

# IPSL - Newsletter

December – 2013

The News Letter of the Institute of Physics, Sri Lanka

Volume 7, Issue 1

## INSTITUTE OF PHYSICS, SRI LANKA (IPSL)

Vidya Mandiraya, 120/10, Wijerama Mawatha, Colombo 7, Sri Lanka.

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## Information for members



### *Physics and Astronomy Olympiad Awards Ceremony - 2013*

*Olympiads Awards Ceremony-2013 of the IPSL was held on 01<sup>st</sup> November 2013 at King George Hall, Faculty of Science, University of Colombo. The Chief Guest of this annual event was the Chair and Senior Professor of Physics, former Vice Chancellor of Sabaragamuwa University of Sri Lanka, Professor I K Perera. The Gold, Silver and Bronze medals were awarded for those who had excelled in– the 9<sup>th</sup> Sri Lankan Physics Olympiad Competition, 7<sup>th</sup> Sri Lankan Astronomy and Astrophysics Olympiad Competition and 3<sup>rd</sup> Sri Lankan Junior Astronomy Olympiad Competitions.*

*The Vice-chancellor of the University of Colombo Dr. W.K. Hirimburegama, the Dean of the faculty of Science Prof. T.R. Ariyaratne were also present at this occasion.*

*This event was generously sponsored by Dialog Axiata PLC, Motorola Solutions Lanka (Pvt) Limited, Achievers Lanka Business School (Pvt) Ltd, Russian Education Centre, Rotary Hall and CINEC Maritime Campus.*

## 33<sup>rd</sup> Annual General Meeting

The 33<sup>rd</sup> Annual general meeting of the Institute of Physics Sri Lanka was held on 31<sup>th</sup> March, 2013 at the Board Room of Faculty of Science in the University of Kelaniya. New office bearers and the members of the Council were unanimously elected for the year 2013/2014.

Prof. D.D.N.B. Daya was elected as the President. He specially thanked the outgoing president Professor S.R.D. Kalingamudali for the dedicated service rendered to the Institute during his tenure. He also thanked the joint secretaries and the treasurer for their untiring service and all the council members for extending their fullest support in all the activities conducted by the Institute of Physics Sri Lanka. He appreciated the dedicated work done by the Olympiad Coordinators to uplift the image of IPSL nationally and internationally.

At last the president sought dedicated support from the new office bearers of the council to carryout the IPSL activities successfully in the current year.

## Papers Presented at the 29th Technical session

The 29<sup>th</sup> technical session of the Institute of Physics Sri Lanka was also held on 31<sup>st</sup> March, 2013 at the Board Room of the Faculty of Science in the University of Kelaniya and following papers were presented at the sessions.

The outgoing president, Prof. S R D Kalingamudali delivered the presidential address on “Acoustic Charge Transfer Devices” during the technical sessions.

