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Daily News

Vidya

The Official Newspaper of the
Ministry of Science, Technology and Research

Photos - Gayan Pushpika

Sri Lanka Standards Institute joins hands with the South Asian Regional Standards Organization

The Director General of the Sri Lanka Standards Institute attended the fifth meeting of the Governing Board of the South Asian Regional Standards Organization (SARSO) from 28 February to 1 March 2017, held in Dhaka, Bangladesh.

SARSO is a specialized body of the South Asian Association for Regional Cooperation (SAARC). It was established to achieve and enhance coordination and cooperation among SAARC Member states in the fields of standardization and conformity assessment and is aimed to develop harmonized Standards for the region to facilitate intra-regional trade and to have access in the global market.

All responsibilities of the organization is borne by the Governing Board of SARSO which comprises of heads of Standards Institutes from all member states and a representative of the Maldivian Ministry of Economic Development.

The Ministry felicitates Scientists who won National Awards

The Investiture Ceremony of conferring National Honours on distinguished personalities was held recently under the patronage of President Maithripala Sirisena at the NelumPokuna auditorium.

Five scientists who have not only won acclaim in Sri Lanka but also honours abroad were recognized at this ceremony and awarded for their excellence. The scientists who were thus honoured are: Prof. Sivalingam Sivananthan, Prof. Tissa Vitharana, Prof. Bandula Vijay, Prof. Monticassim and Prof Sarath Gunapala.

A felicitation ceremony for scientists who had earned the honours of 'VidyaJothi', 'Vidya Nidhi' and 'Sri Lanka Janaranjana' was thereafter held at the Hilton Hotel under the patronage of Minister Susil Premajayantha.

Prof. Sivananthan was recognized for his research into the field of night vision technology where he was a pioneer in. The technology has tremendous potential during situations of war and in the field of Defence. He earned his BSc in Physics at the University of Peradeniya and went on to read for his post doctorate at the University of Illinois in Chicago. At present he is a distinguished professor at the College of Liberal Arts and Sciences and the Director of the Microphysics Laboratory at the University of Illinois.

Continued on Page 3...

Innovating Sri Lanka
A four year framework

Following the STS Forum and moving forward with the Colombo Resolution Ministry of Science Technology and Research has embarked on a 04 year framework program in ensuring that Sri Lanka is not going to be left behind in the world of opportunities unlocked by the emerging technologies. As you can see from Fig1-2, the world is witnessing the emergence of plethora of new technologies and developments and they are progressing at a dizzy speed as well considering the lists set out in 2014 and then in 2016 by some tech reviewers. When the society may be heading for a cashless society (potentially no crimes from heists and robberies and pickpockets!) we are still having issues with the use of credit cards! With autonomous cars both driving schools and garages may be obsolete yet we are stuck in traffic filled with old models and ideas. The intention of the 4-year framework is to ensure that developments take place that will definitely benefit Sri Lanka and in addition have a positive effect on Sri Lankan hi-tech exports. To achieve the latter research and commercialization must come together.

There is the need for our research institutes to embrace challenges in ensuring that Sri Lanka is in step with the advancing world.

Is the concept too ambitious? We do not think so. One can visualize some of these emerging technologies being taken up by our research institutes as flagship programs and tune them to serve the country. Carbon from coconut can do so much and pure water for drinking will be within our grasp if we pursue this instead of only planning to sell advanced carbon to rest of the world. The same coconut along with graphite from our land – we do have a unique graphite deposit – can support energy storage developments. NIFS is already working in this area. Ministry has launched a program to support personalized medicine becoming a reality with the planned establishment of genomics institute with digital health in mind.

The present science says that even if we take medicine depending on our genetic composition some of these may not actually work. Some may even be turned on to be toxic by biotransformation processes within the body. This knowledge is not currently being factored into our drug delivery process. Lack of understanding may be resulting in so much foreign exchange lost and patients in danger!

There are challenges in immediately bringing about change but if we are unaware and are taking decisions based on old knowledge we will never serve us correctly.

