

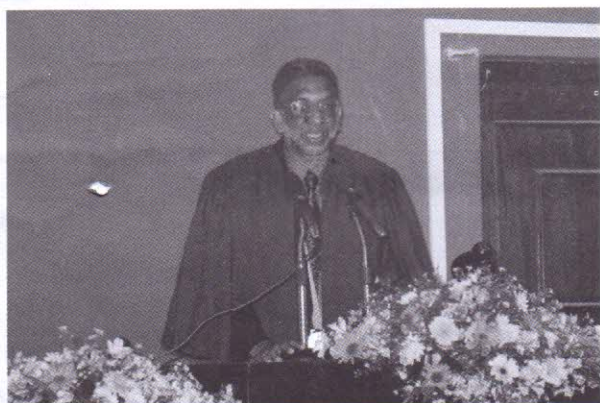
# SLAAS



Newsletter of the Sri Lanka Association for the Advancement of Science

Vol. 9 No. 1 Jan - April 2014

## Message from the General President



The theme for this year "ENGAGE SCIENCE ENRICH SOCIETY" targets people - Ordinary people, housewives, farmers, sports personalities, senior citizens, parents, teachers, and students, and show them how understanding science can help enrich their quality of life.

The initial idea for this year's theme flashed across my mind when I was listening to HE the President during the opening of the Nano science park at Homagama last year. The President lamented that the younger generation is no longer attracted to science and this he said is a big drawback to a country marching towards a knowledge economy. He pointed at the Rajapakse Maha Vidyalaya situated in front of the nano science park and said that he hoped that setting up

of Science Parks like that will attract those students to take up research careers and contribute towards the country's progress. Sri Lanka has 237 R&D personnel per million populations whereas the world average is 894- about 4 times Sri Lanka's figure. The developed country average is a much higher figure at 3272. The target set by the Government is to increase the present level by 4 times and to bring it on par with the world average within the next 10 years. That means we have to increase the present number of 4600 to 18,000 by 2021 and with an interim target of 7500 by 2016.

But the question is, can we achieve this target? Frankly speaking it is a tall order. Putting up science parks and hi-tech laboratories alone is not going to bring this sea change. Better remuneration, better perks for scientists will certainly help in this transformation, but we need a fundamental change in the attitude of the people, of society towards science.

Can the SLAAS intervene in somehow in changing the attitude of the people towards science and help the country to build its S&T base? To start with, I think that, we have to tackle the root cause - Find out why students are shying away from science. The issue of the younger generation not being attracted to science is an issue not only in Sri Lanka. It is a global phenomenon. But unlike in developed nations the repercussions are more acute in Sri Lanka because of our fragile S&T base. One of the main reasons for this lack of interest is the way in which Math, Science and Technology subjects are taught at school. International studies show that science education is suffering from a number of problems- The lack of motivation among teachers; Stereotyped attitudes of both parents and teachers towards careers in science and technology (especially women); Unattractive and overloaded school curricula that provide only a superficial approach to science and scientific method; and, Perceptions that a career in science invariably means a job in a white lab coat. I think that all these reasons hold true for Sri Lanka as well. Furthermore, the lack of interest in science among young people for science subjects will result in a population inadequately equipped to participate fully in a society that is moving quickly and changing dramatically.

Although there are no easy solutions, SLAAS can make a start. We can target the society and impress upon them the value of science in many spheres of activity, educate them on the importance of science, make them understand the contributions science has made in the progress of mankind, make them appreciate the numerous ways in which science can and is enriching their day to day life.

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Science impacts on almost every aspect of our lives. Although we rarely stop to think about it, science makes extraordinary things possible. Science helps us to understand our past, helps us with the present, and creates ways to improve our future. Scientific endeavour is as much about us as it is for us. Its place in society, therefore, is not to remain silent at the sidelines but to become a fundamental part of our day-to-day life. Now more than ever, science must engage with society, and society must engage with science.

And the SLAAS can be an effective conduit between science and society promoting science as part of daily life. SLAAS with its multidisciplinary structure and with members from a plethora of scientific disciplines is ideally suited to take the message to the society; to inspire and engage them with science by organizing lectures, seminars, workshops, exhibitions and discussion forums that are of direct relevance/interest to society. Several interesting topics such as Chemistry of cooking, Measurements in daily life, Science of Gardening, Science in Sports, Science and heritage, and Science of ageing, have been lined up for the year targeting different segments of our society.

