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Chief Editor: Dr. Kshipra Misra
Phone: +91-9871372350 • E-mail: ijehseditor@gmail.com
Website: www.stenvironment.org

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STE Annual Awards 2019

(NOMINATION AND APPLICATIONS ARE INVITED)

LAST DATE 31th August 2019

Annual Awards of STE are the tangible symbol to signify eminence of contributions made by a person or institution. This boosts the enthusiasm of the contributors that have contributed in different field of science and social service with their excellence, expertise and approach towards achieving certain goals for the society. Recognition of such extraordinary activities is eventually very important to boost their confidence and to honour them for what they have done for the science and society. STE confers following categories of awards and honours to such eminent personalities.:

1. STE Dr. APJ Abdul Kalam Award

The award is in the memory of our former president of India late Dr. APJ Abdul Kalam. This award is conferred every year to the senior scientist of DRDO/ISRO (working or retired) who has significantly contributed towards the science and technology in India. (**Eligibility:** Any Indian Citizen above the age of 55 years) Nominations will be from STE.)

2. STE Dr. Praloy O Basu Life Time Achievement Award

The award is constituted in the memory of late Dr. Praloy O Basu, Founder Secretary of STE. This award is conferred every year to any citizen of India, who has made the difference to the society by his/her contributions in terms of education/ policies/ S & T/Social Service and others. (**Eligibility:** Age above 45 years Nomination from STE)

3. STE Fellowship Awards

STE Fellowship award is conferred to the Indian senior scientists /Academicians for their outstanding achievements in various fields of science & Technology and Education. Total Number : 05 (**Eligibility:** Any one above the Age of 50 can apply)

4. STE Young Researcher Awards

The awards are conferred to the young Indian researchers to encourage and boost their enthusiasm. Total Number : 15 (**Eligibility:** Any one in the Age between 25 to 40 years can apply.)

5. STE Water Awards

The awards are conferred to the Indian nationals who have made the difference in the area of water by any means. Total Number : 10 (**Eligibility:** Any one can apply in this category and age is no bar)

6. STE Best Ideas / Innovations / Technology for Environment Awards

The awards are for the Indian Nationals to generate / develop the innovation towards serving the environment. Total Number : 5 (**Eligibility:** Any one can apply Age no bar)

7. STE Best Teacher Award

This award is given to the teachers of Indian nationality for promoting science and technology among the school students. Total Number : 5 (**Eligibility:** Teachers – teaching Science for Classes 9-12 can apply).

8. STE Women Awards

This award is constituted to recognize the Indian women scientists/ Academicians for their contributions in the field of science and environment. Total Number : 5 (**Eligibility:** Any woman above the age of 40 years can apply).

9. STE International Awards

This award is to recognize NRIs who have brought fame to the India by contributing towards Science & Technology / Environment / education/ Society. Total Number : 2 (**Eligibility:** Any one born in India but working abroad can apply. Age no bar).

For more information, please log on to our website
www.stenvironment.org/ste-awards/

SCIENCE FOR A BETTER TOMMORROW...

AMRIT: A NANO-BASED WATER PURIFIER

by Dr. Anuja Bhardwaj, 2019
Editor

Water crisis has developed as a global challenge for health and economy. Environmental pollution accompanied by climate change and unchecked water usage by ever-growing population are the two major causes for water scarcity worldwide (Alvarez et al., 2018; Mauter et al., 2018). It is estimated that over 650 million people globally are deprived of access to safe water. The poor water quality along with inadequate sanitation has developed as the major cause for the death of one child (under the age of five) every two minutes (Alvarez et al., 2018). Thus, access to reliable and clean water is the most critical concern for majority of the government authorities throughout the world to ensure public and environmental health. With this perspective, several scientific technologies are being exploited to make water available for human use in order to overcome the issue of managing water quality. The science of nanoengineering is one of such technology which is emerging at a faster rate than others.