While 3-D printing or additive manufacturing as it is known is revolutionizing the manufacturing world with predictions of putting many manufacturing jobs in danger our SME sector may need to be supported differently enabling some to leapfrog instead of loans just supporting an inefficient existence. The advent of bio-printing will mean that with the use of regenerative medicine that one will print an organ or tissue and replace any diseased organ in your body than having place news paper advertisement for organ donors. The assurance that it is your own body cells that will be used to get your new organ may mean no more medicine throughout rest of your life to manage organ rejection issues and complications! In addition it is expected that regenerative medicine to add very much more years to life with quality of life preserved.

The use of sensors and the emerging internet of nanothings many mean sensors with artificial intelligence may do many of the tasks that we have to do in order to lead a quality life. Food may arrive to our homes when the fridge at home communicates to the supermarket that some vital items are nearly finished. The connected systems will attend to their own communications and delivery methods with I as a user will not need to worry about at all. The garbage properly separated (still the separation has to be done by us – we must do something!) will be provided with solar energy powered garbage bins and the SIM embedded will communicate (Fig. 3) to the recycling vehicle when it is about to be filled and request emptying. The traffic management system supported by the satellites etc. will allow minimum discomfort in ensuring collection and disposal to realize energy and resources embedded in waste to be utilized again. This type of system is already in operation in some of the cities of the developed world and our knowledge can improve or build similar units right now.

As one can see the Power of Science is immense. We have more subscribed to the power of myth. Emerging technologies are transforming the world. There is no time to delay. Embracing new technologies is not aping the west or copying what exist or developing elsewhere. Nurturing creativity along with understanding what we need and want too is important to factor in. That is why as stated in the Colombo Resolution addressing STEM education in having the right human capital is very important.

Disruptive Technologies (2014)

- Mobile Internet
- Automation of Knowledge Work
- The Internet of Things
- Cloud Technology
- Advanced Robotics
- Autonomous and near-autonomous vehicles
- Next generation Genomics
- Energy Storage
- 3 D Printing
- Advanced Materials
- Advanced Oil and Gas exploration and recovery
- Renewable Energy

Fig. 1 - 1

Emerging Technologies (WEF, 2016)

- Nanosensors and the Internet of nanothings
- Next generation batteries
- The Blockchain
- Two dimensional materials
- Autonomous vehicles
- Organs-on-chips
- Perovskite Solar Cells
- Open AI Ecosystem
- Optogenetics
- Systems Metabolic Engineering

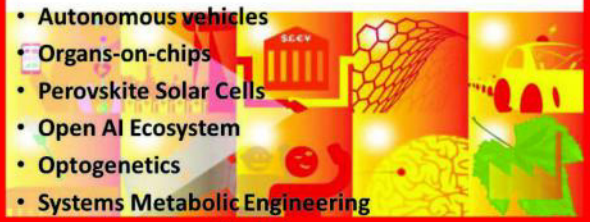


Fig. 1 - 2

Fig. 3

By Prof. Ajith de Alwis
Project Director,
Coordinating Secretariat for
Science Technology & Innovation (COSTI)
Ministry of Science Technology and Research

Managing Personal Hygiene in implementing Good Manufacturing Practices (GMPs)

In this busy contemporary lifestyle of modern world, there are circumstances where you need to consume food from outside. In selecting a proper place to have a meal, you might have set your own standards which would meet your requirements. However, Sri Lanka Standards Institution (SLSI) has taken steps to assist the public to make a rational decision in this regard by introducing Good Manufacturing Practices (GMP) Scheme based on a globally accepted set of norms.

GMP Certification has already been implemented by SLSI and it is a mandatory requirement for catering industry from the year 2017. There are seven requirements in GMP Certification Scheme for catering industry, out of which this article will emphasize on the requirement of personal hygiene.

