Research Awards</i>	15
<i>Forthcoming Events</i>	15

**PGIS News**

**Editorial Board**

Prof. B S B Karunaratne (Chairman)  
Prof. K Dahanayake  
Prof. N S Kumar  
Prof. J P Edirisinghe  
Dr. A A S Perera  
Dr. N C Bandara (Editor)

Comments, suggestions and contributions to improve the quality of this newsletter are invited. For information and requests for copies of *PGIS News* please contact:

*Dr. N C Bandara (Editor)*  
*Phone: +94-81-2385669 ; Fax: +94-81-2389026*  
*E-mail: [ncbandara@pgis.lk](mailto:ncbandara@pgis.lk)*

---

---

ERROR

## SYMPOSIA, CONFERENCES, WORKSHOPS AND SHORT COURSES

Event	Coordinator(s) (Board of Study)	Date(s)	No. of Participants
42 <sup>nd</sup> Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	Jan. 16 - 21	26
10 <sup>th</sup> Advanced Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	Feb. 6 - 11	16
43 <sup>rd</sup> Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	Feb. 13 - 18	25
Training Programme for Elephant Keepers in Pinnawala <i>Organized in collaboration with the National Zoological Gardens</i>	Dr. Ashoka Dangolla (Zoological Sciences)	March 19 – April 20	40
44 <sup>th</sup> Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	March 19 - 24	21
International Symposium on Water Quality and Human Health <i>Organized in collaboration with the Toyama Prefectural University, Japan and UGC, Sri Lanka</i>	Dr. S K Yatigammana (Environmental Science and Zoological Sciences)	March 22 - 23	141
Postgraduate Certificate Course in Advanced Organic Chemistry	Prof. U L B Jayasinghe (Chemical Sciences)	March 24 – March 2013	14
45 <sup>th</sup> Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	April 23 - 28	23
11 <sup>th</sup> Advanced Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	May 14 - 19	11
46 <sup>th</sup> Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	May 28 - June 2	23
Workshop on Linear Accelerator for Medical Physicists and Medical Physics M.Sc. Students  (Venue – National Cancer Hospital, Maharagama)	Dr. V Sivakumar Mr. A D Kumar (Physics)	June 3	25
Short Course on Research Design for Field Biologists <i>Organized in collaboration with the Department of Wildlife Ecology and Conservation, University of Florida, USA</i>	Dr. N Jayasena (Zoological Sciences)	June 29 - July 3	26
Workshop on 'How to write a research proposal for M.Phil./Ph.D. studies at PGIS' <i>Organized in collaboration with the International Research Center, University of Peradeniya</i>	Dr. Nanda Gunawardhana	July 17	102

12 <sup>th</sup> Advanced Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	Aug. 13 - 18	30
47 <sup>th</sup> Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	Sep. 10 - 15	12
Workshop on 'Curriculum Revision of the M.Sc. Programme in Disaster Management - Past and Present Students'	Dr. Jagath Gunatilake Prof. B S B Karunaratne Prof. K D W Nandalal (Earth Sciences)	Nov. 17	26
Workshop on 'Curriculum Revision of the M.Sc. Programme in Disaster Management - Teaching Staff and Stakeholders'	(Earth Sciences)	Nov. 18	27
<i>Organized in collaboration with the ADPC, Thailand</i>			
48 <sup>th</sup> Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	Nov. 19 - 24	24
Conference on Herpetological Conservation & Biology	Dr. R S Rajakaruna Dr. M Meegaskumbura Dr. A Dangolla Dr. R Somaweera Mr. T Kapurusinghe (Zoological Sciences)	Nov. 28 - 29	41
<i>Organized in collaboration with the NSF and International Research Centre, University of Peradeniya</i>			
13 <sup>th</sup> Advanced Short Course on GIS and Applications	Dr. Jagath Gunatilake (Earth Sciences)	Dec. 10 - 15	9
Faculty Development Workshop for Teaching Staff of Disaster Management MSc programme	Dr. Jagath Gunatilake (Earth Sciences)	Dec. 22 -24	18
<i>Organized in collaboration with the ADPC and Chiang Mai University, Thailand, and Tulane University, USA</i>			