Nanoengineering or nanotechnology could be defined as the technology at nanoscale (1–100nm) which includes the designing, characterization, production and application of materials, devices, and systems by controlling the shape and size within the nanoscale (Bhardwaj et al., 2018; Cloete et al., 2010). The materials designed at nanoscale are termed as nanomaterials and are further classified into nanoparticles and nanostructures. A nanoparticle is a complex of atoms and molecules associated with each other at “nano” level whereas a nanostructured material is an amalgam of nanoparticles (Bhardwaj et al., 2018).

Nanomaterials exhibit various physical and chemical characteristics which are tunable to furnish nano-based separation modes for the purposes of water purification. These materials possess a larger surface area and can be functionalized (i.e., bounded to a ligand, coated with a functional moiety, etc.) to enhance their specificity for a given molecule or compound. They are known to bind to toxic metal ions, radionuclides, organic and inorganic solutes/ anions in aqueous solutions (Savage et al., 2005). The nanomaterials can be used as adsorbents, membranes or catalysts as means of nanotechnology for water treatment and purification (Qu et al., 2013). Nanomaterials as membranes are chosen over the conventional filtration techniques such as ultrafiltration, reverse osmosis and electro dialysis for water treatment. This is because nanofilters as opposed to conventional systems, require less pressure to pass water across them and can be more easily cleaned by back-flushing. Moreover, they are more efficient and present large surface areas (Nanotechnology for water purification. Science Daily, 2019). Thus, the nanomaterials due to their large surface areas and their size and shape-dependent optical, electronic and catalytic properties offer exceptional opportunities to develop more efficient water-purification catalysts and redox active media. Currently, four categories of nanomaterials are being assessed as functional materials for water purification. These nanomaterials include: metal-containing

nanoparticles, carbonaceous nanomaterials, zeolites and dendrimers (Savage et al., 2005).

In India, the contamination of groundwater with arsenic is a major issue and prevails in various states including Assam, Bihar, Chhattisgarh, Jharkhand, Manipur, Uttar Pradesh and West Bengal where, the arsenic concentration in groundwater is found above the legitimate limit of 10 µg/L. The consumption of arsenic contaminated water usually causes ulcers; skin pigmentation and hardening of palm skin and; different kinds of cancerous diseases. Therefore, mitigation and remediation mean to provide arsenic-free water to the affected population, especially in the rural areas is need of the hour. Recently, the Indian researchers have geared up their R&D efforts to develop environment-friendly, simple, user-friendly and cost-effective arsenic remediation technologies to supply safe drinking water in the arsenic-affected areas (Bhardwaj et al., 2018).

Herein, we have described an affordable arsenic filter developed by a team of scientists at the Indian Institute of Technology-Madras (IIT-M) which is based on nanofiltration technology. The team is headed by Professor Thalappil Pradeep who believes that an effective solution can be provided within a span of 4-5 years if the technology gets scaled up to all the affected regions of India (The Better India, 2015).

This nano-filtration based water purifier has been installed at pilot scale in various regions of West Bengal, including Murshidabad and Nadia districts (thethirdpole, 2016). The water purifier has been titled as “AMRIT” and is an acronym for Arsenic and Metal Removal by Indian Technology. It is able to provide arsenic-free water at about 5 paisa per free liter. It can be implemented at domestic, community and municipal levels (The Hindu, 2013).

The AMRIT has two variants; a larger unit which can provide 18,000 liter of pure water per hour and a smaller form of it that has been installed in numerous houses (The Better India, 2015).

The Arsenic Task Force of the Government of West Bengal has certified and approved the purifier. The pilot phase is complete and now it will be marketed soon as stated by Prof. T. Pradeep (The Hindu, 2013).