Establishment of a National Science Centre as proposed in the recent budget is a laudable effort by the Government towards popularizing science in the country and the SLAAS, who mooted this idea several years ago together with the National Academy of Sciences, will give its fullest support to the Government in establishing such a centre.

Of course, while new developments can improve quality of life and understanding of the world, policymakers, and even scientists themselves may not always properly assess the potential risks or take full account of the public's concerns. DCD in milk powder and the Rathupaswala groundwater contamination are two such issues where science took a back seat while public opinions based on emotions raged on and impulsive reactions swayed decision-making. SLAAS with its multidisciplinary face can and should play a pivotal role in such national issues by creating opportunities for scientists and the general public to exchange views in a constructive dialogue of mutual respect and trust.

Likewise SLAAS will take up the challenge in finding ways and means to inspire students in science subjects. The famous Greek philosopher Plutarch said- the mind is not a vessel to be filled but a fire to be kindled- Teaching science to young minds therefore should be likened to lighting a candle. Once the enquiring young mind is lit, it will burn throughout the student's life illuminating the darkness of ignorance- this is what we call life long learning or student centered learning. Unfortunately what we see today is largely exam centered learning where students simply regurgitate what they were taught, during the exam and what is left is an empty mind at the end.

SLAAS has already put in place an effective strategy through its Popularisation of Science and Science Education Committees to promote science among the students and teachers. Nature Diaries Programme, Science Quiz, Young Inventors Exhibition, and establishing Medicinal Plant Gardens will continue with more vigour and with newer tools to inspire interest in the joy, wonder and excitement of scientific discovery. We will also expand our reach to many schools using the modern ICT tools.

We have quite a lot of activities lined up for this year, which require adequate resources both human and financial. Although SLAAS boasts of some 5000 members in its rank, only a fraction is actively engaged in SLAAS. One of the key challenges this year will be to find ways of getting our members interested in our activities. First thing on the card is to refurbish our dilapidated SLAAS club-house to provide a nice conducive environment for members, their families and guests to meet in the evenings. We are also planning to organize "Members Night", once in two months to foster closer fellowship among members, their families and guests. We hope that these efforts will re-energize our members and get them involved in SLAAS activities. However we have to keep in mind the fact that SLAAS operates on a shoestring budget with limited financial support from the NSF and the private sector. We have already initiated action to maximise revenue from our physical assets and plans are afoot to develop the adjoining property in partnership with a private party and also to rent out unused spaces in the existing building to increase our revenue. We will also explore the possibility of establishing an Education and Training Unit to offer demand driven training programmes to industry and business to generate funds. All these will take time and it is therefore imperative that SLAAS engages the private sector in the activities that are planned for this year. I therefore make a fervent appeal to the private sector to support SLAAS generously.

Dear members, every year, the SLAAS baton passes to a new team of scientists, but whilst leaders in the SLAAS change, leadership does not, and in this process of continuity, SLAAS manifests its greatest strength. You will add fresh ideas and energies to those who have gone before, so that you can pass on to your successors a better and stronger Association. I have full confidence in my team to ensure that the visionary fires of SLAAS will burn more brightly at the end of our year.

**Dr A M Mubarak**  
**General President / SLAAS**



## SLAAS Council 2014

Name	Position
Dr. A.M.Mubarak	General President
Prof. C.Deepal Mathew	General President - Elect
Prof. P.R.T.Cumaranatunga	Immediate Past General President
Prof. Jayantha Wijeyaratne	Chairperson, BOT
Dr. M.M.M. Najim	General Secretary
Dr.U.P.Nawagamuwa	General Secretary
Prof. Janitha Liyanage	Treasurer
Dr.R.M.Dharmadasa	Asst. Treasurer
Prof. R D Wijesekera	Editor
Prof. Sagarika Ekanayake	Asst. Editor
Dr. B.C.L. Atapattu	Secretary, Int. Relations
Dr. Jaanaki Gooneratne	Elected Member
Dr. Deepthi Wickramasinghe	Elected Member
Prof. Preethi Udagama	Elected Member
Prof. Chandana Jayaratne	Elected Member
Dr. Radhika Samarasekera	Elected Member