### **M.Sc. DEGREE PROGRAMMES 2012/2013**

<b>M.Sc. Programme</b> (Date of Commencement)	<b>Board of Study</b>	<b>Coordinator(s)</b>	<b>No. of Students</b>
<b>Science Education</b> (January 23)	Science Education	Dr. S Karunaratne (Science Education Unit, UPDN) Dr. W A I P Karunaratne (Dept. of Zoology, UPDN) Dr. C V Hettiarachchi (Dept. of Chemistry, UPDN) Dr. D M Samarathunga (Department of Mathematics) Dr. J P Liyanage (Dept. of Physics, UPDN)	18
<b>Medical Physics</b> (April 5)	Physics	Dr. V Sivakumar (Dept. of Physics, UPDN) Mr. A Dilip Kumara (Cancer Unit, Teaching Hospital, Karapitiya)	13

<b>Applied Epidemiology</b> (July 21)	Zoological Sciences	Dr. S K Yatigammana (Dept. of Zoology, UPDN) Dr. S Kumburegama (Dept. of Zoology, UPDN)	28
<b>Medical Microbiology</b> (November 2)	Plant Sciences	Dr. C L Abayasekara (Dept. of Botany, UPDN) Prof. V Thevanesam (Dept. of Microbiology, UPDN)	13

UPDN - University of Peradeniya

## **POSTGRADUATE DIPLOMA PROGRAMMES 2012/2013**

<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> (January 21)	Science Education	Prof. S Karunaratne (Science Education Unit, UPDN)	22

UPDN - University of Peradeniya

## **Ph.D. and M.Phil. DEGREES AWARDED in 2012**

### *Awardees*

### *Titles of Theses*

#### **Ph.D. – Chemical Sciences**

1. L L W C Yalegama      Characterization and nutritional effect of cell wall polysaccharides from coconut kernel  
(Supervisors: Prof. D N Karunaratne, Prof. R Sivakanesan and Dr. (Ms.) C Jayasekera)

#### **Ph.D. – Zoology**

1. E M L Ekanayake      Nesting behaviour, reproductive output, genetic structure and nest paternity of the green turtle nesting at Kosgoda rookery in Sri Lanka  
(Supervisors: Dr. R S Rajakaruna, Dr. P Samaraweera and Prof. K B Ranawana)

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

1. N H N Priyanwada      Effect of inclusion of *Setaria italica* (L.) P. Beauv seeds in ruminant feed on the level of *cis-9,trans-11* isomer of conjugated linoleic acid content in goat milk  
(Supervisors: Dr. W M A P Wanigasekara and Prof. H R W Dharmaratne)

---

---

### ***M.Phil. – Chemical Sciences***

1. A M A Bandaranayake      Mechanistic investigation of interaction of chromium species and thermally-treated brick clay  
(Supervisor: Prof. Namal Priyantha)
2. R M A U Rajapaksha      Natural dissolution mechanisms of serpentinite soils from Sri Lanka: leaching of chromium, nickel and manganese to the environment  
(Supervisors: Dr. M Vithanage, Prof. S V R Weerasooriya and Dr. W M A T Bandara)
3. A R N M Abeyrathna      Synthesis of glycolipids for use as liquid crystals and surfactants  
(Supervisors: Prof. A D L C Perera and Prof. D N Karunaratne)
4. A M D S Chandrathilaka      Equilibrium studies on toxic metal ion-mixed ligand systems under physiological conditions  
(Supervisor: Dr. C V Hettiarachchi)
5. S G Anuradha      Development of dye-sensitized solar cells using Atomized Spray Pyrolysis technique  
(Supervisors: Prof. R M G Rajapakse, Prof. H M N Bandara and Dr. G R A Kumara)
6. W W Kumbukgolla      Tea catechins: Antibacterial activity against methicillin-resistant *Staphylococcus aureus* (MRSA) and enhancement of sensitivity of MRSA to oxacillin  
(Supervisors: Prof. B M R Bandara, Prof. V Thevanesam and Prof. N S Kumar)

