

ADVANTAGE AMITY ENVIRONMENTAL EDUCATION & RESEARCH

- Hi-Tech labs with research facilities of air, water and soil pollution monitoring, environmental toxicology, bio-remediation, solid waste water management etc.
- Government Funded projects of over Rs. 6 Cr. From Department of Science and Technology, Ministry of Earth Science, Ministry of Environmental Forest and Climate Change etc.
- Faculty credited with filing patents and contributing peer reviewed high impact research papers in leading publications.
- Collaboration with various National and International Institutions/Organizations like Northampton, Derby UK, Saskatchewan Canada, NYU, UMass, UC Berkeley, EPA, NIEHS-USA, NEERI, CPCB etc.
- Hi-end placements and internship at leading MNCs, Research Centre's Govt. bodies like DPCC, DRDO, NEERI-NAGPUR, IARI, NIDM, IMO, CII, CWC TERI, CSE, JNU, DU, Grassroots, Green-C India, Citizens Environment Improvement Society, CEC-CICI, Welspun Ltd., SCS-India Pvt. Ltd., Dupont etc.

AMITY ENVIRONMENTAL EDUCATION & RESEARCH

At Amity in the field of Environmental Science, we are synergistically working on various projects with Ministry of Environment & Forests, Ministry of Earth Science, Department of Science & Technology, Defense Research & Development Organizations, Department of Biotechnology. Objectives of the magazine are oriented towards finding in depth sustainable solutions on environmental current burning issues and developing research based tools. We are conducting several campaigns, and workshops for creating environmental awareness and pollution prevention. The magazine churn the minds of scientists, academicians and policy makers for fruitful solutions to curb the nasty cycle of environmental pollution causing adverse health impacts, global warming and climate change to provide mankind.

ENVIRONMENTAL INSTITUTES

- Amity Institute of Environmental Toxicology, Safety Management
- Amity Institute of Environmental Sciences
- Amity Institute of Natural Resources and Sustainable Development
- Amity Institute of Geo-Informatics and Remote-Sensing
- Amity Institute of Global Warming and Ecological Studies
- Amity Institute of Forestry & Wildlife
- Amity Institute of Green Technology Research & Studies
- Amity Institute of Water Technology and Management
- Amity Centre for Antarctica Research and Studies
- Amity Centre for Environmental Health and Science

ENVIRONMENTAL COURSES

- Ph.D. Environmental Sciences (Full Time, Part time)
- Ph.D. Geo-Informatics and Remote-Sensing (Full Time, Part time)
- Ph.D. Natural Resource and Management
- M Tech. Environmental Engineering
- M Tech. Geo-Informatics and Remote-Sensing
- MBA Natural Resource and Management
- M.Sc. Environmental Sciences
- B.Sc. Environmental Sciences
- UGC Environmental Science course credits to all undergraduate students (approx. 5,000) in two semesters



85 acre Amity University Campus, Noida (New Delhi NCR), India



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AMITY ENVIRONMENTAL EDUCATION & RESEARCH

Volume 1 | Issue 1 | Jan-Dec 2018



Sustainable Solutions & Development



Economics & Green Technologies



Awareness & Public Participation



Pollution & Climate Change



Ethics, Laws & Policies



Impact & Risk Assessment

MISSION

"Education & Research in Environment & Climate change for Sustainable Development"

*Earth, sky, water, air and fire
 Constitutes our body, existence and attire
 We must bow, appreciate and the admire
 Love of our mother earth to entire
 Mankind and all life its bearing
 For their birth growth and rearing
 Without any obligation and complaining
 With all its sources, nurturing and caring
 Today man is so selfish and malicious
 To fulfill the desires acting atrocious
 Digging earth from every niche
 Destroy its real beauty and bliss
 Diverting streams and making dams
 Making roads and cutting broad bands
 Bending heads of proud mountains
 Robbing by mining wealth it contains
 Drilling holes and oozing the life blood
 Drinking fresh water, left scarce on earth
 Littering even the white snow sheet
 Glaciers are melting due to global heat
 Oceans getting acidic due to dirty drains
 So is acidic our once soothing rains
 Hole in ozone and its depletion
 Satellites in space and their collision
 Our greatest fear and concern
 We must act before it destroys and burn
 The whole existence of mother earth
 Do not pollute with endless dearth
 Let's awake and bring back its worth
 Restore, rejuvenate and give rebirth
 To our wounded and exhausted Earth*

