JSA Newsletter 2012

March 2012 - Volume 19, Issue 1

JSA Newsletter

Jaffna Science Association, Jaffna, Sri Lanka

Reg.No: Ja/GA/P/CA/28

MESSAGE FROM THE GENERAL-SECRETARY

I have great pleasure in giving a message to this year's Newsletter of Jaffna Science Association. The JSA is functioning for the past twenty years with lot of shortcomings. The JSA's main aim is dissemination and application of science knowledge to the people of this region. Our programs are conducted in this direction. School Science Programme is conducted annually to boost the knowledge of Science among School students. Last year these contests were designed based on the comments received from the principals of the schools from 1AB and 1C of this region.

This year too we have the School Science Programme and so far we have successfully completed the quiz, exhibition (innovation, poster and painting), essay and oratorical contests. These contests serve as a tool to disseminate science among students meanwhile, help us to provide opportunities to them to express their skills. In addition, such contests will motivate to express their hidden talents. In addition to School Science Programme, a number of useful activities have been successfully conducted. Popular talks, workshops and herbal gardening activities have been successfully organized by different sections of the JSA. Also there are fourteen science articles have been published in the Valampuri Daily Newspaper by Section A.

It is a great pleasure to note that there are sixty seven members including forty life members joined the JSA during the period April 2011-March2012 to strengthen the activities of JSA. We are having the Annual Sessions in April. Chief Guest Address, Gold Medal Lecture, Chair Person Addresses, Theme seminar, Popular, Review Lectures, Research Paper Presentations and Presidential address will be the main events in the Annual Sessions. The Theme of the year is "Climate Change". Please see the details of the annual sessions below. I take this opportunity to congratulate all the executive committee members and sectional committee members for their hard work and commitment to popularize JSA.

Dr. P. Abiman,
General Secretary / JSA.

In This Issue

Prof.K.Balasubramanium Gold Medal Lecture - 2012

Emeritus Professor C. B. Dissanayake, Professor of Geology, University of Peradeniya, Director of the Institute of Fundamental Studies, Sri Lanka, is the recipient of this years' Professor Balasubramanium Gold Medal and he will deliver the gold medal lecture entitled "Climate Change, Water Quality and Health" at the Library Auditorium, University of Jaffna. on 04.04.2012 at 9:30 am.

JSA ANNUAL SESSIONS 2012
PRESIDENTIAL ADDRESS

PROBLEM BASED LEARNING

by

Dr. G. Bavani, MS, MRCOG

On
9th April 2012 at 2.00 pm
in the
Library Auditorium, University of Jaffna.

Traditional Libraries to Digital Libraries Changing Role of Librarians

Libraries are the treasure house of knowledge. Traditional libraries have collections of books, manuscripts, journals, and other sources of recorded information, which are organised in a systematic manner and preserved for the purpose of dissemination of knowledge to the present and future generations. Modern libraries are increasingly being redefined as places to get unrestricted access to information in many formats and from many sources. They are extending services beyond the physical walls of a building, by providing materials accessible by electronic means, and by providing the assistance of librarians in navigating and analysing tremendous amounts of information with a variety of digital tools. Today, libraries have digital resources and services. The digital collections can be of print, audio and visual materials in numerous formats, including maps, printed documents, microforms (microfilm/microfiche), audio cassettes, videotapes, CDs, DVDs, video games, e-books, e-journals, audio-books and many other electronic resources. Furthermore, libraries are liable to provide scholarly access to selected relevant information resources, to fulfill the needs and expectations of users. In order to achieve this, libraries need to bring in information available in all media and document formats (both physically available and remotely accessed via the www) accessible to their users. In this context, without modern e-technology services adopted in the library functionalities, libraries are increasingly viewed as out dated.

Need for change

It is observed worldwide that book borrowing from libraries has been consistently falling over the past few years. In Britain, annual statistics revealed that book borrowing has dropped by 20% in 2008 compared to 2003. It was also reported that visits to libraries decreased by 2.6% and book stock has faced 11% fall in 2008 compared to previous years. However, people are taking advantages of the free Internet access services provided by the libraries. Moreover, most people are accessing the library services via Internet, for reservation, renewals and catalogue inquiries. This might be one of the reasons for decline in the physical use of the libraries. This raises the question "Is there a need for Libraries and Librarians in the electronic age?" The definite answer to this question is "YES". But, there is a need to have a change in their role.

