



IPSL NEWSLETTER

The Newsletter of the Institute of Physics, Sri Lanka

Institute of Physics
- Sri Lanka (IPSL)
Vidya Mandiraya
No. 120/10
Wijerama Mw
Colombo 7

URI: www.ipsl.lk

IPSL Olympiads Awards Ceremony 2015

The IPSL Olympiads Awards Ceremony – 2015 was held on the 7th of November 2015 at New Arts Theatre (NAT), University of Colombo. The Chief Guest of this annual event was Professor K Premaratne, Senior Professor of the Department of Physics, University of Peradeniya and Vidya Nidi Professor Lakshman Dissanayake was the Guest of Honour of the event. The Dean of the Faculty of Science, University of Colombo Professor K. R. Mahanama was also present at this occasion.



Mr. H S Weligampola receiving a special plaque from the chief guest Prof. K Premaratne



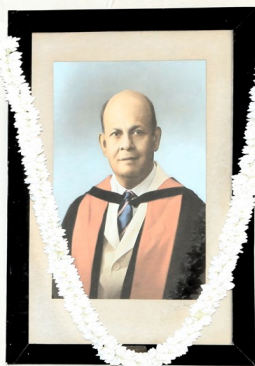
Prof. K R Mahanama, the Dean of the Faculty of Science, University of Colombo, lighting the oil lamp

26 Gold medals,
55 Silver medals

and 135 Bronze medals were awarded for students who had excelled in the Sri Lankan Physics Olympiad Competition, Sri Lankan Astronomy and Astrophysics Olympiad Competition and Sri Lankan Junior Astronomy Olympiad Competition. Mr. Harshana S Weligampola of Dharmaraja College, Kandy was awarded a special plaque for his achievement in International Physics Olympiad competition held in Mumbai, India. Western College for Management & Technology awarded scholarships for the medal winners while Achievers Lanka Business School (Pvt) Ltd. and Airtrav (Pvt) Ltd. sponsored the

event. The performance of the students of Vidusavi Rangayathanaya, Horana added glamor to the event. Summary reports of Astronomy Olympiad Competitions was presented by Professor Chandana Jayaratne, the national coordinator and Professor Ruwan Wijesundera presented the summary report of the Physics Olympiad Competitions on behalf the national coordinator Professor S R D Rosa.

Professor A W Mailvaganam Memorial Oration—2015



Portrait of Prof. A W Mailvaganam garlanded with flowers

This year's Professor A W Mailvaganam Memorial Oration titled "Nanotechnology : Technology of the New Millennium" was delivered by Professor K Premaratne, Senior Professor, Department of Physics, University of Peradeniya on the 7th of November, 2015 at the New Physics Lecture Theatre (NPLT) of the Department of Physics, University of Colombo.

The important and fascinating properties of nanostructures and applications of Nanotechnology in a wide variety of fields such as energy, medicine, pharmaceutical industry, nanoelectronics, optoelectronics, cosmetics, sports, information technology and biotechnology were discussed. Special attention was given to the Carbon-based nanostructures diamond, graphite, C60 (Fullerene) and carbon nanotubes (CNTs) in the oration.

“There is plenty
of room at the
bottom”

-Richard Feynman

35th Annual General Meeting



The 35th Annual General meeting of the Institute of Physics, Sri Lanka (IPSL) was held on the 28th of March, 2015 at the Physics Lecture Room II of the Department of Physics, University of Colombo chaired by outgoing President Professor D D N B Daya. Office bearers and the members for the Council were unanimously elected for the year 2015/2016.

Professor Daya thanked all council member for the support extended during his tenure as president to uplift the image of the IPSL. Professor Ruwan Wijesundera of University of Kelyaniya was elected as the new president for the year 2015/2016. Professor Wijesundera thanked the members for electing him as the IPSL president. He also thanked the former president and council for the contributions made to the IPSL during the past year.

IPSL Members' Annual Get-together and Dinner

IPSL Members' Annual Get-together and Dinner was held on Saturday, 07 November 2015 at 07.00 p.m. at Faculty Centre of the University of Colombo. Students of the Cultural Centre of the University of Colombo performed on this occasion.