Tanu Jindal

AMITY ENVIRONMENTAL EDUCATION & RESEARCH (AEER)

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ABOUT INSTITUTIONS

Amity Institute of Environmental Toxicology, Safety and Management

(AIETSM) was established in May, 2008. The focus of research work is on current issues of environmental pollution and its impact on public health with an aim to find solutions for them. The Proposed projects are on localized environmental contamination studies to sensitize public and government to prevent any environmental and associated health hazards. The Institute engages especially in providing solutions to urgent environmental problems through their Ph.D. programme. As a portal to research in worldwide environmental affairs, the AIETSM has established a network of National/International scientists, research scholars that supports the Institute's objectives and activities and passes on additional research impulses in the shape of scientific advice and joint research. Many projects have been completed successfully & currently running from MoES, MoEF and DST, CSIR. Various national conferences/seminars/workshops have been organized to provide a platform to deliberate on environmental toxicology, soil, water, air contamination and impacts on human health along with green technological approaches to address these challenges.



Amity Institute of Environmental Sciences

AIES is an interdisciplinary centre of learning, established in 2010 as a part of Amity University Uttar Pradesh, Noida. This institute is currently running Ph.D. Programmes, viz. M.Sc. (Environmental Sciences), M.Sc. (EHS&M) & B.Sc. Our objective at AIES is to develop this Institute as a 'Centre of Excellence' in the field of Environmental Science and Technology. Apart from education the institute intends to impart special training to students who can handle the emerging environmental problems faced by the industries and the society on both the technological and environmental fronts. Huge force of green ambassador is generated to save mankind from impact of climate change, natural disaster as a result of environmental pollution.

FOUNDER PRESIDENT'S MESSAGE



It gives me immense pleasure that Amity Institute for Environmental Toxicology, Safety and Management (AIETSM) & Amity Institute of Environmental Sciences (AIES), have taken the scientific initiative of launching a magazine entitled "**Amity Environmental Education & Research**".

As global warming and its impacts are visible all over the world, Environment and all its aspects particularly Environmental sustainability have generated renewed interest among scientists, environmentalists, academicians, industrialists, policy-makers and public at large. There is a growing consensus among all stakeholders that urgent steps need to be taken to effectively address these challenges and that science can play a pivotal role here through research and development by coming up with technological innovations and inventions which can aide to develop sustainability.

Amity University UP has been at the forefront of undertaking many activities and breakthrough innovations which complement the efforts being made in this regard through its brilliant scientists working at various institutions such as Amity Institute for Environmental Toxicology, Safety and Management (AIETSM), Amity Institute of Environmental Sciences (AIES), Amity Institute of Global Warming & Ecological Studies (AIGWES), Amity School of Natural Resources and Sustainable Development (ASNRSD), Amity Institute of Wildlife Sciences (AIWS) among many others.

AIETSM and **AIES** have been playing a leading role by organizing several conferences and seminars on the issues affecting the society and also to inculcate awareness about these current burning issues and orient the research for development of new technologies to reduce environmental pollution for sustainable environment. Such efforts have immediately contributed in creating tremendous awareness on the urgent need for development of new technologies to reduce environmental pollution for sustainable environment.

I congratulate Dr. Tanu Jindal, Director, AIETSM & AIES and her worthy and capable editorial team, who under the able guidance of Dr W. Selvamurthy, President, Amity Science, Technology & Innovation Foundation (ASTIF) & Director General, Amity Directorate of Science & Innovation (ADSI), and other senior and worthy scientists at Amity, have worked hard to bring out this publication.

I also convey my appreciation to the dedicated faculty members, Ph.D Scholars & researchers and all others for their contribution in this magazine providing very useful information covering all spectrums of environmental issues.

I sincerely hope that this magazine will reach a large number of scientists, academicians, industrialists and researchers and they would find the information given to be of extremely enriching and informative for carrying out further activities/research so vital to bring about the much needed improvement for betterment of environmental scenario.