Currently, the world is characterised with increase in the quantity of information produced (information explosion), greater access to a wide range of information sources through www, increased speed in acquiring and disseminating information, and advancements in information technology (IT). Thereby, the information world is undergoing transition from a library-centred to information-centred entity and libraries are expected to change from paper-based environment to digital interface (e.g. using search engines, online databases, data mining, etc.). However, there are concerns about stability and longevity of digital publications. Nevertheless, our libraries should transform in the aspects of utilising new technology to automate library functions, employing IT for the enhancement of information access, collaborating with wider range of institutions and information professionals, and acquiring licenses for remote access (instead of purchasing information sources). While public libraries are expected to provide open and free access to information, academic and research libraries are expected to supply reliable and up to date scholarly information. Further, in the capacity of information provider, libraries need to posses IT skilled specialists functioning in an electronic, automated environment, too.

Changing role of Librarians

Regarding the role of librarians, they act as a custodian of library materials and assist the users in searching and critically evaluating relevant information sources, along with function as a public relations officer in maintaining good relationships with management, users and other organisations, in traditional libraries. However, the role of librarian in the 21st century has changed as follows:

- Information broker for both print and electronic media - Identifies, retrieves, organises, repackages and provides electronic access to digital information sources

- Technology application leader - Collaborates with IT Services to design and evaluate systems that would facilitate e-access
- Facilitator- Makes access easier, e.g. provides network access, purchases software & e-journal licenses
- Educator - Trains library users on Internet use

Innovator/Website designer - Designs the library's web page and searches and evaluates information resources to be linked to the site, manages the organisational web site

- Database manager - Searches via online databases
- Collaborator - Expands collaboration, not just with fellow librarians but also with IT people, the community, etc.
- Policy maker - Develops or participates in the development of an information policy for an organisation
- Business manager - Negotiates with publishers and aggregators for the most advantageous license agreements for e-journals and databases
- Image maker - Project a positive image to the outside world by adding value to the library

In order to perform these tasks, librarians should acquire professional competencies as well as personal competencies. Professional competencies such as knowledge in the areas of information resources, information access, technology management, and the ability to apply them in providing library and information services are necessary to meet the requirements of users. Personal competencies are a set of skills, attitudes, and values that enable librarians to survive in the information world. This includes commitment to service, ability to face challenges, foresight, ability to create an environment of mutual respect and trust, effective communication skills, good team work, dynamic leadership, systematic planning and prioritising skills, interest in lifelong learning, and positive attitude towards continuing change.

Are we ready?

Thus, the 21st century is witnessing an information revolution and information needs are expected to be satisfied in a timely and preferred manner. Technology for generating and sharing information is useless, without a system to locate, filter, organise and access it. In this connection, librarians are becoming more in demand than ever in this digital age. Traditionally librarians are in the forefront of information dissemination and they will continue to be there, but via altered and IT-driven means. As librarians are we ready for the challenges of the digital age?

Mrs.K.Chandrasekar
Chairperson,Section B

Genes Doing Wonders...

The applications of scientific and engineering principles in technology to the processing of materials by biological agents for the betterment of blessed earth, is biotechnology. One of the leading fields of biotechnology is known as Genetic engineering. This is nothing but manipulation of genes. This is a modified version of cloning (gene cloning) which involves the technology for the production of desirable characters. In simple words it can also mean the use of biological scissors and biological gum for the betterment of our earth. Insulin is the first manual product, which has been obtained by genetic engineering. In earlier days people used to get insulin from pigs in order to control sugar concentration in diabetic patients. Unfortunately this insulin was allergic to some patients and even a lot of pigs were killed for this purpose, which resulted in an imbalance in the environment. To overcome such difficulties scientists were steered towards genetic engineering to produce human insulin in bacteria such as *E.coli*, which occurs in abundance. Now scientists are exploring the possibility of injecting the 'insulin producing gene' to a patient who has deficiency in it. They have also produced better vaccine and hormones by these techniques.