Food poisoning is caused by bacteria (mostly Salmonella, Staphylococcus aurius, Shigella and Streptococcus) viruses (Norovirus, hepatitis A) and protozoal parasites (Cyclospora, Giardia, Cryptosporidium). Often these microorganisms enter food through food handlers. Thus, by maintaining personal hygiene will help to prevent food borne diseases. When a food processing establishment introduces a personal hygiene programme, it is essential to develop documents and implement the necessary procedures initially. Employees should be provided with necessary tools and equipment together with required training to make them aware of this programme. Training of workforce should be effective enough to believe that personal hygiene is not only a rule but also a part of their routine work.

If a worker is sick or has an open wound, there is a risk of contaminating food. Hence, it should be informed to the management and they should not be allowed to handle food. Those open cuts should be covered with approved clearly visible and waterproof dressings. The managers should have the training and observation skills to identify whether any food handler is injured or ill.

New recruits, who are likely to come into direct contact with food, must undergo medical examination to ensure fitness for work. In many instances these medical tests may include blood tests, stool samples for intestinal parasites and pathogenic bacteria etc.. Medical Examination should be focused on the symptoms; fever, cough, cold jaundice, skin infections (on hands, arms, face), boils, discharges from eyes/nose/ears. The examination should include a questionnaire to record the past medical history of the worker, especially for enteric infections. Workers who are diagnosed with any of these diseases should not be allowed to handle food. As a rule of thumb, medical tests should be done annually.

However, frequency of medical testing may change according to the applicable regulatory requirements.

Street clothes should not be allowed to wear as they may bring pathogenic microorganisms which contaminate food. Suitability of uniforms given to the workers will depend on the type of the manufacturing process. Food handlers should wear head covers that cover all hair and ears preferably in white colour. Beard or mustache of workers should be fully covered. Uniforms should be tight fitting and be equipped with Velcro closures. There shall be no pockets above the waist. Sleeves shall be tailored with elastic bands at the wrist. The uniform material should be a breathable one and it should not be a "shedding" material.

Jewellery including rings, brooches, watches, pins, earrings, necklaces and visible piercings which have a possibility of falling in to food, equipment or containers should be removed when a worker enters a food processing area. However, plain wedding bands (without stones) and medical emergency bracelets or necklaces are allowed in some plants. However, these must be covered with a material that can be maintained in an intact, clean and sanitary condition which will effectively protect against the contamination by these objects.

Food handlers and supervisors should be given adequate training on proper food handling techniques, food protection principles and good personal hygienic and sanitary practices. Attitudes of the employees should be developed where hand washing becomes a virtually automatic response to situations such as,

- before starting work
- before and after meals and tea breaks
- immediately after using the toilet
- when leaving or returning to the processing area for any other reason
- when shifting from one job to another within the processing area
- when the hands become unexpectedly contaminated due to handling equipment, contact with soil etc.

All above practices are recommended in order to maintain personal hygiene of food handlers which will be conducive to prepare safe food. People who are in the food industry should always keep in mind that you are catering to a basic need of human beings. After consuming your food the consumer can be delighted or his life can be at a risk if the food you have provided is contaminated. Thus, you should have people of integrity, who understand their responsibilities to each other and public.

Puwasala Kariyapperuma
Assistant Director (Technical)
Sri Lanka Standards Institution

The Sri Lanka Standards Institute boasts of the best human resources and technology

Mr. T.G. Gamini Dharmawardena, Director General- Sri Lanka Standards Institute

In 1964, the organization which was started as the Sri Lanka Standards Office was later renamed through a special Act in 1984 as the Sri Lanka Standards Institute (SLSI). The organization since then has been mandated to prepare the standards required for all goods and services in Sri Lanka and over the years, the Institute has gone through a process of continuous improvement to set the highest benchmark for standards in Sri Lanka. SLSI, Director General, T.G. Gamini Dharmawardena speaking to 'Vidya' had the following to say:

Q. Can you elaborate on the various methodologies used at SLSI?

A. The Sri Lanka Standards Institute important for the continuity of the country and the protection of its people. It also holds membership in national and international standard bodies to fulfil an important responsibility to society. We use experts who specialize in certain skills and technologies as well as new laboratory methods to carry out our responsibilities in a successful manner. Within this we also carry out certain important services. One such service is the preparation of standards the country needs and the implementation of them. To achieve the above target we have utilized several methodologies. The certification of goods can be taken as one of the more important tasks. Under this, special attention is given to certification of Systems. The most popular system used world over is the ISO 9000 standards on quality management and quality assurance which our organization issues. Internationally, if you take certification related to the environment, we issue the ISO 14001. For an example environmental pollution caused due to the use of poisonous dyes by a garment factory. To rectify the situation and bring it back to a state where it adheres to the certification, we can introduce methods intooverall basic system in order to minimize the harm and thus refine the system. Under a company's processes, we also have the ISO 50001 which certifies its management of power use and the system adopted to ensure the safety of workers come under OHSAS 18001. In addition goods and services certification also has the GMP certification which ensures that all food and drink adhere to good manufacturing processes ensuring quality and safety of the product, certification of Super Marketsand the Scientific Standardization Division which provides scientific standardization among others.

Q. How important is standardization for the certification process?

A. Standardization is one of the most important aspects of the certification process. It must be emphasized however that standardization is not a permanent document. It can change and the main reason for this is that consumer demands change from day to day. Thus any standard is evaluated every five years and there we discuss whether the relevant standard should be maintained, if it needs to be changed and if so how can it be further improved. Standards are prepared after much consultation with a group of specialists who are well versed in that particular good or service.

Standards which have been thus identified have many dimensions to it. If we discuss standards of a company, first we look at the internal processes of a company and can take into consideration whether the manufacturing process or services are carried out in a way which it does not cause harm to the consumer. As a secondary measure, we can look into whether the company adheres to national standards. Under this we take into consideration the overall standards the goods and services have to maintain within the country. To prepare these national standards, we have to take into account the legal requirements, the demands of the consumer and the requirements of the standards body. This process will have the collaboration of the Scientific Standardization Division and the Engineering Standards Formulation Division.When preparing the initial draft, we have the contribution of an expert from the relevant industry, consumer organizations and university professors.

Thereafter the standards which have been thus prepared are put forward to the public for review and publicized through the newspapers. After such public scrutiny, they are put to the SLSI Council for approval and once approved, they are once again announced to the public.

Q. How do we acquire regional and international standards?

A. Regional standards are just another category of standards. It is unique to each region. The SAARC standards are one such example. These standards make it easier for the export and import of goods. Another example is the ISO certification which is prepared through International Organization for Standardization. When talking of international standards, I must make special mention of the fact that the SLSI is the only authorized agent of the International Organization for Standardization in Sri Lanka. We are very proud of this.

The SLSI is very strong in terms of human resources and they are subject to continuous training. They participate in local as well as international training programs and further improve their knowledge base when working through international standards preparation bodies.

Q. What other factor is important when controlling when certifying systems and preparing standards?

A. Optimization can be identified as one of the most important aspects when preparing standards and certifying systems. If standards are said to be the instrument of measurement, Systems determine how useful that instrument is. In other words, we look at system certification as the capability of it being able to adhere to standards, reduce deficiencies and its ability to fulfil the needs and wants of the consumer. Systems have to be improved through the adoption of the M4 practice which is: Man power, Machines, Methodology and Materials.

Q. How strong is the cadre and technical capabilities within the SLSI?

A. We have over 2000 graduate officers working with us. We also have experts with specialist knowledge on every area that has been covered. The SLSI is very strong in terms of human resources and they are subject to continuous training. They participate in local as well as international training programs and further improve their knowledge base when working through international standards preparation bodies. We also have research and technical equipment which are in par with any national and international standard body. Furthermore our material testing laboratory, chemical testing laboratory, food testing laboratory, electrical and electronic testing laboratory, microbiology testing laboratory and textile testing laboratory all meet international standards. We also hope to establish another research facility to test items endemic to Sri Lanka on a three acre land in Malabe soon.