Ashok K. Chauhan

(DR. ASHOK K. CHAUHAN)
Founder President,

Ritnand Balved Education Foundation (RBEF)
(The Foundation of Amity Institutions and the
sponsoring body of Amity Universities)

अनिल कुमार जैन, भा० प्र० से०
अपर सचिव
ANIL KUMAR JAIN, IAS
Additional Secretary



भारत सरकार
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST &
CLIMATE CHANGE

MESSAGE

I am glad to know that Amity University, Noida is launching a Magazine on Amity Environmental Education & Research under the auspices of Ministry of Environment, Forest and Climate Change.

Deterioration of earth and environment are the biggest challenges of the present times. Pollution, climate change, global warming, biodiversity loss, deforestation are some of the areas that require more study & introspection. There is growing realization that these all crisis are linked to the environment and have repercussions on economic growth as well. Efforts need to be directed at local, regional, national and global level to counter this problem. There is a vital need to create awareness from grassroot level. Environmental education & research can be a potential tool for this noble cause and would ensure sustainability through awareness. The Magazine on Environmental Education Research would play a key role and can be used to bring value to this noble mission.

I wish the magazine wide distribution and enlightening to the reader.


(Anil Kumar Jain)

MSSAGE FROM DESK



Education & Research are the most important tool to save our environment and ecosystem from impact of Climate change. Though the climate is ever changing through natural process but increasing demand and high use of resources has put severe pressure on various environmental parameters. We have taken a mission for Education & Research covering the above areas of environment to generate human race and technology for sustainable & climate Change.

The area includes environmental education and research related to ethics, laws, policies, economic and green technologies. The most challenging of these issues is the CO₂ emissions which is gradually changing the key life support systems of the Earth. Energy crisis is the next challenge. All renewables like solar, wind, bio-mass, hydro etc. are all in these forms of energy sources.

The next big environmental problem looming large on the Indian horizon is the serious water crisis. Technologies must be developed for ensuring supply of adequate clean water. Management of sewage, solid waste produced by ever expanding urban population requires out of the box thinking for solutions.

We integrate core values of Environmental education, academic progress by research and innovation to expand horizons of knowledge. We make students acutely aware of its environmental responsibilities and embrace principle of sustainable development to ensure that any adverse environmental impact of its activities is minimized. Environmental Education must aim to develop personal and professional constituents encouraging habit of engagement, caring, and civic responsibility by emphasizing connect between service, excellence, and career growth.

Prof. (Dr.) Tanu Jindal
Group Additional Pro Vice Chancellor (R&D)
Director

Amity Institute of Environmental Sciences &
Amity Institute of Environmental Toxicology, Safety and Management
Amity Institute of Water Technology and Management
Amity Centre for Antarctic Research & Studies
Amity Institute of Oceanography and Atmospheric Sciences &
Advisor Amity Institute of Marine Science & Technology