The water purifier AMRIT uses iron-oxyhydroxide, a nano-structured material (with a particle size less than 3 nm) used to remove arsenic from drinking water. The assembly can function without electricity or piped water supply. It can handle an input load of 5 ppm of arsenic for both forms of arsenic and bring the arsenic levels below the detection limit (<1 ppb). The contact time required for removal is relatively low (less than 1 min) and therefore, the composition is used in the size of 0.2 mm. Consequently, the pressure drop is negligible for the system. These characteristics impart various advantageous features including reduced treatment cost, compact filter unit, operative at minimum pressure, easy to maintain by local community and reduced sludge quantity (Pradeep, 2018).

The Union Ministry of Drinking Water and Sanitation has also recommended its application as a functional and efficient water purification system in most of the arsenic affected regions of India (The Better India, 2015).

Looking back through the literature, it is evident that the nano-based technology, AMRIT has successfully come a long way as an outstanding and progressive innovation since its invention in

2013. In near future it is expected that this low-cost arsenic removal nanotechnology-based water purifier can mitigate the challenge of arsenic contamination in India.



The Team at IIT-Madras. SOURCE: <https://www.thebetterindia.com/40227/water-purifier-developed-by-iit-madras/>



Low-cost arsenic removal filter installed in a school in West Bengal. SOURCE: <https://www.thethirdpole.net/en/2016/01/22/indian-scientists-develop-low-cost-arsenic-water-filter/>



AMRIT (Arsenic and Metal Removal by Indian Technology) for small communities. SOURCE: <https://dst.gov.in/dst-initiatives-pledge-safe-sustainable-water-all>

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OXYGEN IN BODY OF WATER: WHY IT CONCERNS US?

by Dr. Supriya Saini, 2019

Researcher at Defence Institute of Physiology and Allied Sciences

In India, Central pollution control board (CPCB) along with State pollution control boards (SPCBs) monitors the water quality of water bodies across the country. Recently in June/July 2019 questions have been raised in Lok Sabha and Rajya Sabha regarding pollution in water bodies and on the action plan to control it. Based on Biological Oxygen levels (BOD), in 2018 more than 350 river stretches have been identified as polluted. In December 2018, one of the two plants of Chennai refinery in Manali was forced to shut down as the BOD in treated effluent water is 14mg/L more than the permissible limit.

BOD is a key indicator of organic pollution. It measures the oxygen used by microorganisms to decompose the organic waste.

BOD Level

BOD Level (in ppm)	Water Quality
1 - 2	Very Good There will not be much organic waste present in the water supply.
3 - 5	Fair: Moderately Clean
6 - 9	Poor: Somewhat Polluted Usually indicates organic matter is present and bacteria are decomposing this waste.
100 or greater	Very Poor: Very Polluted Contains organic waste.

A relationship between BOD level and water quality

Source: <https://www.mrgscience.com/ess-topic-44-water-pollution.html>



A scientist measuring water quality parameters.

SOURCE: https://www.usgs.gov/special-topic/water-science-school/science/dissolved-oxygen-and-water?qt-science_center_objects=0#qt-science_center_objects

Nitrates and phosphates in water bodies are nutrients which favour growth of plants and algae which in long run increase the organic matter of water and hence contribute to higher BOD by the microbes to degrade this waste. Higher BOD depletes the oxygen level in water which is a threat to the life of fishes and other aquatic organisms. As per a recent report in July 2019, fishes have been seen dead in a water body in Hyderabad which could be due to high BOD of the Hussain Sagar lake.

Ganga and its tributaries contribute to the largest river basin in the country and its BOD does not meet its standard limit in past decades due to industrial and sewage pollution in urban areas of Uttar Pradesh. National mission for clean Ganga is an initiative by the government to clean Ganga River, get rid of its biological contaminants, its rejuvenation and conservation. As per a statement by the 'Jal shakti' union minister on the world environment day, Ganga River and its tributaries will be significantly clean within two years.