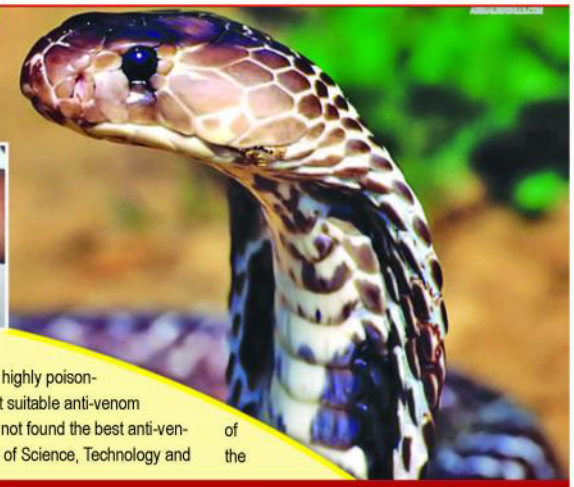
Q. What are the services which can be obtained from the SLSI?

A. In addition to issuing certification on the system of standards used in preparing good and services, we also carry out import inspections. Furthermore we also carry out metrology services, energy efficiency labelling for electronic goods and tea certification. We conduct diplomas on some of the main ISO standards such as ISO 9001, ISO 14001 and ISO 22000 as well as training programs for companies based on their own needs.

Under laboratory services we have material, electronic, chemical, textile and food testing as well as a microbiology testing laboratory which ensure that manufactured items are safe according to national and international standards. We also provide free library services and in addition we carry out the program 'PramithiyaObai' (You are the Standard) in schools to raise awareness among school children.

Text: W.S.S. Nisansala Kumari
Pics- Wimal Karunathilake

Vidya



Venom Fights Venom - Anti Venom

Sri Lanka is home to nearly 94 species of snakes. They are divided into; highly poisonous, mildly poisonous and non- poisonous snakes. According to the classification, there are 20 highly venomous snakes and their bite can cause fatalities in humans. Among them, 13 species live in thedeep sea and only seven species of highly venomous snakes live on land. Researchers have found that there are 35 species of mildly poisonous and 59 non-poisonous snakes in Sri Lanka.

Nearly 40,000 people are poisoned or bitten by snakes every year but Health Ministry reports shows that only 10,000 people get admitted to hospitals for treatment. This clearly shows that many snake bites do not have serious effects and medical treatment is not necessarily important. However, it is important to receive proper medical treatment for highly poisonous snake bites.

Among the 10,000 snake bite victims admitted to hospital, nearly 100 succumb to their injuries. Worldwide, the annual death toll reported due to snake bites are 8000. A bite from a venomous snake should always be treated as a medical emergency to safeguard the life of the victim. Failing to do so, the venom will fast circulate and spread throughout the body. Once in the body, the venom can also cause great damage to the kidney and the sensory organs.

Majority of people who become victims to snake bite die as a result of the blood starting to clot due to the effects of the venom.

In Sri Lanka we mostly use anti-venom manufactured in India.

Research done by the Veterinary Department of the University of Peradeniya revealed that the anti-venom produced by Indian snakes are not 100 percent compatible whenbeing used against snakes bites in Sri Lanka. Another important factor is that the Indian anti-venom only treats the bites of a few of the seven highly poisonous species in Sri Lanka.

Senior Professor at the Veterinary Department of the University of Peradeniya, Jayantha Rajapaksa said the non-existence of those snakes in India was the main reason for unavailability of medicines in Sri Lanka. Prof. Rajapaksa said anti-venom needed to treat snake bite victims was imported from India but India does not produce anti- venom in respect two three of our snakes. Furthermore, though India produced anti- venom in respect of the other four species which are also found in their country, it is not bestsuit in respect to some of the species found in Sri Lanka. This is due to the fact that the strength of snake venom varied from region to region and country to country.