Performance of students of the Cultural Centre of the University of Colombo

Highlights in Colour—IPSL Olympiads Award Ceremony 2015



Prof. K R Mahanama, Dean, Faculty of Science, addressing the gathering



Prof. Chandana Jayaratne, National Coordinator of Astronomy Olympiads, presenting the summary report



Prof. Ruwan Wijesundera, President - IPSL, presenting summary report of Physics Olympiad on behalf of Prof. S R D Rosa,



Prof. Chandana Jayaratne, awarding a certificate to a student



Council members arriving at the New Arts Theatre (NAT)



Prof. Ruwan Wijesundera presenting a token of appreciation to the Chief Guest Prof. K Premaratne



Performance from the students of J C rangayathanaya, Horana

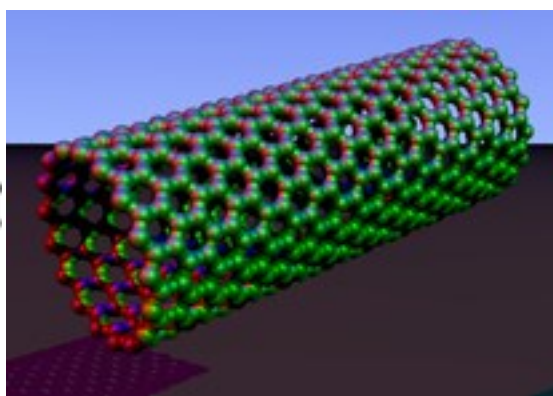
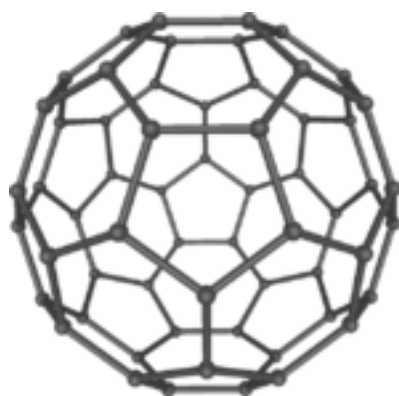
Highlights in Colour—Mailvaganam Memorial Orations 2015



Prof. Ruwan Wijesundera introducing the orator



Prof. K. Premaratne delivering the talk



Buckminsterfullerene C₆₀ (left) and carbon nanotubes (right) are two examples of structures in the fullerene family.

Sri Lankan Olympiad Competitions

The Institute of Physics Sri Lanka (IPSL) has been conducting three local Olympiad competitions namely, Sri Lankan Physics Olympiad Competition, Sri Lankan Astronomy and Astrophysics Olympiad Competition and Sri Lankan Junior Astronomy Olympiad Competition at National level in view of promoting Physics and Astronomy among school children over a period of a decade. The above competitions are conducted annually by the IPSL in collaboration with the Department of Physics, University of Colombo and other National Universities. IPSL is happy to announce that from 2016 onwards we will also be conducting Junior Science Olympiad competitions.

Applications will be called from school children who wish to participate at these competitions. Examinations will be held in three mediums Sinhala, Tamil and English at University of Colombo, Open University Polgolla, University of Ruhuna, University of Kelaniya, University of Jaffna, Open University Batticaloa and Rajarata University covering all the regions of the country.

Students who excel in these national competitions will be awarded medals and certificates at the national level. Moreover, a selected number of students who have excelled at the National Olympiad competitions will be sent to the respective Asian and International Olympiad competitions after being trained at the Department of Physics, University of Colombo and the Department of Physics, University of Kelaniya.