In the field of agriculture one can produce better, high-yielding and disease resistant plants, which will not require synthetic pesticides and fertilizers. By the adaptation of these methods we can get rid of soil pollution to a great extent.

In another approach for cleaning up of toxic wastes, scientists are trying to design microorganisms with relevant enzyme(s) for the breakdown of toxicity. In places where there is a lot of xenobiotic wastes, the microorganisms can be engineered for the breakdown of xenobiotic compounds present there.

Other than the examples mentioned here there are a lot more and in future we can hope to see a lot of wonderful changes. For example scientists may arrive at a situation where most of the work for the doctors will be putting injection(s) containing specific gene or genes of interest to cure the genetic defects.

Dr. P. Sevvel
Chairperson, Section A

Climate Change and Human Development

Climate change takes place due to man-made changes or natural changes. In this newsletter man made changes changing the pattern of life is discussed. The primitive man depended on nature for all his needs. He adored her and worshipped her. Necessity compelled him to explore. His inventions started with fulfilling his basic needs and wants and reached the peak in the advancement of science and technology in the 21st century. Man has no time to think about how far planet earth provided his needs to reach this stage. The development of science and technology has made man enslaved to modern technology.

On the other hand mankind is fortunate to lead a cozy life enjoying the comforts such as technology based education, business, entertainments, equipment, gadgets, machineries, establishment of electronic atomic stations, transport, trade, travel, weapons, nuclear armaments, atom bombs, and so on. Yet now he realizes that these ongoing researches, experiments, testing, searches, findings and explorations and inventions have resulted in the change of pattern of the life (that is the climate change) on the planet.

It is found that climate change affects every aspect of human development. It affects the sustainable livelihoods; water, food, energy and human security and human health. It drastically affects the mankind. People are scared of the rapid advancement of technology which seems to be a threat to them as well as to the planet through witnessing the adverse effects which they believe are the result of the same. They now realize how the maximum utilization of nature is made. The planet is affected with pollution and, threatened by the disturbance of its equilibrium in all the sense. The holes in the ozone layer, earth quakes in new territories, unusual whirl pools, tornadoes, cyclones, tsunami, floods and lack of rainfalls or heavy rain falls, changes in the weather, melting of ice in a rapid speed in the polar regions, unnamed new malignant diseases and so on are the obvious changes that are found in the climate. The ability to withstand or recover quickly from difficult conditions caused by the adverse effects of climate change over short or longer term depends on many factors, especially on the vulnerability of a society to these adverse effects. The vulnerability of a society to climate-related hazards (natural or human-induced) is a function of duration of exposure, as well as environmental (including natural ecosystems that provide the environmental services), social, economic, technological and political (including policy) factors. Thus, the strengthening of coping or adaptive capacity is crucial to ensuring a climate resilient society or a society with reduced risk to the adverse effects of climate change. A "climate-resilient" society could mean a society that is able to withstand or recover quickly from difficult conditions caused by the adverse effects of climate change, including climate-related hazards and disasters.

For sustainable human development measures should be taken to limit population growth, reduce poverty, extend livelihood options including by providing opportunities and skills for the poor and vulnerable and forming specific policies to help the new changing consumption patterns to maximize the use of natural resources; bring drastic change in lifestyle to reduce our carbon footprint, reducing underlying vulnerabilities and the integration of risk management and risk reduction strategies in development planning . Further adapting strategies that include disaster preparedness, monitoring, early warning, and information dissemination, and bringing behavioural changes, and preparation for natural disasters would protect people from climate change. The human development could be sustained through better information sharing for livelihood diversification, learning and (business) innovation; (agricultural) research and development (R&D); as

well as major infrastructure development", "integrated disaster/climate-resilient habitat" that incorporates both "disaster risk reduction" and "livelihood protection", capacity development and enhancement at all levels including skills development in "emerging green businesses", alternative "land-use options", and "improving education standards" for "the next generation" , and "the self-capacity of the communities" for "adaptation (or preparedness)" as "an integral part of human development" social dimension. As human development includes environmental sustainability); generating knowledge, including "traditional knowledge" on adaptation based on good farming practices and experience in various climatic development of "science and technology", including research, especially in rural communities are essential.