### ***M.Phil. – Mathematics***

1. T D A Gomesz      A binary-integer programming method for optimal control of water distribution systems  
(Supervisor: Prof. W B Daundasekara)

### ***M.Phil. – Plant Sciences***

1. P N Yapa      Impacts of soil biological and chemical properties on forest dieback at Horton Plains National Park, Sri Lanka: influence of arbuscular mycorrhizal fungi on the growth of *Syzygium rotundifolium* Arn.  
(Supervisors: Dr. H M S P Madawala and Dr. T C Bamunuarachchige)

### ***M.Phil. – Zoology***

1. T C Weeraratne      Effective control of dengue fever vectors: *Aedes aegypti* and *Ae. albopictus* in Sri Lanka  
(Supervisor: Prof. S H P P Karunaratne)

## PGIS ACTIVITIES IN FOCUS

### 42<sup>ND</sup> to 48<sup>TH</sup> SHORT COURSES ON GIS & APPLICATIONS



Participants of the 42<sup>nd</sup> Short Course (Jan. 16 - 21) during a technical session



Participants of the 43<sup>rd</sup> Short Course (Feb. 13 - 18)



Participants of the 45<sup>th</sup> Short Course (April 23 - 28) at a field class



Participants of the 48<sup>th</sup> Short Course (November 19 - 24) during a technical session



### 10<sup>TH</sup> to 13<sup>TH</sup> ADVANCED SHORT COURSES ON GIS AND APPLICATIONS



Participants of the 11<sup>th</sup> Short Course (May 14 - 19)



Participants of the 13<sup>th</sup> Short Course (December 10 - 15)

---

---

## **INTERNATIONAL SYMPOSIUM ON WATER QUALITY AND HUMAN HEALTH**



**Left:** Prof. Tomonori Kawakami (Chairman, Department of Environmental Engineering, Toyama Prefectural University, Japan) addressing the inaugural session of the symposium held from 22<sup>nd</sup> to 23<sup>rd</sup> March 2012. Seated (L to R): Dr. S K Yatigammana (Chairperson, Board of Study in Zoological Sciences and Symposium Coordinator), Prof. B S B Karunaratne (Director, PGIS), Prof. S R Kodituwakku (Acting Dean, Faculty of Science) and Prof. H M D N Priyantha (Chairman, Board of Study in Environmental Science).  
**Right:** Participants of the symposium

## **SHORT COURSE ON RESEARCH DESIGN FOR FIELD BIOLOGISTS**



**Left:** Participants at a technical session of the Short Course on Research Design for Field Biologists held from 29<sup>th</sup> June to 3<sup>rd</sup> July 2012 at the PGIS. **Right:** Short course participants at a field session.

## **WORKSHOP ON “HOW TO WRITE A RESEARCH PROPOSAL FOR M.Phil./Ph.D. STUDIES AT PGIS”**



Participants at a technical session of the workshop held on July 17, 2012

## **SEMINAR ON “SCIENCE ..... IN THE REPAIR OF HUMAN TISSUE”**



Prof. Kunlee Oloyede (Queensland University of Technology, Australia) delivering his presentation on ‘Science, Technology, Engineering and Mathematics in the Repair of Human Tissue’.

---

---

**WORKSHOPS ON “CURRICULUM REVISION OF THE M.Sc. PROGRAMME IN DISASTER MANAGEMENT”**



Participants at technical sessions of the two workshops on ‘Curriculum revision of the M.Sc. programme in Disaster Management’, held on November 17 and November 18, respectively.

**CONFERENCE ON HERPETOLOGICAL CONSERVATION AND BIOLOGY**



Prof. B M R Bandara (Acting Director, PGIS) addressing the inaugural session of the conference held from 28<sup>th</sup> to 29<sup>th</sup> November 2012. Seated (L to R): Dr. Rupika Rajakaruna (Chairperson, Board of Study in Zoological Sciences and Conference Coordinator), Prof. Athula Senaratne (Vice-Chancellor, University of Peradeniya), Mr. Kelum Manamendra-arachchi (Research Associate, Postgraduate Institute of Archaeology), Prof. S H P P Karunaratne (Dean, Faculty of Science) and Dr. M Meegaskumbura (Conference Co-coordinator).