1. Simplified Way of Producing Quality Sinhala Concatenative Text To Speech for Embedded Systems  
*Dammika Prasad Wijethunga, Asiri Nanayakkara and Janaka Wijayakulasooriya*
2. Classification of Rice Grains Using Neural Networks  
*Chathurika Sewwandi Silva and Upul Sonnadara*
3. Luminosity Variation during Propagation of Lightning Channels  
*S P Amila Vayanganie, Mahendra Fernando and Upul Sonnadara*
4. Quasi-solid state dye sensitized solar cells constructed using PEDOT:PSS as the hole conductor  
*C H Manathunga and V P S Perera*
5. Digital Wind Speed and Angle Measuring System  
*H M P C Jayaweera and N W K Jayatissa*
6. Acoustic Charge Transfer Devices (Presidential Address)  
*S R D Kalingamudali*
7. A Theoretical Study of Electronic Energy States in Semiconducting Nano Particles  
*J A D Jayalalani, P S Hewageegana, W P Siripala*
8. Investigation of light intensity of Single Bubble Sonoluminescence (SBSL) in water and Fluorescein Sodium Solution  
*Prabhath Herath and Asiri Nanayakkara*
9. Radio Frequency Based Street Light Management System  
*M S M Aroos, R Weerasinghe, A S Pannila and G D Illeperuma*
10. Incompatibility of General Relativity with Quantum Mechanics  
*M Shameer Abdeen and L N K de Silva*
11. Wind Field Analysis using Optical Flow  
*Nuwanthika Fernando and Upul Sonnadara*
12. Determination of maximum gas pressure of collapsing bubbles in Single Bubble Sonoluminescence in sulfuric acid  
*Sanjeewa Karunawansa and Asiri Nanayakkara*
13. GPS Assisted Traffic Alerting and Road Congestion Reduction Mechanism.  
*Y H P P Priyadarshana, K K A Nipuni, N Perera, V Karthik, R Jayaseelan, A R K Abhayawardhana, H A K Sandamali, Lo-chandaka Ranathunga and W M Ruvini M Weerasinghe*
14. Development of a Prototype Automated Self-Adjusting Light for an Operation Theatre  
*R M C N Premarathna, D D N B Daya and T Kahaduwa*

## New Council



### Institute of Physics, Sri Lanka Council 2013 / 2014



**Seated Row (L-R) :** Mr. R.C.L. De-Silva (Co-Editor), Mr. N.W.K. Jayatissa (Assistant Treasurer), Dr. H.H. Sumathipala (Treasurer), Prof. K.P. Widanapathirana (Joint Secretary), Prof. L.B.D.R.P. Wijesundere (Vice-President), Prof. D.D.N.B. Daya (President), Prof. S.R.D. Kalingamudali (Immediate Past President), Prof. K.P.S.C. Jayaratne (Vice-President), Dr. (Ms) H.O. Wijewardane (Joint Secretary), Dr. V.P.S. Perera (Co-Editor).

**Standing 1st Row (L-R):** Mr. A.S. Pannila (Council Member), Mr. G.H. Asoka (Council Member), Prof. K.D. Jayasuriya (Council Member), Prof. D.U.J. Sonnadara (Council Member), Dr. N.G.S. Shantha (Council Member), Mr. S.G. Punchihewa (Council Member), Dr. W.M.S. Wijesinghe (Absentia)

## Guest Lectures



Lecture on “Thermoelectric batteries” by Dr. Deepal Subasinghe was conducted at the auditorium of University of Kelaniya. More than 50 students and staff members participated in this event. The president of IPSL thanked Mr. R.C. L. de Silva and the Physics Student Society of University of Kelaniya for organizing the event.



lecture on “Science of Measurements” was conducted by Mr. Rohan G. Perera, Director Metrology Division, SLSI with the participation of more than 100 students and staff members. This was also organized by the Physics Student Society of University of Kelaniya supported by Mr. G.H. Asoka.

The talk about the fate of the comet ISON delivered by Dr. Nalin Samarasinghe was successfully organized with the attendance of 60 participants on the 30<sup>th</sup> of December 2013 at the Department of Physics, University of Colombo. Prof. Chandana Jayaratne was greatly acknowledged for organizing this event.



## Mailvaganam Memorial Oration



Professor A.W. Mailvaganam Memorial Oration 2013 was delivered by Prof. Indral Kithsiri Perera, senior professor of Physics and former vice chancellor, Sabaragamuwa University of Sri Lanka, Belihuloya. titled “The LASER – Sensation of the century?” at 5.00 pm on the 13<sup>th</sup> December 2013 at the Physics Lecture Room III, Department of Physics, University of Colombo.

## National competition on computer simulation

IPSL organized a National competition on computer simulation of Physics concepts for Secondary level school children in collaboration with the Ministry of Education and National Institute of Education.

The objective of the competition was to strengthen the conceptual understanding of Physics principles and to develop the simulations that can be used as resource material for Physics education.