Three national coordinators of the respective Olympiad competitions are,

- Professor S.R.D. Rosa—National Coordinator/Physics Olympiad and Chairman of the Olympiad subcommittee
- Professor K.S.P.C. Jayaratne—National Coordinator/Junior Astronomy Olympiad and The Astronomy and Astrophysics Olympiad
- Professor H H Sumathipala—National Coordinator/Junior Science Olympiad

The 11th Sri Lankan Physics Olympiad Competition, 9th Sri Lankan Astronomy and Astrophysics Olympiad Competition and 5th Sri Lankan Junior Astronomy Olympiad Competition were held on 20th June 2015 in the above mentioned examination centers. Students who excel in those competitions were trained well to participate in the international Olympiad competition, International Physics Olympiad Competition, International Olympiad Astronomy and Astrophysics Competition, and Asia Pacific Astronomy Olympiad competition.

International Junior Science Olympiad

The International Junior Science Olympiad (IJSO) is an annual individual and team competition in the Natural Sciences for students who are under sixteen years old and is held on the 31st December of the competition year. IJSO has been established in recognition of the significance of the Natural Sciences in the general education of young people and in all aspects of their lives with the aims of promoting and rewarding the pursuit of excellence in scientific endeavor, challenging, stimulating and encouraging gifted students to further develop their talents in Natural Sciences, and creating friendship and relationships among students around the world from an early age.



International Junior Science Olympiad 2016 will be held in December in Indonesia.

"Everything should be made as simple as possible, but not simpler."

-Albert Einstein-

Participation in the 11th Asia Pacific Astronomy Olympiad Competition

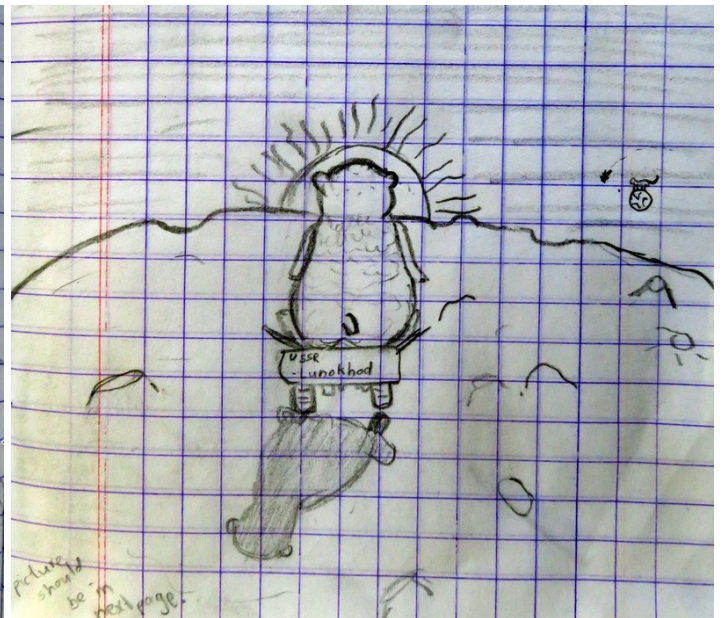
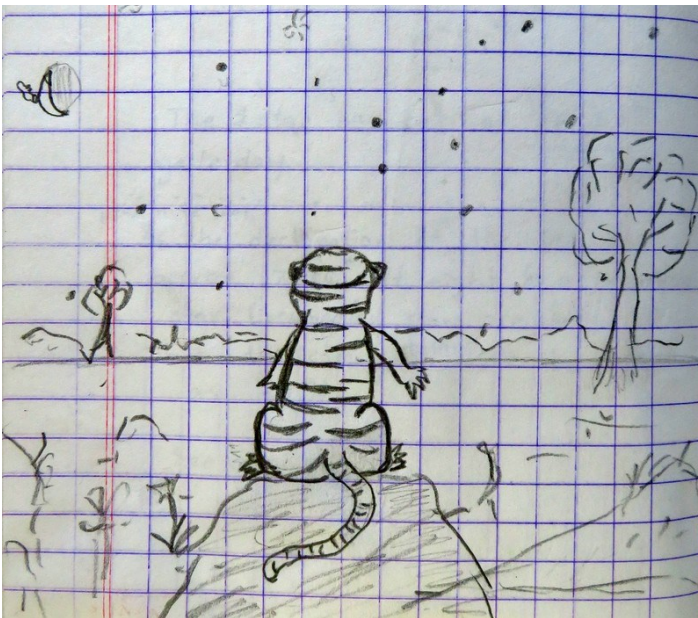
Asia Pacific Astronomy Olympiad (APAO) was founded in the spring 2005 as an international regional program in line with the International Astronomy Olympiad. The 11th Asian-Pacific Astronomy Olympiad (XI APAO) took place in November 2015 in Ashulia, Savar, North-West suburban area in Dhaka province, Bangladesh. The competition was organized by Bangladesh Astronomical Association. A team of six students selected from the Sri Lankan Junior Astronomy Olympiad competition, lead by Professor Chandana Jayaratne, participated in the competition. Shyamal R. Jayamanne received a Silver medal and M B A Dilshara Samarawickrama received a Bronze medal. In addition Shyamal R. Jayamanne received a special diploma for the best pictures of tiger and bear in solutions.