However, a climate-resilient society, including adaptation, cannot be achieved in isolation, and it has to be an integral part of other development challenges. It should have the ability to completely recover from climate change disturbance.

Mrs.S Ravindran

Chairperson, Section D

JSA 19th Annual Sessions

THEME SEMINAR: Climate change

Thursday 05 April 2012

Dr. S. N. Surendran: **Climate Change and Natural Resources**

Dr.Mrs. M. Senthilnanthanan: Climate Change on Environment

Dr. V. Murali: Climate Change on Health

Mr. A. Nithilavarnan: Climate change on Socio Economics

JSA 19th Annual Sessions – Sectional Business Meetings

Monday 09th April 2012

Section A: Chemistry Library Hall

Section B: Chemistry Tutorial Room 2

Section C: Chemistry Tutorial Room 3

Section C: Library Auditorium

Accomplished Activities -- Section A: Pure Sciences
Popular talks

- Popular talk on 21.04.2011, Discovering Sri Lankan Bees: Our Experience. By Prof (Mrs.) J.P.Edirisinghe, Department of Zoology, University of Peradeniya
- Popular talk on 23.08.2011, Cervical cancer – An over view By Dr. K. Mukunthan, Department of Obstetrics and Gynecology, University of Jaffna
- Popular talk on 28.08.2011, "Biodiversity", By Mr. Eridge Glover, Scientific Lecturer, Alliance Francaise de Paris.
- Popular talk on 27. 02. 2012, "Elephants", By Prof. Raman Sukumar, Head/Centre for Ecological Sciences of Indian Institute of Bangalore.

A Science Exhibition entitled "Bio Diversity" was held in Collaboration with the Alliance Francaise de Jaffna at the Library auditorium of the University of Jaffna.

Workshop on biology - Section A in collaboration with Provincial Department of Education, Northern Province has conducted a workshop on Biology for G.C.E. (A/L) biology teachers of Northern Province on 19th and 20th of October, 2011.

Ten scientific articles were published in the Valampuri daily newspaper, with the contribution from the members of Section A.

Accomplished Activities –Section B: Applied Sciences
Popular talks

- Popular talk on 03.05.2011 **விழுமியக்கல்வி** (Value education) By Sister. M.Therese Rani, Former Principal of St. Mary's College, Trincomalee & Sister in-charge of Education of the Apostolic Carmel Congregation.
- Popular talk on 19.08.2011, **Anaemia: A Major Public Health Problem.** By Dr. ThaneswarySooriyakumar, Consultant Haematologist, Teaching Hospital, Jaffna.
- Popular talk on 09.11.2011, **இளம் பெண்கள் எதிர்கொள்ளும் மாதவிடாய் சம்பந்தமான பிரச்சினைகள்.** By Dr. G.Bavani, Department of Obstetrics & Gynaecology, Faculty of Medicine, University of Jaffna.
- Popular talk on 27.01.2012, **மது,போதைப்பொருளைஅறிவோம் - தெளிவோம்.** By Mr.ThamiyanJulythayan, Director, VIZHI Association for Psychosocial Development, Jaffna.

Release of the sectional Informative magazine – **Pirayoga Vingnana Sudar**, on March 29, 2012. It contains eight articles from various science based topics and the articles are written with the aim of reaching people of all walks of life.

Workshop on 'KOHA' – Library automation ion software' for Teacher librarians. Section B of the JSA

organised a two-day residential workshop on *KOHA* for Teacher librarians in the Northern Province, in collaboration with Provincial Department of Education (Northern Province). It was conducted on 19th& 20th November 2011 at the Computer unit, University of Jaffna. This workshop provided hands on experience in a particular library automation software called KOHA for Teacher librarians, in order to acquaint them with the new technology.