The main sponsor of this annual competition was Motorola Solutions Lanka (Private) Limited, and they have received an approval for US\$ 2,000 from their parent company in USA for this event. Prof H.H. Sumathipala of the Department of Physics, University of Kelaniya has been appointed as the National Coordinator to organize the competition



Training workshop on preparing computer simulations for physics education was also held successfully at the ICT centre of University of Kelaniya with the active participation of A/L physics teachers and students.

# Physics Olympiad Competition

More than 600 students participated in the 9<sup>th</sup> Sri Lankan Physics Olympiad Competition. Eight students have been selected to participate for the 15<sup>th</sup> Asian Physics Olympiad scheduled to be held in 11<sup>th</sup> – 19<sup>th</sup> May 2014 in Singapore, and 5 students will be selected to participate for the 45<sup>th</sup> International Physics Olympiad scheduled to be held from Astana, Kazakhstan, 13<sup>th</sup> – 21<sup>st</sup> of July, 2014.

Following students participated in the 14<sup>th</sup> Asian Physics Olympiad held from 05 May to 13 May 2013 in New Bogor, Indonesia:

- Hakmana Kodithuwakku Lakshani Wasana (miss)- Devi Balika Vidyalaya, Colombo 08
- Edirisooriya Edirisooriya Arachchi Appuhamilage Nelushi Eranga (Miss)- Ratnawalee Balika Vidyalaya, Gampaha.
- Mikunthan Mithuriha (Miss)-Vembadi Girl's School, Jaffna.
- Ranasinghe Ranasinghe Mudiyansele Nipuna Indrachapa Herath- Dharmaraja College, Kandy.
- Herath Mudiyansele Kosala Sananthana- Dharmaraja College, Kandy.
- Vidanapathirana Jayan Chathuranga- Nalanda College, Colombo 08
- Thelasingha Hitihami Mudiyansele Neelanga Chandrajith Thelasingha- Maliyadewa Boy's School, Kurunegala
- Sivasubramaniam Paviththirana – Vauniya Tamil Central College, Vauniya

Out of the above students, Kosala Herath from Kingwood College, Kandy won Bronz medal at the 14<sup>th</sup> Asian Physics Olympiad held from 05 May to 13 May 2013 in New Bogor, Indonesia.



Following students participated in the 44<sup>th</sup> International Physics Olympiad held from 07-15 July 2013 in Copenhagen, Denmark:

- Edirisooriya Edirisooriya Arachchi Appuhamilage Nelushi Eranga (Miss)- Ratnawalee Balika Vidyalaya, Gampaha
- Ranasinghe Ranasinghe Mudiyansele Nipuna Indrachapa Herath – Dharmaraja College, Kandy.
- Herath Herath Mudiyansele Kosala Sananthana- Dharmaraja College, Kandy.
- Vidanapathirana Jayan Chathuranga –Nalanda College, Colombo 08.
- Thelasingha Hitihami Mudiyansele Neelanga Chandrajith Thelasingha- Maliyadewa Boy's College, Kurunegala.

Out of the above students, Kosala Herath from Kingwood College, Kandy won Bronze medal at the 44<sup>th</sup> International Physics Olympiad held from 07-15 July 2013 in Copenhagen, Denmark. On behalf of the IPSL, Prof. S.R.D. Rosa accompanied the contestants in both competitions as the national representative and team leader.



## Astronomy and Astrophysics Olympiad Competition

The Following five students from Sri Lanka participated at the 7<sup>th</sup> IOAA held from 27<sup>th</sup> July – 05<sup>th</sup> August 2013 with Prof K P S Chandana Jayaratne (Team Leader 1)



- Mr. S. Arvinda (Team Leader 2)
- Mr. A.M.C.I. Abeyratne, Student, Nalanda College, Colombo-10
- Mr. W.D.Y. Iresh, Student, Royal College, Panadura
- Mr. W.T.R. Mendis, Student, Nalanda College, Colombo-10
- Mr. P.D.C.G. Karunathilaka, Student, Thakxila Central College, Horana.