Sri Lankan team participated in the competition



Log of the APAO XI



The best pictures of tiger and bear in solutions by Shyamal R. Jayamanne

Participation in Olympiad of Astronomy and Astrophysics 2015

International Olympiad of Astronomy and Astrophysics (IOAA) is an annual event for high performing high school students from all around the world in the field of Astronomy and Astrophysics. Established in Thailand 2006, it was initiated by five countries including Thailand, Indonesia, Iran, China and Poland with the aim to proliferate Astronomy among high school students, to foster friendship among young astronomers at an international level so as to build cooperation in the field of Astronomy in the future among the young scholars. Central Java, Indonesia hosted the IOAA 2015.

Six students who excelled in the Sri Lanka Astronomy and Astrophysics competition were selected to the Sri Lankan team and Professor Chandana Jayaratne served as the team leader. Chamantha Isuru Abeyratne and Tharindu Randika Mendis received two honorable mentions in this competition.



Sri Lankan team participated in the competition



Mascot of the competition



Logo of the competition

Papers Presented at the 31st Technical sessions

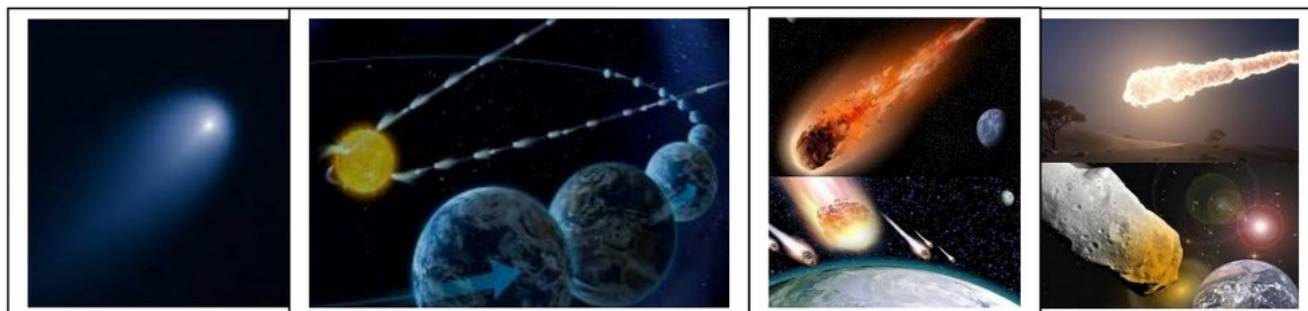
The 31st technical sessions of the Institute of Physics, Sri Lanka was held on the 28th of March, 2015 at the Physics Lecture Room II of the Department of Physics, University of Colombo. Fourteen papers were presented within three sessions. Prof. SRD Rosa chaired the Session I from 08.00 h to 10.10 h, Prof. KPSC Jayaratne chaired the session II from 10.30 h to 12.30 h and Prof. KD Jayasuriya chaired session III from 13.30 h to 15.55 h.