**FACULTY DEVELOPMENT WORKSHOP FOR TEACHING STAFF OF DISASTER MANAGEMENT MSc PROGRAMME**



Workshop participants attending a technical session at the Earl’s Regency Hotel, Kandy.



Participants having a discussion at Gerandi Ella active landslide site, on their way to Nuwara Eliya field site.

---

---

## **M.Sc. DEGREES AWARDED IN 2012**

### *Awardees*

### *Titles of Project Reports*

#### **M.Sc. – Analytical Chemistry**

1. R M D N Rathnayake Solvent effect for extraction of Aflatoxin B<sub>1</sub> from animal feed
2. H W G Nimali Determination of mercury content in marine fish marketed in Sri Lanka
3. B W M G C Bandara Removal of cadmium by thermally and chemically modified peat

#### **M.Sc. – Applied Statistics**

1. S R Gnanapragasam Statistical modeling of topographic elevation using shuttle radar topographic mission digital elevation data
2. R M C K Siriwardhana Modeling Sri Lanka monsoonal rainfalls with sunspot numbers using transfer function noise model
3. T D S N Jayasena Analysis of paired incidence scores with clustering
4. M B M D S Gawarammana Statistical analysis of factors influencing respiratory health of school children in Kandy
5. M Marystella Epidemiological risk factors of chronic kidney disease of unknown origin in Sri Lanka: a case control study
6. A P K G S Samarasekara Modelling spatiotemporal variables through data-driven approximated forms
7. P L N S Sumathipala Joint distribution of the water levels of Kotte canal and Kelani river using copulas

#### **M.Sc. – Biodiversity Ecotourism and Environment Management**

1. W A Dharmakeerthi Mortality patterns in wild elephants in Sri Lanka
2. A M G G L K B Abeykoon Conservation importance of semi-evergreen seasonal forests of Galamuduna area in the Knuckles region
3. W A W P Wijayalath Population, environmental and climatic factors on dengue distribution in Colombo district

#### **M.Sc. – Clinical Biochemistry**

1. V P Gunaratne Histopathological effects of crude venom and purified phospholipase A<sub>2</sub> from Russell's Viper (*Daboia russelii russelii*) in mice
2. D B G M Ekanayake Studies on clinically suspected dengue patients using RT-PCR and blood parameters
3. D S Senavirathna Establishing hematological reference ranges using a selected population of blood donors
4. S N N B W M K K Jayasundera Prevalence of bacterial meningitis among children admitted to the Teaching Hospital, Kurunegala

- 
- 
- |    |                      |  |
|----|----------------------|--|
| 5. | W M A U B Bowatte    | Relation of maternal haemoglobin and serum protein concentrations to birth weight of newborn: a case study in Mannar district  |
| 6. | D M S N B Dasanayake | Clinical significance and diagnostic value of urinary protein analysis of chronic kidney disease patients by sodium dodecyl sulfate polyacrylamide gel electrophoresis |
| 7. | B D S Jayawardana    | Protease inhibitors in <i>Sesbania grandiflora</i> and <i>Terminalia catappa</i>   |