Out of the 41 teams participated, Sri Lanka received the 13th place in the Team Competition and one of the students Mr. Attanayaka M. Chamantha Isuru Abeyratne received an Honorable Mention (Merit Award) at the 7th IAAO. The main purpose of conducting national astronomy olympiads and sending best students to International Olympiads is to popularize Astronomy and Astrophysics in Sri Lanka, and to attract bright high school students all over the country to follow Science stream and especially towards Astronomy and Astrophysics.

### Participation at the XVIII International Astronomy Olympiad (IAO) Competition, September 6-14, 2013, Vilnius, Lithuania

As an initiative of national coordinator Prof Chandana Jayaratne, IPSL was able to send a junior astronomy Olympiad team first time to an International Astronomy Olympiad Competition. One could consider this as a rare historical event as this is the 1<sup>st</sup> time that Sri Lanka participate at the above International Astronomy Olympiad (IAO) which has strict rules on taking new countries. Moreover, the whole junior national team constitutes from the students of Nalanda College.

Team Position	Full name	Profession
Student-1	Somabandu Sunera Sevitha	Student, Nalanda College, Colombo-10
Student-2	Aluthge Mansara Mihidul	Student, Nalanda College, Colombo-10
Student-3	Wanniarachchi Kankanamge Don Dilan Senuruk	Student, Nalanda College, Colombo-10



Prof. Chandana Jayaratne was the team leader in this event. Our team received the best prize for newly participated teams award at this Olympiad.

## Olympiad Highlights



## Membership Information

Annual membership fees:

Fellow	- 600
Member	- 400
Graduate	- 300
Licentiate	- 250

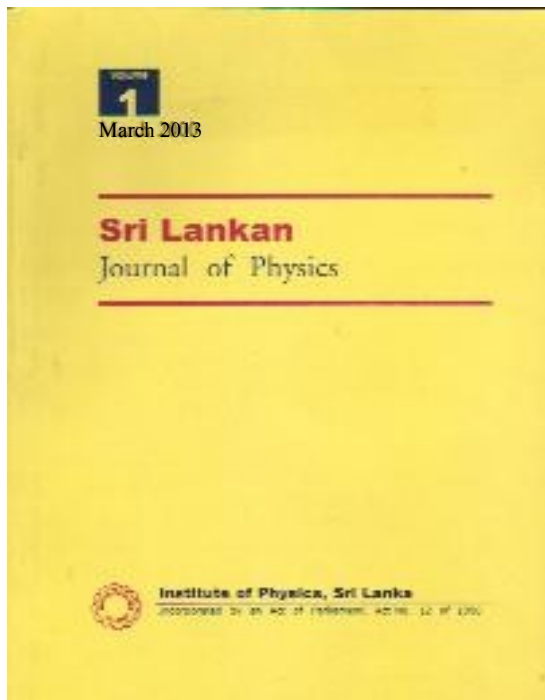
The council encourage all academics and researchers who are working in physics related areas to become member of the IPSL. The council issue a membership certificate for all the members.

An application processing fee of Rs. 250.00 will be charged from all applicants, except from student members.

### Life members:

To become a life member, 10 years of equivalent fees is required.

# Sri Lanka Journal of Physics



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Copy Editor

Call for papers

Papers are now accepted for issue 1 of volume 14 scheduled to be published in the year 2013. The deadlines to accept contributions is 31<sup>st</sup> March, 2013.

The guidelines and instructions for submitting manuscripts can be found in IP SL website and also in the back cover of the journal.

## The Annual Get-together & Dinner - 2013

The IP SL Members' Annual Get-together & Dinner was held after the Mailvaganam Memorial Oration-2013 on 13<sup>th</sup> December 2013 at Akasa kade, Colomkbo-01 and this was open to the general membership and their spouses. Many founder members of IP SL were present at this occasion taking the opportunity to meet the friends.