List of papers presented

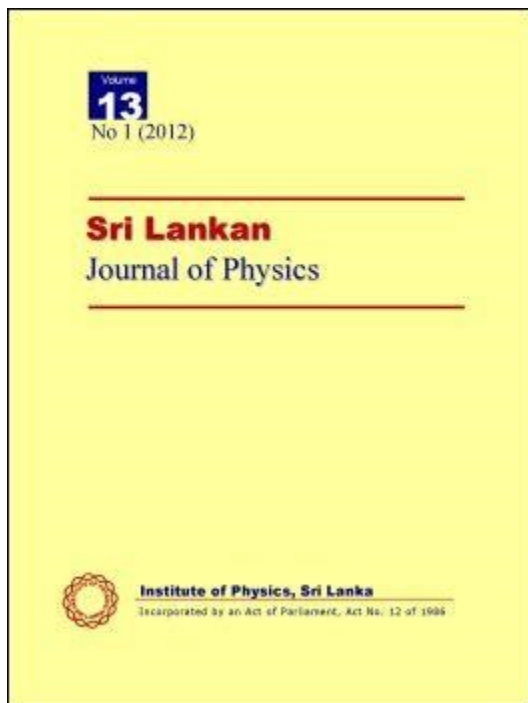
1. Evaluation of Downscaled Climate Projections over Sri Lanka
A. Thevakaran, J.L. McGregor, J. Katzfey, M. Thatcher, R. Suppiah and D.U.J. Sonnadara
2. Effect of Binary salt based Gel Polymer Electrolytes on Dye Sensitized Solar Cells
A. Pathirana, Y.M.C.D. Jayathilake, K. Perera, and K. Vidanapathirana
3. Cycling performance of Mg rechargeable cells with Polypyrrole conducting polymer cathodes
W.A.D.S.S Weerasinghe, P. Punyawardena, K.P. Vidanapathirana, Y.M.C.D. Jayathilake and K. S. Perera
4. Remotely Controllable Regulator Connected in Series with Resistive and Inductive Loads
WSK Perera and SRD Kalingamudali
5. Plantain Pith Battery Powered Lighting System
K.S. Janaka Kumara, R.P. Wijesundera and K.D. Jayasuriya
6. Automated Rain Sampler for Real time pH and Conductivity Measurements
R.M. Weerasinghe, A.S. Pannila, M.K. Jayananda and D.U.J. Sonnadara
7. Machine Counting of Malaria Infected Blood Cells Using RGB Images
W D P Wijesinghe and H H E Jayaweera
8. Development of a chlorophyll sensor based on absorbance and fluorescence measurers
G.L.T.T de Silva and H.H.E Jayaweera
9. Investigation of sound absorption coefficient of materials using tube impedance method
P.A.N.S. Priyadharshana, U.K. Abeywarna and A.S. Pannila
10. Electrodeposited CuO/Cu₂O heterojunction for PV applications
K.D.R.N. Kalubowila, R.P. Wijesundera and W. Siripala
11. Synthesis and characterization of Nano-particulate TiO₂-Graphene composite
M.T.V.P. Jayaweera, C.P.H. Rajapaksha, D.D.N.B. Daya, S.R.D. Rosa, I.R.M. Kottegoda
12. Automatic Classification of Left Ventricular Function of the Human Heart using Echocardiography
W.G.T.H.M K.V.B Thennakoon, W.A.M.Madhavi and R.A.I. Ekanayaka
13. Determination of Fe I abundance of HD26574
K. M. G. D. D. P. Wijesinghe, S. Gunasekera and P. Geekiyanage
14. Study of Electromagnetic Pollution in Sri Lanka
SATUWK Suraweera and KPSC Jayaratne

Guest Lecture

Lecture on “X-ray total scattering measurements of functional materials at atomic and nanoscale” was delivered by Dr. Shinji Kohara, Synchrotron X-ray Group, Quantum Beam Unit, National Institute for Materials Science, Japan and Research & Utilization Division, Japan Synchrotron Radiation Research Institute (JASRI, SPring-8), Japan on 9th June 2015 at PLR3 -Physics Department, University of Colombo. Dr. Nalin Samarasingha, Senior Scientist at the Planetary Science, Institute in Tucson, Arizona (USA) was delivered a lecture on “Asteroids, Comets, and Near Earth Objects” on 10th February 2016 at New Physics Lecture Theatre, Department of Physics, University of Colombo.