Name	Position
Prof. Manjula Vithanapathirana	Elected Member
Prof. Hema Pathirana	Elected Member
Mrs. Hasula Wicramasinghe	Elected Member
Prof. Carlo Fonseka	Elected Member
Dr. Carukshi Arambepola	President, Section A
Dr. T.S.P. Jayaweera	President, Section B
Archd. L.T. Kiringoda	President, Section C
Dr. Sudheera Ranwala	President, Section D
Dr. Shantha N. Gamage	President, Section E1
Dr. Nilwala Kottegoda	President, Section E2
Dr. Gamini Wijayarathna	President, Section E3
Prof. K. Karunathilake	President, Section F
Prof. Chandrani Wijeyaratne	Chairperson, GRC
Dr. Prasad Senadheera	Chairperson, EC
Dr. P. Galhena	Chairperson, CPS

## 69<sup>th</sup> Annual Sessions: Immediate Past General President's Report



The Sri Lanka Association for the Advancement of Science, held its Annual Sessions, from 2 - 6 December 2013. The theme of the annual activities was 'Adaptation & mitigation strategies for climate change ensuring socioeconomic development'.

The Ceremonial Inauguration was held at the Committee Room / BMICH and the Honourable Patali Champike Ranawake, Minister of Technology, Research & Innovations graced the occasion as the Chief Guest. Prof. Olof Lindén (Professor in Marine Environmental Management holding the Nipon Chair at the World Maritime University & the Linnaeus University, Sweden) and Prof. Sena de Silva (former Professor of Zoology at University of Ruhuna, former Director General of NACCA and

presently an Honorary Professor, School of Life & Environmental Sciences, Deakin University, Australia), both closely involved in climate change related activities at global and regional levels were the Guests of Honour. Professor Dr. R C Sobti and Prof. I J S Bansal representing the Indian Science Congress Association also attended the Ceremonial Inauguration. The event was well attended by past General Presidents of SLAAS, distinguished guests, award winning scientists & school children and their teachers, well-wishers and media personnel.

The Hon. Minister delivered a very timely eye opening speech highlighting the importance of the theme selected for the year and also the importance of scientific intervention for adaptation and mitigation of the impacts of climate change. The Guests of Honour and the Indian scientists also delivered short communications which included important messages for both old and young scientists of Sri Lanka and also extended their best wishes to the association. The Presidential Address, was based on the theme for the year and highlighted the importance of adopting adaptation strategies to minimise the possible impacts of climate change, especially to the coastal belt of Sri Lanka.

The Theme Seminar was held on 3 December 2013 at the Auditorium of the Ministry of Disaster Management and it was well attended by scientists from all parts of the country. Resource persons for the Theme Seminar were selected considering their contribution to different sectors which are of socioeconomic importance and are also vulnerable to possible changes in the global climate. Prof. Olof Lindén, the Keynote speaker and Prof. Sena de Silva, the Guest of Honour delivered lectures entitled 'Global change and the oceans: What is happening and what can we expect in the future' and 'Possible impacts of climate change on fisheries and aquaculture and necessary adaptive strategies' respectively. Prof. Sena de Silva highlighted the need



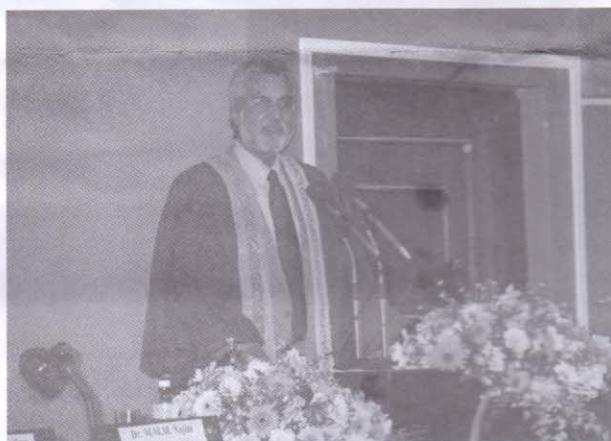
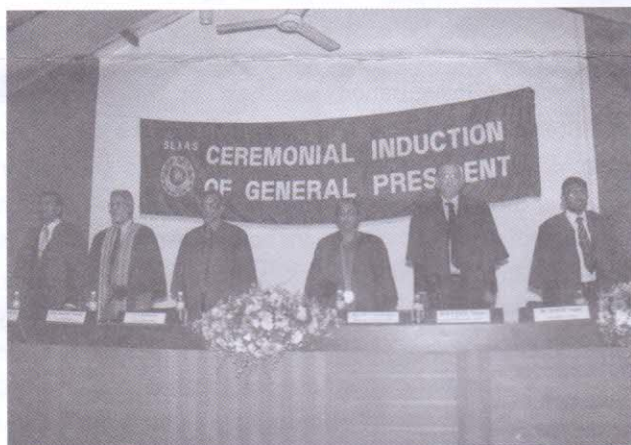
for opening the Theme Seminar to university students and young researchers as they are the future scientists of the country. This is not possible at present due to financial constraints. However, if sponsorships could be obtained, this may be possible in the future. Other eminent speakers were Prof. Sumith Jayasekera (Vice-Chancellor, Wayamba University); Prof. W. Sumathipala (Chairman, NSF); Prof. Samantha Hettiarachchi (Professor, Hydraulic & Water Resource Engineering Division, Dept. of Civil Engineering, University of Moratuwa); Prof. Saroj Jayasinghe (Professor in Clinical Medicine, University of Colombo); Prof. Thakshala Serasinghe (Snr. Professor of Animal Science, University of Ruhuna); Dr. Lareef Zubair (Principal Scientist, Foundation for Environment, Climate and Technology, New York and Digana, U.S.A) and Dr. Herath Manthirithileke (Head, Sri Lanka Development Initiative, International Water Management Institute).