The question remains, are government efforts alone enough for curbing the water pollution in the country. People's participation is of equal importance to manage the sources of pollution of groundwater and nearby water bodies like rivers, lakes, canal etc. By implementing basic precautions in our daily life activities, we can contribute to the reduction in organic waste entering water bodies and hence help in keeping the oxygen in our surrounding water at par. A number of non-profit agencies and Non-Government Organizations (NGOs) are also working effortlessly to prevent water pollution and to create awareness among people and providing relevant information for its mitigation.

As per a study published in 2015 in journal The Lancet there were as high as 1.8 million deaths due to water pollution and about 1 billion people becoming ill due to it of which the major cause of disease remains the waterborne pathogens from human and animal waste. 'Dead zones' are created due to reduction in oxygen due eutrophication which pose harm to aquatic life. The threats posed due to water pollution are innumerable and thus it calls for similar innumerable and out of the box efforts from government, NGOs and people to reduce the degree of water pollution and let our water bodies breathe too.

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INNOVATIVE MINDS

AIR-INK: Entrapped vehicle pollutants to ink

To save the environment numerous companies are stepping forward with an approach to convert harmful by-products such as carbon in some useful commercial products. Such recognizable efforts have been put forth by engineers, scientists and designers at Gravity Labs, India. The team aims to curtail air pollution by extracting carbon from car exhaust to produce ink for pens. They have designed a device called KAALINK which can be attached to the car mufflers to trap pollutant particles that usually escape through tailpipe.



KAALINK

Source: <http://www.graviky.com/air-ink.html>

The collected residue is then sent to be produce a line of pens called as “AirInk”. A single pen can contain approximately 30 to 40 minutes of emissions produced by a car's engine.

The AirInk is definitely a solution for volarizing the harmful particulates released into air which are capable of causing respiratory diseases. By just binding the captured pollutants into

inks, release of harmful particulates into the air is a very innovative approach. Currently, AirInk is available in market and Gravity Lab, the ink is tested and declared safe for children but might be irritant to some users.



AirInk

Source: <http://www.graviky.com/air-ink.html>

SALt Lamp, a salt water lamp

SALt stands for Sustainable Alternative Lighting (SALt) lamp. It is an innovation designed by a Filipina researcher, AisaMijeno at La Salle University, Philippines. The SALt lamp has been recognized and awarded by various organizations in the Philippines, Singapore, Japan and South Korea. Aisa describes SALt lamp as not just a product but as a social movement, especially in rural areas. The lamp is powered by salt and water and runs 8 hours on just one glass of salty water and has a life around six months.

The SALt LED lamp working principle depends on a galvanic cell battery which comprises of salt solutions into which two electrodes are placed. It also generates enough power to charge smart phones via the USB port on it.

The SALt Lamp is safe as it does not contain any materials or components which may cause fire accidents. The electrolytic salt

solution used in this lamp is a non-toxic saline solution. All these features make the process safe and harmless. Moreover, the lamp does not emit toxic gases and leaves minimal carbon footprint making it eco-friendly. The salinity of ocean water can be used to

power up the lamp. Thus, the lamp can be powered up anytime and anywhere using ocean water stored in the bottles.

The prospective impact of this lamp is significant considering that there are 1.4 billion people living without electricity throughout



SALt Lamp

Source: <https://www.activesustainability.com/sustainable-development/the-best-sustainable-inventions/#10>

the globe and as mentioned by the inventor of the lamp, 70% of the earth's surface is saltwater. Besides, we still depend on other expensive means that are dependent on geography, climate, and fuel. Several public and private organizations from Korea, Japan,

Malaysia, Netherlands, Philippines, South Korea, Singapore, and United States are interested in this invention and they will enable



SOLAR PANELS CONVERT SALT WATER TO FRESH DRINKING WATER

A 17-year-old Vietnamese student could have marked a milestone in the history of sustainable development. Loi Nguyen Tan, a 17-year-old Vietnamese student has invented a device capable of converting fresh drinking water from salt water by using solar panels. The panels are thus, environment friendly and can be used in areas where there is no conventional electricity. Another advantageous feature of these solar panel based technology is that if it reaches a stage of industrial production, the water treatment will cost only \$45. Consequently, the possibilities for agriculture, livestock and the development of coastal rural areas will be nearly inexhaustible. An innovative ecological invention that can change the world.