### **M.Sc. – Computer Science**

- |     |                           |   |
|-----|---------------------------|---|
| 1.  | V Surendranathan          | Development of a distributed collaborative student group project management system                |
| 2.  | J P R R S Jayaweera       | Subscriber management system for customizable customer relation management                        |
| 3.  | M Inthirapalah            | Development of a student information management system for schools                                |
| 4.  | A P Hettiarachchi         | Content based image retrieval system by clustering  |
| 5.  | M A Lokuge                | Database administration via short message service   |
| 6.  | K W D M Chandrasiri       | Classification of brain computer interface data using formant analysis                            |
| 7.  | N H Zainudeen             | Utilization of game theory in computer security as applied to intrusion detection systems         |
| 8.  | E R G V S Kulatunga       | 3D Reconstruction tool for CT (or similar) scanned images   |
| 9.  | R R M P Ranaweera         | Source code generator to invoke Apache AXIS2 web services   |
| 10. | R C Warusavithana         | A Supporting tool for teaching data structures and algorithms                                     |
| 11. | P L N Perera              | Development of a secure e-voting system for election  |
| 12. | B M N Bandara             | Evaluation of communication technologies for smart grid applications                              |
| 13. | E W M G W S G B Ekanayake | Performance evaluation and comparison of Java RMI and RMI-IIOP                                    |
| 14. | S Sivatan                 | Development of an online examination system   |
| 15. | S A S S Subasinghe        | Platform migration project for Bio Foods (Pvt.) Ltd.  |
| 16. | R M S U Gunathilake       | Implement a model to reserve mobile numbers in an efficient manner for a Telecom service provider |
| 17. | D P H R De Silva          | Offline Sinhala handwritten character recognition using matrix matching method                    |

### **M.Sc. – Disaster Management**

- |    |                        |  |
|----|------------------------|--|
| 1. | K P S A Amarkoon       | Socio-economic and cultural consequences of internal displacement  |
| 2. | M P N Kumara           | Developing grass root level multi hazard contingency and disaster response plan for Biyagama area                        |
| 3. | H M A G B Thilakeratne | Geochemical etiology of Chronic Kidney Disease unidentified (CKDu): a case study from Mahamailankulam, Vavuniya          |
| 4. | Y B M Asmi             | Community perception of natural hazards and vulnerability: a case study from the south eastern coastal belt of Sri Lanka |

### **M.Sc. – Environmental Science**

- |    |                     |  |
|----|---------------------|--|
| 1. | A A I K Amarasinghe | Evaluation of groundwater quality and soil pollution in urban solid waste dump site, Kegalle |
|----|---------------------|--|

---

---

### **M.Sc. – Experimental Biotechnology**

1. J S Abeynayaka Serological detection of antibodies to human *Rickettsia and Toxoplasma gondii* in backyard poultry in Kanthale divisional secretariat
2. S A Wickramage Detection of Marek's Disease virus in poultry using a Polymerase Chain Reaction based molecular diagnostic assay
3. K H P Manoshi Identification of the SSR marker RM261 for Brown Plant Hopper resistant gene *Bph12(t)* in *Oryza officinalis* line IR 54751-2-34-10-6-2 and its validations

### **M.Sc. – GIS & RS**

1. S Yoharajan Prioritization of community development activities: GIS as a tool

### **M.Sc. – Industrial Chemistry**

1. E A I N Egodawatta Application of hydrocyclone in industrial wastewater treatment
2. E D B P Wijayarathna Preparation of an adherent hydroxyapatite layer on stainless steel for orthopedic applications
3. B M S H Bandaranayake Controlling odour in tobacco processing

### **M.Sc. – Industrial Mathematics**

1. S Suthan Application to optimization under uncertainty
2. R H M N Rajakaruna Comparison of minimum spanning tree algorithms for a telecommunication network

### **M.Sc. – Nanoscience & Nanotechnology**

1. W M P M B Weerasekara Surface modification of iron oxide nanoparticles by casein
2. S B Y Abeywardana Modeling of arsenic adsorption on gibbsite nanoparticles
3. E A D M Athukorala Study of ionic conductivity of poly(ethylene oxide) [peo] based polymer electrolytes with fillers
4. M M C S K Ranasinghe Preparation and characterization of ferrite nanoparticles
5. S M M L Karunarathne Zinc oxide-based dye-sensitized solar cells
6. R Jayathissa Mixed cation effect in enhancing the efficiency of dye sensitized solar cells based on poly(methyl methacrylate) [PMMA] and nanoporous titanium dioxide (TiO<sub>2</sub>)

### **M.Sc. – Science Education**

1. R M C K Rajaguru Barriers of teachers in using student-centred approach to teach seventh grade science
2. J H R Samanthi Performance of G.C.E. (Advanced Level) Physical Science students on the concept of functions
3. R M A Pushpika Computer aided study package for effective teaching of the Unit 2 - Biodiversity in G.C.E. (Advanced Level) biology syllabus