He also noted that anti-snake serum (anti-venom) is produced by first injecting snake venom into horses and then extracting the anti- serum produced in their bodies. The antibodies produced by the animals to fight the venom are used to make anti-venom.

Sri Lanka does not produce anti-venom thus far in respect to three out of the seven deadly serpents found in Sri Lanka. Cobra, Common Krait (Karawala), Sri Lanka Krait (MuduKarawala), Russell Viper (TithPolaga), Saw Scale Viper (WeliPolaga), Hump Nose Viper (PolonTheissa), and Green Pit Viper (Pala Polaga) are the seven deadly snakes found in Sri Lanka. Of them, anti-venom was produced in respect of the Hump Nose Viper, Sri Lanka Krait and the Green Pit Viper, he said.

In order to solve this problem, the Ministry of Science, Technology and Research has allocated Rs 50 Million along with a one year plan to achieve the target of filling this vacuum. Researchthat wasdone under the above project alsorevealed much information regarding Sri Lankan snakes.

"There are small differences in the toxicity level of each snake. Even if it is the common cobra that we all know, there is a difference between in the toxicity level of the Sri Lankan cobra and the Indian cobra. Sometimes, those differences prevail within the country as well", said Prof Rajapaksa.

"At present more attention is given to treat victims of the highly poisonous snakes with most suitable anti-venom as Sri Lanka still has not found the best anti-venom for it.The Ministry of Science, Technology and Research along with the Veterinary Department of the University of Peradeniya are working towards it", he said.

Prof. Rajapaksa said the Science and Technology Ministry had extended its co-operation for this programme conducted with the approval of the Department of Wildlife.

"As we have not found anti –venom for three highly venomous snakes in Sri Lanka, the doctors ask to bring the snake that bit the person before beginning the treatment. The doctors have to check whether the patient can be given the Indian anti-venom or not and it is very important for the doctor to be aware of the type of snake before commencing treatment", he said.

He explained that if the victim has been bitten by the three venomous that Sri Lanka currently don't have anti-venom, there was no use of giving him other anti-venoms. In that case, the doctors give him saline and perform necessary First Aid.

"When administering treatments for snake bites, we insert another kind of protein to the patient's body. If this is in excess, the patient's life will be in danger. Therefore, attention had been drawn towards producing anti-venom particular to the serpent species found in the country", he said.

Prof Rajapakse said aprogramme was launched to catch deadly serpent species from various parts of the country and extract their venom to produce anti- venom suitable for the three serpents.It is currently being implemented as short term and long term plan.

"Since anti-venom production in Sri Lanka is extremely costly, the venom extracted from Sri Lanka's serpent species would be dried and sent to India to get the anti-venom produced there at a cheaper rate for hospitals in Sri Lanka", he said.

Speaking of the long term plan, Prof Rajapakse said worldwide accepted high technology would be used in the process in future.

"The poisonous glands of the snakes will be examined to find out the genes that produce the poisonous venoms in snakes", he said.

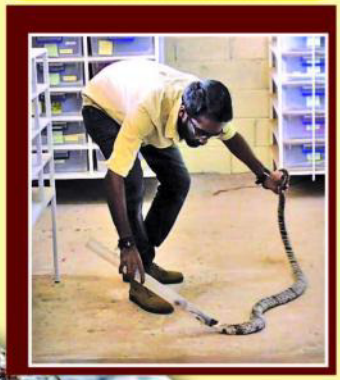
He further said that the snake poison was an aqueous solution. There was a higher amount of protein in it and it was a tedious task to separate the poison and the aqueous solution. After separating them, the protein can be produced by normal cell growth.

Prof Rajapakse said that this was a method by which the protein can be produced without using the snake venom.

He further said that people could extend their support for this cause by not killing the snakes. He requested the public to handover the snake to the Medical Faculty of the Peradeniya University.

The General public can also call this number 071 140 68 61 if they to ever catch any of the species mentioned above.