SOURCE: <https://www.activesustainability.com/sustainable-development/the-best-sustainable-inventions/#3>

Earth Day at Goenka International School, Kamalpur, Durgapur

Earth Day is being celebrated at Goenka International School, Kamalpur, Durgapur in collaboration with Save The Environment, Kolkata on 22nd April, 2019.

The following various competitions to be organized on this occasion.

A. Sit and draw (Topic will be informed on the spot)

- I. Group 1: Students of class 2nd and 3rd
- II. Group 2: Students of class 4th and 5th

B. Essay Writing (date and time will be informed by the teachers in advance)

Students of Class 6th and 7th

Essay Topic: How to save mother earth from current environmental hazards?

C. Debate (Will be held on 22nd April)

I. Group 1: Students of class 8th, 9th and 10th

Topic: Human need has changed into human greed

II. Group 2: Students of class 11th and 12th

Topic: Conservation and development can go hand in hand









WORLD ENVIRONMENT DAY CELEBRATED ON JUNE 5, 2019

Facts We Should Know

The history of World environment day celebrations began in the year 1972. The event was marked on the first day of Stockholm Conference on the Human Environment held from June 5-16 in Stockholm (Sweden) under the auspices of the United Nations (UN) General Assembly. The goal of the conference was to establish fundamental and common standpoints to address the challenges of conserving and improving the environment. About two years later, in 1974 the first world environment day was celebrated with the theme "Only One Earth". With progressing years, the idea for rotating the host country for the celebrations of the event began in 1987 and now is celebrated in more than 100 countries.



Since the first celebration in 1974, the World Environment Day has enabled United Nations Environment Programme (UNEP), the specialized agency on environmental issues to raise awareness and create political momentum around growing concerns such as the depletion of the ozone layer, desertification, toxic chemicals and global warming. The Day has developed into a global platform for

Secretary-General's Message

The theme for this year's World Environment Day is air pollution. All around the world from megacities to small villages – people are breathing dirty air. An estimated nine out of ten people worldwide are exposed to air pollutants that exceed World Health Organization air quality guidelines. This is lowering life expectancy and damaging economies across the planet.

To improve air quality, we must know our enemy. Deaths and illnesses from air pollution are caused by tiny particles that penetrate our defences every time we fill our lungs. These particles come from many sources: the burning of fossil fuels for power and transport; the chemicals and mining industries; the open burning of waste; the burning of forests and fields; and the use of dirty indoor cooking and heating fuels, which are major problems in the developing world.

by 2022.

This year, China co-hosted 46th World Environment Day with UNEP in Hangzhou and the theme was 'Beat air pollution'. Li Ganjie, Minister for Ecology and the Environment, China, chaired the event. It was attended by more than 1100 participants.

The theme was selected by the host country in proposition to take on the global crisis of air pollution. Air pollution is a problem of grave concern for every country in the world. It is estimated that air pollution is responsible for the premature death of 7 million people each year globally, including 600,000 children as per a UN expert on the environment and human rights. About four million of these deaths occur in the Asia-Pacific region with 1.2 million deaths in India only during the year 2017, as stated by the State of Global Air 2019 report.

The major focus on this World Environment Day was on encouraging governments, industry, communities, and individuals to come together to explore renewable energy and green technologies which will benefit in improving air quality in cities and regions across the globe. The main scheduled event was the **Mask Challenge**, where the UN has urged individuals around the world to choose an action that they will undertake to reduce air pollution, photograph themselves performing this task while wearing a mask and then post this image on social media, tagging other organisations or individuals they wish to get involved in this challenge.