Winners of the JSA School Science Programme

Exhibition Competition

1st Place – J/Holy Family Convent
Ms. Bremini Vijayakumar
2nd Place – J/Hindu Ladies College
Ms. Rubini Nagarajah
Ms. Nilukshi Ratnam
Ms. Thayanika Thayaparan
3rd Place – J/St. Johns College
Mr. Maryn Alphons Amalraj

Drawing Competition

1st Place – J/Central College
Mr. Selvakumar Thilakshan
2nd Place – J/Inuvil Maha Vidyalayam
Mr. Ranjan Hirijan
3rd Place – J/Victoria College
Mr. Kunarasa Kabilraj
J/ Central College
Mr. Ampigapathy Thanenthiran

Poster Competition

1st Place – J/Hindu Ladies College
Ms. Thurasingam Thenuka
Ms. Sooriyakumar Sharmila
2nd Place – J/Hindu Ladies College
Ms. David Valencia
3rd Place – J/Hindu Ladies College
Ms. A. Sangeetha

Quiz Competition

1st Place – J/Vembadi Girls High School
Ms. Sivasubramaniyam Sumitha
Ms. Suseendran Brintha
Ms. Mikunthan Mithurika
2nd Place – J/Methodist Girls High School
Ms. Puvanenthiran Niluxsi
3rd Place – J/Chundikuli Girls College
Ms. Gnanasegaram Tharani

Documentary Film Contest

1st Place – J/St. Johns College
Mr. V. Elilan
Mr. K.R. Divan Shiyanth
Mr. K. Raguparan
Mr. M. A. Amalraj
2nd Place – J/Velautham Maha Vidyalayam Point Pedro
Mr. P. Karunesh
Mr. P. Risanthan
Mr. T. Mayooran
Mr. S. Senthooran
Mr. J. Prassanth

Oratorical Contest

1st Place – J/ Vembadi Girls High School
Ms. S. Thirumagal
2nd Place – J/ Hindu Ladies College
Ms. S. Suthajini
3rd Place – J/Nelliyadi M.M.V.
Ms. S. Sivasankari

Membership Profile Update 2011/2012

Name	Type	Section
Dr. N. Suganthan	Life	C
Ms. T. Sangeetha	Life	D
Ms. K. Priya	Ordinary	D
Mr. S. Viththiyatharan	Life	A
Mr. B. Muraleetharan	Life	A
Mr. A. Laheetharan	Life	A
Mr. S. Neerajan	Life	A
Mr. S. Muralitharan	Ordinary	A
Mr. S. Ramesh	Life	D
Mrs. S. Shivani	Life	D
Mr. N. Thiruchchelvan	Life	B
Mr. S. Kavinthan	Life	B
Ms. V. Amirthaveni	Life	B
Ms. S. Karthiga	Life	B
Ms. T. T. D. Kayalvili	Life	B
Mr. P. Pulavan	Life	B
Ms. T. Thulasi	Life	A

Continued on next page

Ms. S. Saseela	Life	D
Dr. T. Kiruththiga	Ordinary	D
Dr. N. Jeyakumaran	Life	A
Mr. A. Tharshan	Ordinary	A
Mr. K. Jeyavanan	Life	B
Mr. V. Vijeraj	Ordinary	B
Ms. S. Ambihai	Life	B
Ms. N. Kiruja	Life	B
Mr. G. Guberan	Life	B
Ms. N. Sarmini	Life	B
Ms. V. Mythili	Life	B
Ms. M. Desitha	Ordinary	B
Ms. M. Prarthana	Ordinary	B
Ms. S. Karunathevi	Life	D
Ms. S. Kobika	Student	A
Ms. K. Vaithehi	Life	A
Mr. P. Justin Jude	Life	A
Ms. K. Balini	Life	A
Ms. T. Priyatharshini	Life	A
Ms. N. Tharmini	Life	A
Ms. K. Vironika	Student	A
Ms. K. Nilani	Student	A
Mr. K. Akilan	Student	A
Ms. T. Tharmatha	Student	A
Ms. R. Paheerathy	Life	B
Mr. K. Sarveswaran	Life	B
Ms. V. Tharsini	Life	B
Ms. G. Jeevaki	Life	B
Mr. P. Pratheeban	Life	B
Mr. S. Sivasuthan	Life	B
Mr. V. Visithan	Life	B
Ms. T. Rathai	Life	B
Mr. A. N. F. Sanfar	Student	C
Mr. K. Sarveswaran	Life	B
Ms. V. Tharsini	Life	B
Ms. G. Jeevaki	Life	B
Mr. P. Pratheeban	Life	B
Mr. S. Sivasuthan	Life	B
Mr. V. Visithan	Life	B
Ms. T. Rathai	Life	B
Mr. A. N. F. Sanfar	Student	C
Mr. T. Muhunthan	Student	C
Ms. S. Gowthamy	Student	C
Ms. M. Siddiqa	Student	C
Ms. S. Thiluxie	Student	C
Ms. S. Lukshiga	Student	C
Ms. R. Sahithya	Student	C
Mr. V. Vinitharan	Student	C
Mr. B. Paul Bright	Student	C
Mr. T. Nitharshan	Student	C
Ms. S. Sinthuja	Life	A
Mr. S. Sasikaran	Ordinary	C