The Scientific Sessions of sections included 186 oral and 78 posters presentations. Other important activities held concurrently were the Addresses by the Presidents of the eight sections of SLAAS, the school 'Science Innovations Exhibition' and the Guest Lecturers. The attendance by the membership at all programmes was satisfactory. However, it could be further improved, if the higher educational institutes would encourage undergraduates and research students to participate and research organizations, science-based private sector organizations, etc. would make necessary arrangements to grant paid leave to enable their employees to participate.

For successful completion of the Annual Sessions all the assistance received from the Vice-Chancellor, Dean of the Faculty of Science and the organizing committee of the University of Kelaniya, past General Presidents, members of the Council, general membership, SLAAS office staff and well-wishers are appreciated. The generous sponsorships received from the main sponsor National Science Foundation and other sponsors are acknowledged with gratitude. With the successful implementation of the building programme, which was initiated during 2013, there is no doubt that SLAAS could continue its voluntary national services for sustainable socioeconomic development of mother Lanka.

**Professor Ruchira Cumaranatunga**

## Induction Ceremony 2014



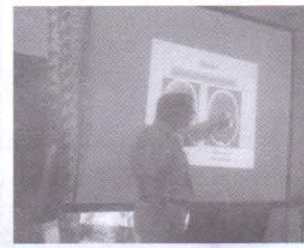
Dr A M Mubarak (former Director, ITI) was inducted as the 70<sup>th</sup> General President of the Sri Lanka Association for the Advancement of Science on the evening of 17<sup>th</sup> January 2014 at a ceremony held at the Auditorium of the SLAAS. Professor Susirith Mendis (Senior Professor of Physiology, Faculty of Medicine, University of Ruhuna) was the Guest of Honour at the event.



## Sectional Activities

### SECTION A

- The Activity plan for 2014 is drawn up under three objectives: (1) To advance the knowledge base of Section A and other professionals, (2) To disseminate scientific knowledge and promotion of science inquiry among school children as messengers of health (3) To disseminate scientific knowledge and promotion of science inquiry among the general public.
  - **Initiation of a series of newspaper/newsletter articles on timely health issues with the objective of educating the general public and for popularising SLAAS**
    - 'Breast cancer detection' by Dr. Varuni Bandara (National Cancer Control Programme) published on 23 February 2014 in Sunday 'Ceylon Today' newspaper for the general public.
    - 'Glycaemic Index (GI) of foods' by Prof. Sagarika Ekanayake published in the Sri Lanka Medical Association (SLMA) newsletter (Volume 6 Issue 12) for medical professionals
    - 'Premenstrual Syndrome' by Dr. Nadeeka Chandraratna submitted for publication to Ceylon Today for the general public
  - **A guest lecture-discussion** on 'Bullying in schools' was delivered on 25 February 2014 at Good Shepherd Convent, Kotahena by Dr. Piyanjali de Zoysa (Faculty of Medicine, Colombo) for 350 Grade 9-10 school girls.
  - **A series of educational activities to commemorate the National Health Week (10-16 March) 2014 in the district of Ampara**
    - 'Clinical update on snake bite management' for medical and nursing officers of the Base Hospital Maha-oya on 10 March 2014 by Prof. Ariyarani Gnanathasen (Specialist Physician, Faculty of Medicine, University of Colombo)
    - A half day seminar consisting of three clinical updates on 'Diagnosis, Initial management and Secondary prevention of stroke' for medical officers of the General Hospital Ampara on 11 March 2014 by Dr. Thashi Chang (Specialist Neurologist, Faculty of Medicine, University of Colombo)
    - 'Prevention and management of snake bites at primary health care level' for the staff of the District Hospital Lahugala and MOH staff on 12 March 2014 by Prof. A Gnanathasen
    - 'Clinical update on the diagnosis of stroke and its acute management in a peripheral hospital' for medical and nursing officers of the Base Hospital Pottuvil on 12 March 2014 by Dr. T Chang
    - 'First aid and prevention of snake bites in the community' for the field staff of the Divisional Secretariat and Grama Niladhari officers at Pottuvil on 12 March 2014 by Prof. A Gnanathasen
- Collaborations with the Clinical Societies of the hospitals for future activities with Section A were discussed. An interest was generated among the participants for obtaining SLAAS membership.
- **Two feature articles** on 'Chronic kidney disease and the Broad Street pump' by Prof. Diyanath Samarasinghe (Specialist Psychiatrist) and on 'Mathematical modeling and systems approaches in urban health' by Prof. Saroj Jayasinghe (Specialist Physician, Faculty of Medicine, University of Colombo) were written for the first newsletter of section A and will be released in March/April.