David Boyd, UN Special Rapporteur on human rights and the environment, issued a statement calling on governments to treat the issue urgently, as part of their human rights commitments. He praised China's efforts in addressing air pollution, noting that particulate matter (PM) in the atmosphere has recently declined by one-third.

Han Zheng, Vice-Premier of China, delivered a greeting from Chinese President Xi Jinping, calling for continued global efforts

taking measures on critical environmental issues. Over the years, millions of people have contributed in helping the drive by incorporating changes in the consumption habits as well as in national and international environmental policies, worldwide.

In 2018, it was India that hosted the Day. The theme of the event centered on combatting pollution caused by plastic. During the occasion, the Indian government committed to ban all single-use plastics



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to protect the environment and promote sustainable development. Han recognized the efforts of the city Hangzhou located in Zhejiang Province. It won a UN Champions of the Earth Award in 2018 for implementing a rural village reconstruction and restoration programme. Che Jun, Party Secretary, Zhejiang Province, recounted to delegates how the Hangzhou Steel Group was forced by the Government to shut down its production base. This industry had heavily polluted a district in Hangzhou with its production. However, after strict Government actions, managed to transform its business to concentrate on environmental protection, digital technology, and tourism within a couple of years with significant profitable increments. Alibaba Group and the United Nations have partnered to raise awareness of the importance of environmental protection for World Environment Day, the United Nation's annual campaign held June 5, 2019.



Alibaba Group and the United Nations have partnered to raise awareness of the importance of environmental protection for World Environment Day, the United Nation's annual campaign held June 5, 2019.

Joyce Msuya, Acting Executive Director, UNEP, shared a message from UN Secretary-General Antonio Guterres that underscores the global costs of air pollution, estimated at USD 5 trillion annually. Guterres calls on governments to tax pollution, end fossil fuel subsidies, and stop building new coal plants. Msuya recognized the Chinese Government's allocation of more than USD 10 billion from 2013-2018 to fight air pollution.



Li highlighted eight measures taken by China since 2013 to fight air pollution:

- launching a national air pollution prevention action plan
- restricting industry activity and shutting down outdated production facilities
- optimizing the energy structure and setting targets for coal consumption, including control and quality standards
- promoting clean energy development and electric vehicle transport
- setting up regional joint management mechanisms for air pollution control
- enforcing legal regulations and amending the Law on the Prevention and Control of Atmospheric Pollution
- enforcing air pollution controls through legal and judicial action; and
- encouraging public participation in green lifestyles and reporting of illegal pollution activities.

Ban Ki-moon, President and Chair, Global Green Growth Institute (GGGI) and former UN Secretary-General, pronounced that air pollution cannot be dealt with single handedly and called on all nations to contribute in commonality. He warned that, “climate change is approaching faster than we think,” and urged immediate action, reminding delegates that “nature cannot be negotiated with.”

How can governments get involved?

- ✓ Announce new requirements on industry to reduce harmful air pollutants.
- ✓ Make a pledge to phase out petrol and diesel-based cars, and increase investments in renewable energy sources.
- ✓ Offer free transport in urban areas.
- ✓ Commit to making more pedestrian and cycle-friendly zones.
- ✓ Consider how you can reduce emissions of air pollutants from facilities and supply chains.
- ✓ Make a pledge to use recyclable materials for your products.
- ✓ Commit to using more public transportation, cycle or walk.
- ✓ Make a commitment not to burn trash.
- ✓ Consider installing air quality monitors to check air quality on your campus.

government leadership, business participation and citizen

participation. He added to his statement that though considerable progress has been made on reducing air pollution, still there is “tremendous challenge” to be addressed. China is implementing an action plan for the year 2020 detailing their focus on the ozone and how they aim to reduce damage to the ozone by capping the emission of oxides.