Sri Lanka Journal of Physics



The Sri Lankan Journal of Physics is a refereed Journal devoted to physics and related areas. It is currently published annually into two issues. The journal entertains contributions in the form of research papers, research notes or review articles.

Editorial Board

Editor in Chief: Prof. K.D. Jayasuriya (University of Kelaniya)

Associate Editors: Prof. W.G.D. Dharmaratne (University of Ruhuna)

Prof. J.K.D.S. Jayanetti (University of Colombo)

Dr. K.P.S.C. Jayaratne (University of Colombo)

Prof. A.G.U. Perera (Georgia State University)

Prof. D.U.J. Sonnadara (University of Colombo)

Prof. W.L. Sumathipala (Open University of Sri Lanka)

Prof. R.C. Woods (Louisiana State University)

Ex-Officio: Prof. S.R.D. Kalingamudali (University of Kelaniya)

Copy Editor: Dr. P. Hewageegana (University of Kelaniya)

URL : <http://sljp.sljol.info/> **Email:** eic.ipsl@gmail.com

Membership Information

The council encourage all academics and researchers who are working in Physics-related areas to become members 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.

The annual membership fees for each grade is as follows

Fellow	LKR 600.00
Member	LKR 400.00
Graduate	LKR 300.00
Licentiate	LKR 250.00
Associate	LKR 200.00
Student	LKR 100.00

Life members:

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

Contact us for more information regarding memberships

Mr. N. W. K. Jayatissa

Telephone: 94 11 2903353

Email: jayatissa@kln.ac.lk

Membership Portal

IPSL has developed an on-line membership portal with the intention of providing web based services to the members. Members of all grades are hereby informed to register in the IPSL membership portal. The URL of the portal is <http://member.ipsl.lk/>



*Institute of Physics -
Sri Lanka (IPSL)*

The apex body of physicists in Sri Lanka

Address: Vidya Mandiraya
No. 120/10
Wijerama Mawatha
Colombo 7

URI: www.ipsl.lk

President: palitha@kln.ac.lk

Secretaries: udaya.abeywarna@gmail.com
ovamini@yahoo.com

Payments and Membership info.

Mr. N. W. K. Jayatissa
Telephone: 94 11 2903353
Email: jayatissa@kln.ac.lk

Editors: hiran@phys.cmb.ac.lk
asokahewawasan@gmail.com

Council – 2015/2016

President

Prof. L B D R P Wijesundera

Immediate Past President

Prof. D D N B Daya

Vice Presidents

Prof. H H Sumathipala

Prof. V P S Perera

Joint Secretaries

Dr. (Mrs) U K Abeywarna

Dr. (Ms) H O Wijewardane

Treasurer

Mr. N W K Jayatissa

Assistant Treasurer

Dr. N G S Shantha

Editors

Dr. H H E Jayaweera

Mr. G H Asoka

Committee Members

Prof. K D Jayasuriya

Prof. S R D Kalingamudali

Prof. K.P.S.C. Jayaratne

Mr. A S Pannila

Mr. R C L De Silva

Mr. S G Punchihewa

Mr. U S Rahubadda

Council Photograph – 2015/2016



Seated Row (L-R): Mr. N.W.K. Jayatissa, Dr. (Mrs) U.K. Abeywarna, Prof. V.P.S. Perera, Prof. L.B.D.R.P. Wijesundera, Prof. D.D.N.B. Daya, Prof. H.H. Sumathipala, Dr. (Ms) H.O. Wijewardane, Dr. N.G.S. Shantha

Standing Row (L-R): Mr. U. S. Rahubadda, Prof. K.D. Jayasuriya, Prof. S.R.D. Kalingamudali, Prof. K.P.S.C. Jayaratne, Dr. H.H.E. Jayaweera, Mr. A. S. Pannila, Mr. S.G. Punchihewa