- **A lecture discussion** on 'Nanotechnology' was held on 22 March 2014 at the Faculty of Medicine, University of Colombo, for Technical Officers of all universities. Resource person: Dr. S Chackrewarthy.
- **A series of monthly lecture-discussions** on current health topics in the Bank sector was initiated, with the inaugural programme on 'Be responsible for your health to prevent non-communicable diseases' on 28 March 2014 for employees of the Bank of Ceylon, Metropolitan branch. This activity was organized in collaboration with the NIROGI Diviya project of the Sri Lanka Medical Association. Approximately 150 employees participated.



## SECTION B

- A training programme on 'Use of weather stations' was conducted for 45 Advanced level students following Bio system technology in the Balangoda and Kalawana areas on 22 January 2014 at the Faculty of Agricultural Sciences of the Sabaragamuwa University of Sri Lanka. The resource persons were Dr. T. Sanjeewa Prasad Jayaweera and Mr. P. Dissanayake (Technical officer, Department of Export Agriculture, Sabaragamuwa University).
- The following workshops were conducted:
  - 'Plants for surveillance' by Dr. Vindya Basnayake, for officers in the Plant Quarantine Service, Department of Agriculture, on 3 February 2014, at the Golden Star Beach Hotel, Negombo.
  - 'Paddy breeding programme and paddy cultivation' by Mrs. Roshini Hafeel for students following the Agriculture diploma course in schools of Agriculture, on 18 February 2014, at the Rice Research Station, Ambalantota.
  - 'How to develop a new paddy variety' by Mrs. Roshini Hafeel, for 24 Advanced level students, on 19 February 2014 at Rice Research Station, Ambalantota.

## SECTION D

- A public lecture on 'Disease management in aquaculture using molecular biological techniques' was held on 23 January 2014 at the Department of Zoology, University of Kelaniya. The resource person was Dr A Sait Sahul Hameed (Associate Professor, Abdul Hakeem College, India). The audience comprised about 60 participants including academics, undergraduate and postgraduate students.
- A radio talk on 'Wetlands and their importance' was conducted by Dr. Deepthi Wickramasinghe to mark the World Wetlands Day. The talk was broadcasted through the 'Mihithalaya' programme of the Sri Lanka Broadcasting Corporation on 6 February 2014.
- A training programme on 'Assessment of ecosystem services and biodiversity' was held in collaboration with the Biodiversity Secretariat, Ministry of Environment and Renewable Energy on 27 March 2014 at SLAAS Headquarters.

## SECTION E1



- Seminars on 'Combined mathematics for Advanced Level students' were conducted at Sri Sumangala Vidyalaya, Panadura and Ferguson College, Ratnapura on 13 and 20 February 2014 respectively.

### Upcoming events:

- Seminars on a variety of topics including 'Introductory nanophysics' and 'Sports biomechanics' at a few selected schools in the outskirts of Colombo.

## SECTION E2

- A workshop on 'Inspiring future scientists', organized in collaboration with the National Science Foundation and Royal Society of Chemistry was held on 7 February, 2014 at Swarnajothi Vidyalaya, Kegalle as the first event for the new year.