Text and Pictures
Asela Kuruluwansa



National Institute of Fundamental Studies (NIFS), Kandy

Annual Research Review 2017

The National Institute of Fundamental Studies (NIFS) was established in September, 1981 bythe Parliament Act No. 55 and shifted its location from Colombo to Kandy on 04th December 1985. NIFS is the only national institute, which, by its Act, has the main objective as to, engages inscientific research to facilitate fundamental and advanced studies with an emphasis on basic research fornational development as well as for the advancement of science.Over the years, NIFS has achieved several goals with the limited number of senior scientists it has. Progressachieved during the year 2016 under review has been excellent and the research carried out at NIFS hasmade a significant contribution towards science, in general, and the development of the country.

Annual Research Review 2016 of NIFS is held to review the progress of its scientific research carried out in the year 2016. Basicresearch leading to useful applications in numerous scientific fields, especially in the development of lowcostenvironmental friendly biofilm biofertilizer, novel methodologies for environmental remediation, newdiagnostic techniques for pulmonary diseases, novel technologically important materials for solar energyconversion, nano-water filters for water purification, and biochar research on environmental remediationhas made excellent progress.

Pradeep Piyathilaka,
Communication & Media Officer,
National Institute of
Fundamental Studies, Kandy

"Vidu Nethin Dutu"

The dawn of the New Year

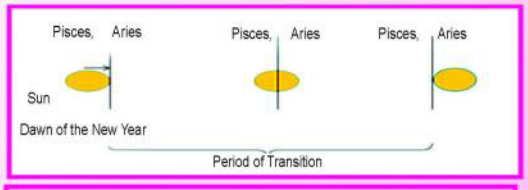
With two weeks to go for the New Year; an important event directly related to the field of astrology and horoscopes and that which is of interest to many Sri Lankans is set to occur.

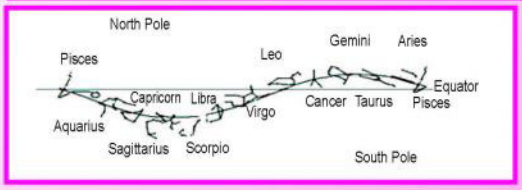
"In simple terms, the New Year is the movement of the Sun from Pisces (meenarashiya) to Aries (mesharashiya). Pisces is the last sign in the zodiacal light while Aries is its beginning. But for us, whom, the New Year has great national and cultural importance, this event must be study more carefully.

Astrologers such as Nicolaus Copernicus, Galileo Galilei and Johannes Kepler have shown that the Earth rotates on its own axis and moves around the sun in an elliptical orbit. This is known as the Earth's Rotation. For the Earth to complete one Rotation around the Sun, it takes 365 days andthough it is the Earth that revolves around the Sun, those of us here on Earth feel that it is the Sun that journeys around the Earth. This is phenomenon is known as theSun's visual journey.

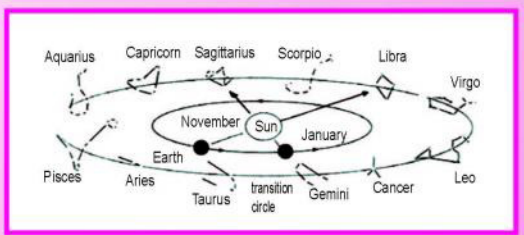
To further elaborate on this, it is similar to the feeling one gets when moving in a speeding car and it is the stationary objects in one's environment that seem to be speeding by. This Sun's visual journey can also be explained as the orbit of the Sun with respect to the Earth.

The movement of the Sun from Pisces to Aries brings in the New Year. It is at this moment, that the Sun begins a new circle in its visual journey.





The stars in the skies have been divided into 88 signs. Of these, 12 belong to the zodiac circle. They are based on the Sun's visual journey. Over a year, the Earth will inhabit different locations around the Sun's orbit, each of these position in relation to the Sun are assigned a zodiac sign. Thus the zodiac sign will change many times in a year, in relation to the position the Earth occupies relative to the Sun.