Institutional Membership

Name of Institution	Type	Section
Mu/ViswamaduM. V.	Life	A
J/Kopay Christian College	Life	A

Sectional Subcommittees

Section A

Chair Person	Dr. P. Sevvel
Secretary	Dr. (Mrs.).A. Sivarupan
Editor	Mr. S. Ketteeswaran
Committee Members	
	Mr. S. Selvavinayakam
	Prof. P. Ravairajan
	Dr. S. Arivalzahan
	Dr. K. velauthamoorthy

Section B

Chair Person	Mrs. K. Chandrasekar
Secretary	Ms. S. Ramachandran
Editor	Mr. K. Thabotharan
Committee Members	Mrs. L. Umashankar
	Dr. G. Thirukkumaran
	Mrs. M. Rajaram
	Mr. P. Kalki

Continued on next page .....

Sectional Subcommittees

Section C

Chair Person	Dr. C. S. Jamunanantha
Secretary	Dr. P. Nanthagumar
Editor	Dr. Mrs. A. Sritharan
Committee Members	Mrs. K. Sounthararajan
	Dr. K. guruparan
	Dr. Mrs. V. Pagirathan
	Mrs. L. Kamalarupan

Section D

Chair Person	Mrs. S. Ravindran
Secretary	Ms. S. Saseela
Editor	Mr. A. nithilavarnan
Committee Members	Mr. S. Sivesan
	Mr. A. Rasakumaran
	Mr. S. Srikanthan
	Mr. S. S. Uthayakumar

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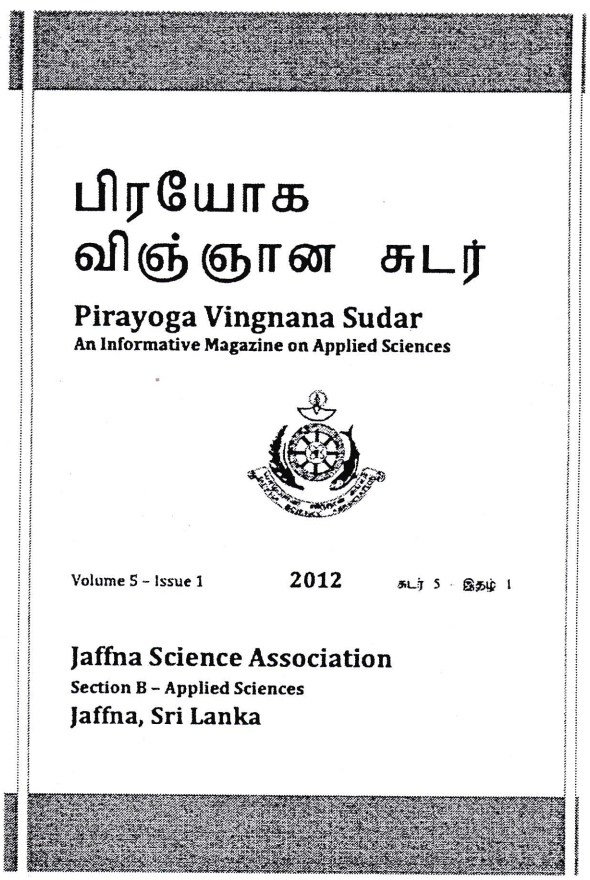

Sub themes of the Year on Climate Change

Section A: Pure Science	– Climate Change and Natural Resources
Section B: Applied Science	– Climate Change on Environment
Section C: Medical Science	– Climate Change on Health
Section D: Social Science	– Climate Change on Socio Economics