More than 600 students from five schools in the Kegalle District participated. Drs. Nilwala Kettegoda, Dinesh Pandithawithana, Chayanika Padumadasa, and M. N. Kaumal were the resource persons.



- **A teacher training workshop** on 'Nanotechnology' was held on 7 March 2014 at Holy Trinity College in Nuwara Eliya in collaboration with the Science Alumni Association, University of Peradeniya. The aim of the workshop was to aid teachers to introduce the new nanotechnology module for Grade 9 students. More than 100 teachers from the District of Nuwara Eliya participated. Resource persons were Prof. Chandani Perera, Drs. Sakunthala Yatigammana and Nilwala Koettegoda.

- **A workshop for students** of Grades 7 to 9 selected for the Olympiad National

Phase was held on 8 and 9 March 2014 at the NERD Centre, Ekala with the aim of introducing practical aspects of engineering. The Department of Education and National Science Foundation jointly organized this workshop. Dr. Nilwala Kottegoda, represented Section-E2 as a resource person.



### SECTION E3

- **A seminar** on ICT organized in collaboration with the Ministry of Education of the Western Province was held at Lumbini Vidyalaya on 12 February 2014. G C E A/L students (about 300) from schools in the Western Province participated. The resource persons were Drs. Gamini Wijayarathna and D D Karunaratna.

#### **Upcoming events:**

- A seminar on ICT will be held on 4 April in Kurunegala, for G C E A/L students.

## General Research Committee

- GRC awards : Criteria for both GRC and post-graduate awards were amended by a special committee.
- Preparations are under way to print a book entitled 'A beginners Guide to Research'. The chapters were written and reviewed by senior academics and researchers of Sri Lanka.

## Environment Committee

- **A lecture** on 'Biodiversity of Sri Lanka and threats from genetically modified crops /plants' was delivered by Dr. P. Senadheera at the Science Day of the Siri Piyarathana Vidyalaya, Padukka on 28 February 2014.

#### **Upcoming events:**

- A workshop on 'Paleobiodiversity' in collaboration with Section B and the Biodiversity Secretariat will be held in May at the University of Sabaragamuwa.
- An art competition will be held on 22 May 2014 to commemorate the 'International biodiversity day' on the theme 'Island biodiversity'.
- Workshops on 'Simplified hydroponics and micro-irrigation techniques' will be held in Colombo, Puttalam and Malabe.



Drs A M Mubarak and M M M Najim representing the SLAAS at the 101<sup>st</sup> Indian Science Congress Association held in Jammu India from 3-7 February 2014 being greeted by Dr Manmohan Singh, Prime Minister of India who inaugurated the event. As many as 10,000 delegates including Nobel Laureates, senior scientists, teachers, young scholars and students participated and presented their research work. There were separate sessions for 'Women Science Congress', 'Children Science Congress', 'Science Exhibition' and 'Science Communicators Meet'. The 'Children Science Congress' was inaugurated by Dr Abdul Kalam, former President of India.

## The 70<sup>th</sup> Annual Scientific Sessions

1<sup>st</sup> – 5<sup>th</sup> December 2014 at the University of Colombo

Theme: 'Engage Science Enrich Society'

### Submission of Papers for Presentation at Annual Sessions 2014

The deadline for submission of Friday, 6<sup>th</sup> June, 2014, 16.00 h will be adhered to very strictly, and documents received after the given date and time due to any reasons, including postal delays, will not be accepted.

Three hard copies of both the Abstract and the Extended Abstract must be submitted under registered post, or sent by courier or delivered in person, before the closing date, together with one copy each of the title page and duly completed Original Declaration Form. **Electronic Versions, E-Mail, Fax etc. are not acceptable in the first submission of abstracts.**

If the submission is hand delivered, please obtain a slip with a date stamp on it, at the time of handing over the documents to the SLAAS office.

All submissions should be addressed to the General Secretary, Sri Lanka Association for the Advancement of Science, 120/10, Wijerama Mawatha, Colombo 7.

### SLAAS Van for hire

- Rs.35/- per km subjected to a minimum charge of Rs.2500/-
- Rs. 500/- for overnight stay
- Rs. 160/- per hour for a maximum of 8 hour a day when the van is hired before / after office hours or on holidays / weekends

A coffee table book entitled "Sri Lanka's forests – Nature at your service" published by SLAAS in partnership with Dilmah Conservation is available at the SLAAS office (Rs. 1000/-)