- |    |                           |   |
|----|---------------------------|---|
| 4. | J M B G D B<br>Jayasinghe | Problems faced by students and teachers in learning and teaching agriculture in G.C.E. (Advanced Level) in Kandy and Nuwara Eliya districts in the Central Province |
| 5. | H K D L Dharmadasa        | Effectiveness of 5E instructional method in teaching and learning agriculture and food technology, G.C.E. (Ordinary Level)  |
| 6. | W C P Wanniarachchi       | Teaching force, pressure, work and energy concepts for eighth graders using Problem-Based Learning (PBL) approach   |

### **M.Sc. – Water Resource Management**

- |    |               |  |
|----|---------------|--|
| 1. | E L S Nilmini | Assessment of temporal variation of water quality in Boralessgamuwa lake |
|----|---------------|--|

## **POSTGRADUATE DIPLOMAS AWARDED IN 2012**

### **Analytical Chemistry**

1. W N De Alwis
2. J D Kotinkaduwa

### **Applied Statistics**

1. G W Banda
2. V C T Gunaratna
3. M M Aboobucker
4. E D T Somarathne

### **Clinical Biochemistry**

1. K N Amarasinghe

### **Computer Science**

1. R Karunakaran
2. K D N Sanjeewa
3. M Ramaneetharan
4. W M S Ranasinghe

### **Disaster Management**

1. R S W Abeywardena
2. A Athambawa
3. D R Gunarathne
4. A M J D K Mudalige
5. K G R V Pathirathna

### **Engineering Geology and Hydrogeology**

1. E M K B Ekanayaka
2. I A V P Iddamalgodra

### **Experimental Biotechnology**

1. A C Selvadurai

### **GIS & RS**

1. K B Manathunga
2. M B B D Dampegama
3. C J Gamage

### **Industrial Chemistry**

1. K A L Sandayani
2. C S Godagama
3. S Mohanaram
4. P R P S Nandika

### **Industrial Mathematics**

1. T K Tennakoon

### **Information Technology**

1. M F M Abdullah
2. J S R S Gunasekara
3. S M Haleem
4. A D K Rajapakse
5. M Z M Zaheer
6. C S Rankothge
7. M T M A Sajah
8. K V Siriwardena
9. S Umarasidevi

---

---

## Science Education

1. D I Abeywickrma
2. W R M A G P Abhayarathne
3. A M S T Athauda
4. P H Dhammika
5. W M P Dilrukshika
6. D M I Dissanayake
7. P B Egodawatta
8. D R B Ekanayaka
9. C J Ikiriwatta
10. H R C Jayamini
11. S M T Kumari
12. G R M K K Rathnayaka
13. N S P Samanraja
14. N T Samarappuli
15. K Santhirakumar
16. K R W M V K Udawela
17. W M D I Wanasooriya
18. M N Z Zahra
19. V S Samarawickrama
20. M K K Weerawansa

## PUBLIC LECTURES

<i>Title</i>	<i>Speaker and Affiliation</i>	<i>Date</i>
<i>'Epidemiology and Control of Mango Malformation Disease'</i>	<i>Dr. Stanley Freeman Department of Plant Pathology and Weed Research Agriculture Research Organization, The Volcani Center, Bet Dagan, ISRAEL</i>	<i>February 24</i>
<i>'Biological Control of Eucalyptus Gall Wasps'</i>	<i>Prof. Zvi Mendel Department of Entomology Agriculture Research Organization, The Volcani Center, Bet Dagan, ISRAEL</i>	<i>February 24</i>
<i>Science, Technology, Engineering and Mathematics in the Repair of Human Tissue</i>	<i>Prof. Kunlee Oloyede School of Engineering Systems Queensland University of Technology Australia</i>	<i>July 17</i>
<i>'Quorum Sensing in Microbial Biofilms'</i>	<i>Dr. Nihal Bandara Research Fellow, College of Pharmacy University of Texas at Austin, Austin, Texas, U.S.A.</i>	<i>October 26</i>

---

---

## NSF RESEARCH AWARD 2011

### The National Science Foundation (NSF) Research Award in Basic Sciences-2011

**Awardees:** Prof. H.M.D. Namal Priyantha and Prof. Ayanthi N. Navaratne for the project on ‘*Investigation of environmental fate of some selected pesticides using electrochemical methods*’.