In picture aboveanarrow points to the zodiac sign prominent in the month of Novemberwhen taken in relation to the Earth's position to the Sun's visual journey. This sign is calledLibra. In January, the star sign on the Sun's visual journey is Sagittarius.

Continued on page 08...

Vidya

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A Sri Lanka empowered through Science, Technology and Innovation

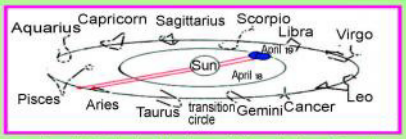
The Ministry of Science, Technology and Research recently organized a special awareness program under the theme of "Empowering Sri Lanka through Science, Technology and Innovation' for senior members in the field of Science and Technology at the Grand Kandyan in Kandy.
The event was held under the patronage of Minister Susil Premajayantha and was facilitated by Prof. Gunapala Nanayakkara and Prof. Ajith de Alwis.
The participants used the forum to discuss the direction in which the Ministry of Science, Technology and Research should embark on including its goals and targets that need to be achieved, in order to empower Sri Lanka in the field of Science, Technology and Innovation within the time frame of 2017-2020.
The program also had the participation of Prof. Ajith Pasqual, Prof. Vajira Dissanayake, Prof. Harsha Subasinghe, Prof. Nilawala Kottegoda, Eng. Tilak Dissanayke and Eng. Manju Gunawardena contributing as resource personnel.

Ministry Media Unit

Applications are called for the SRI LANKA NATIONAL QUALITY AWARDS 2017

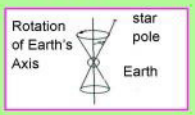
Sri Lanka Standards Institution organizes the Sri Lanka National Quality Awards (SLNQA) annually to recognize organizations that excel in Quality achievements. Applications are called for the year 2017 for the 23rd annual SLNQA program. This will allow the large, medium and small organizations to apply under the four sectors, Manufacturing, Service, Health care and Education. The SLNQA award unifies many other awards in corporate Sri Lanka, weaving together seven diverse aspects of contemporary business into one classical award. This award is recognized by the State and Standard-bearers around the world, and places award recipients on the cutting-edge of competition. It will also help the organizations to redefine their own bottom-lines.
Awards recipients will be benefitted by gaining eligibility to apply for the Asia Pacific Quality Awards and all applicants will receive an official feedback report containing their strengths and areas for improvement that had been noted in the evaluation process.
Further details and applications are available at Marketing and Promotion Division of Sri Lanka Standards Institution and the application deadline is 30th of June 2017. The marketing and Promotion Division can be contacted via email at dmp@slsi.lk.

"Vidu Nethin Dutu"
Continued from page 07...



The Red arrows clearly indicate that on 18 April, the star sign on the Sun's visual journey is Pisces while on April 19, the star sign on the Sun's visual journey is Aries.
According to astrological data, on 18 April, at 5.29pm, the Sun will leave Pisces and enter the beginning of Aries. Thereafter on 19 April, the Sun will enter the pinnacle ofAries. The the total time taken for the Sun to travel from Pisces to Aries is 13 hours and 53 minutes. During this time, there is no star sign that dominates and this is known as the transition period.
The dates below show the future times in which the Sun will travel from Pisces to Aries:

AC 2500	April 25 and 26
AC 4300	May 2 and 3
AC 3500	May 9 and 10
AC 4000	May 15 and 16



The reason for these dates of transition to move forward is the rotation of the Earth's axis. The axis of the Earth rotates in the pattern of an axis of a 'Top' once every 26,000 years. During such a period, the Sun would move 1 degrees every 72 years. Accordingly (26,000/12= 2166.67) the Sun will move one zodiac sign back over a period of 2166.67 years.
Hence cosmologists predict that in another 1000 years, the Sun will move Pisces to Aries sometime in May, this begs the question of whether we would then have to celebrate the New Year in May.

A Presentation by the Sri Lanka planetarium

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