Markedly, several other activities and launches took place around the world on

the Day. In India, the Government launched its comprehensive action plan to clean up air quality in Agra, where the Taj Mahal monument is located. The plan commits to address the sources of air pollution in the area, including from road dust, burning of garbage, construction and demolition activities and vehicle emissions. The Country's Ministry of Environment, Forests and Climate Change initiated a National Clean Air Programme earlier in 2019.

The Ministry also launched a song '*Hawa Aane De*', to mark the World Environment Day on June 5, 2019 with an aim to spread awareness about this year theme and stimulate population to get involved in reducing air pollution by introducing minor changes in daily routine.

In Delhi, areas are being divided based on the intensity of air pollution that affects them, with the plan to implement emergency actions, such as stopping the burning of plastics, obstructing constructions and controlling entry of vehicles.

Apart from the above measures, various cities came forward to organise plantation drives in a bid to do their bit towards making this planet clean and green. A similar effort was made by the NGO, *Save The Environment* in Kolkata.

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How to Beat Air Pollution

Here are some other ideas:

- ✓ Use public transport or car sharing, cycle or walk.
- ✓ Switch to a hybrid or electric vehicle and request electric taxis.
- ✓ Turn off the car engine when stationary.
- ✓ Reduce your consumption of meat and dairy to help cut methane emissions.
- ✓ Compost organic food items and recycle non-organic trash.
- ✓ Switch to high-efficiency home heating systems and equipment.
- ✓ Save energy: turn off lights and electronics when not in use.
- ✓ Never burn trash, as this contributes directly to air pollution.
- ✓ Choose non-toxic paints and furnishings.

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4. <https://sdg.iisd.org/news/world-environment-day-2019-seeks-to-beat-air-pollution/>

World Environment Day Celebrations

On June, 5, 2019, Save The Environment (STE) jointly celebrated World Environment Day with Millan Samity, Hrishikesh Park, Kolkata. The NGO has been persistently working to spread awareness among the society about various means to control environmental pollution and enrich the biosystem. Members of the organization at Kolkata



took initiative to organize celebrations of the World Environment Day. As a matter of fact, the budding generation, especially the school children are the future builders of our society. It is therefore, vital to facilitate them with the necessary knowledge about protection and conservation of our environment.

The Chief Guest of the event was Professor Gaurab Gangopadhyay, Bose Institute, Kolkata and was presided by Dr. Sandip Ghosh, Principal, Poddar Institute of Technology

and Management, Salt Lake, Kolkata. The occasion included poster making competition for school children between the age group of 12 to 15 years and the theme was environment pollution. An “open to all” quiz competition was also held and questions concerning the environment were asked by a talking doll. A seminar was conducted where our Chief Guest and President presented a talk on how the society is contributing towards environmental pollution such as global warming. They also described the various ways to control the pollution and inculcate certain good habits in our daily practices to conserve the natural resources such as water. At the end of the seminar the children who won the competitions were awarded. A magic show was also organized for the children to enjoy the event. The participants showed their complete enthusiasm and activeness among the children was a booster in itself for the members of STE. The organization, STE is thankful to Professor Gaurab Gangopadhyay and Dr. Sandip Ghosh for accepting the invite and gracing the occasion with their kind contributions. We also thank our joint partner, Millan Samity, Hrishikesh Park, Kolkata for enabling us in successfully achieving the celebrations of World Environment Day. In future also, we wish that more such organizations come forward and enable the society to conserve and protect the Mother Earth. As an NGO working for the environment, all the members of STE will continue to make the general population aware about the environmental pollution, adversities related to it and various ways (economic and eco-friendly) to combat the menace.





Dr. Anuja Bhardwaj
Editor, STE E-Newsletter

SAVE THE ENVIRONMENT (STE)

(A SOCIETY FOR RESEARCH, AWARENESS & SOCIAL DEVELOPMENT)

Head and Registered Office: 74B, Pasupati Bhattacharjee Road, Kolkata-700 041

Phone: 33-40616024 E-mail: save1990env@yahoo.co.in; info@stenvironment.org

Website: www.stenvironment.org