## NSF RESEARCH AWARD 2012

### The National Science Foundation (NSF) Research Award in Basic Sciences-2012

**Awardees:** Prof. R M G Rajapakse, Prof. B S B Karunaratne, Prof. D T B Tennakoon, Prof. H M N Bandara and Prof. B M R Bandara for the project on ‘*Clay-polymer Nanocomposites: Investigation of their electrical, mechanical, thermal and green-catalytic properties for industrial and technological applications*’.

## FORTHCOMING EVENTS IN 2013

- *M.Sc. programmes to be commenced in March 2013:* ..... March 22
  - M.Sc. in Analytical Chemistry*
  - M.Sc. in Applied Statistics*
  - M.Sc. in Clinical Biochemistry*
  - M.Sc. in Computer Science*
  - M.Sc. in Disaster Management\**
  - \*Conducted jointly with the Faculty of Engineering, University of Peradeniya*
  - M.Sc. in Engineering Geology and Hydrogeology*
  - M.Sc. in Environmental Science*
  - M.Sc. in Experimental Biotechnology*
  - M.Sc. in GIS and Remote Sensing*
  - M.Sc. in Industrial Chemistry*
  - M.Sc. in Industrial Mathematics*
  - M.Sc. in Nanoscience and Nanotechnology*
- *Postgraduate Diploma programmes to be commenced in March 2013:* ..... March 22
  - Postgraduate Diploma in IT*
  - Postgraduate Diploma in Science Education*
- *51<sup>st</sup> Short Course on GIS & Applications* ..... April 1 - 6
- *2<sup>nd</sup> Short course on Data Analysis using R and R-Studio* ..... April 18 - 19
- *Workshop on Geospatial Modeling for Disaster Management* ..... April 22 - 25
- *14<sup>th</sup> Advanced Short Course on GIS and Applications* ..... April 22 - 27
- *Short Course on Disaster Management* ..... April 26 - 28
- *Workshop on Forests for the Future: REDD and REDD+* ..... May 3
- *15<sup>th</sup> Advanced Short Course on GIS and Applications* ..... May 13 - 18
- *52<sup>nd</sup> Short Course on GIS & Applications* ..... June 3 - 8
- *53<sup>rd</sup> Short Course on GIS & Applications* ..... June 17 - 22

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

❖ **M.Sc. by course work and research (18 months)**

❖ **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 Mol. Biology*
- *Chemical Sciences*
- *Earth Sciences*
- *Environmental Science*
- *Mathematics*

- *Physics*
- *Plant Sciences*
- *Science Education*
- *Statistics and Computer Sc.*
- *Zoological Sciences*

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

Academic staff members with postgraduate qualifications from some of the best universities in the world serve in the teaching staff of the PGIS. The excellent research facilities available at the Faculty of Science and other science - based Faculties of the University of Peradeniya and research institutions in the country are being used to provide research training to students. The Postgraduate Institute of Science (PGIS) and the Faculty of Science are internationally known for scientific research.

### 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 & Environment Management*
- *Clinical Biochemistry*
- *Computer Science*
- *Disaster Management*
- *Environmental Science*
- *Experimental Biotechnology*
- *Gemmology & Industrial Minerals*
- *GIS & Remote Sensing*
- *Industrial Mathematics*
- *Industrial Chemistry*
- *Medical Microbiology*
- *Medical Physics*
- *Nanoscience & Nanotechnology*
- *Physics of Materials*
- *Plant Science*
- *Postharvest Tech. of Fruits and Vegetables*
- *Science Education*
- *Water Resources Management*

The M.Sc. programmes consist of two semesters of course work and a research project of 3-6 months duration. 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 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  
Sri Lanka

Tel: 081 2387218  
Fax: 081 2389026  
E-mail: [director@pgis.lk](mailto:director@pgis.lk)  
Home Page: <http://www.pgis.lk>