RESEARCH HIGHLIGHTS



1. Ecological and Health Risk Assessment of Industrialization on the river Ghaggar
2. Assessment of the effect of CETP & STP effluent used for irrigation on the ground water quality of irrigated area Jajmau, Kanpur.
3. Study on the impact of effluent from Kota Thermal power plant on water quality of Chambal River.
4. A study of ambient air quality and its effects on human wellbeing in Delhi.
5. Sulphur dioxide, an air pollutant, as source of plant sulphurnutrition and physiological basis of SO₂ tolerance in CR
6. Screening of Eco-friendly natural compound as Acetylcholinesterase inhibitor for Alzheimer disease treatment.
7. A Systems approach to Improve the E-waste management practices.
8. Ethnobotanical study and population status of important medicinal plants in Chopal region of Shimla, Himachal Pradesh
9. Assessing carbon footprint of rice and wheat crops in Karnal, Haryana
10. Toxicological studies of fomesafen technical
11. Comparative Studies of Efficient Functioning and Management of Sewage Treatment Plants (STPs) Operational in Delhi and NCR
12. Biological effects of mobile and cell tower radiations
13. Leachability of various Xenobiotics using lysimetric studies.
14. Anthropogenic activities in Antarctica and its impact on environment
15. Characterization of point sources and water quality assessment of kali river and impact assessment on soil, water in rural/peri urban area
16. Impacts of primary and secondary air pollutants on crops around NTPC
17. Accumulation and translocation of various pesticides and heavy metals in food crops grown in Ghaziabad district
18. Ecofriendly Pesticide From Plants Based On Acetylcholinesterase Inhibitory Activity
19. Study on arsenic induced oxidative stress in cell line as modulated by natural plant extracts eugenol, paeonol, and paeonol oxime
20. Performance evaluation of small scale hybrid membrane filtration system for treatment of groundwater salinity in Delhi-NCR region
21. Exploration of penoxsulam through repeated exposure in rats via different route
22. Policy research on acts and its implementation of municipal solid waste and its management in Delhi
23. An assessment of air pollution in rural environment and its impact on rice wheat cropping system
24. Accreditation status of environmental labs in India-impact on quality of results
25. Impacts on water quality at the vicinity of municipal landfill areas of Delhi.
26. Development of a herbal antidote from *Murraya koenigii* against op compound poisoning
27. Enhancing the Nutrient value and Heavy Metal remediation of Municipal Solid Waste Compost
28. Air Pollution caused by Petrol of diesel Vapour and their control and its mitigation system at filling stations in NCR
29. Screening of Pharmacological targets of Bioactive compounds from cyanobacteria and toxicity assessment
30. Assessment of current EIA Practices in India and changes warranted in comparison to EIA conducted in developed countries

ENVIRONMENT YEARLY NEWS





AIR POLLUTION

January 18, 2018 Xian smog tower: China builds world's biggest air purifier: China has constructed Xian smog tower, an experimental air purifying tower touted to be the world's biggest at height of over 100 meters (328 feet) in an attempt to fight air pollution. The tower is built in Xian in Shaanxi province and has brought positive effect on chronic smog problem in China. It is undergoing testing by researchers at Institute of Earth Environment at Chinese Academy of Sciences. Source: Available from : currentaffairs.gktoday.in/category/environment-current-affairs.



Xian smog tower

April 2, 2018 Delhi becomes first city to rollout BS-VI fuel: Delhi became the first city in India to supply ultraclean Bharat Stage (BS) VI grade fuel (both petrol and diesel) with an aim to combat the rising levels of air pollution in Delhi NCR region. State-owned oil firms have started supplying the BS-VI fuel (equivalent to fuel meeting Euro-VI emission norm) at all their 391 petrol pumps in NCT. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs

April 18, 2018 Environment ministry releases draft National Clean Air Programme: The Ministry of Environment, Forests and Climate Change (MoEFCC) has released draft of National Clean Air Programme (NCAP) proposing multiple strategies to reduce air pollution. It aims to tackle increasing air pollution problem across country in comprehensive manner. The goal of NCAP is to meet prescribed annual average ambient air quality standards at all locations in country in a stipulated time frame. Under NCAP, the MoEFCC plans to take host of measures to bring down air pollution. Source:

Available from: currentaffairs.gktoday.in/category/environment-current-affairs

April 25, 2018 Government to tie up with US and Finland to jointly develop new pollution-forecast system: The Ministry of Earth Sciences (MoES) is tying up with US and Finland to develop new pollution forecast system that will help anticipate particulate matter (PM) levels at least two days in advance and at greater resolution. The new system will jointly develop with expertise from Finnish Meteorological Institute and US National Oceanic and Atmospheric Administration (NOAA). Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs

May 2, 2018 14 of Indian cities figure in World's 20 most polluted cities list: WHO According to Global Urban Air Pollution database released by World Health Organization (WHO), 14 Indian cities have figured in list of world's 20 most polluted cities in terms of particulate matter PM2.5 levels in 2016. These 14 cities include Delhi, Varanasi, Kanpur, Faridabad, Gaya, Patna, Agra, Muzaffarpur, Srinagar, Gurgaon, Jaipur, Patiala and Jodhpur. They were followed by Ali Subah Al-Salem (Kuwait) and few cities in China and Mongolia. In terms of PM10 levels, 13 cities in India figured among the 20 most polluted cities. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs

May 23, 2018 Worsening air quality major cause of premature deaths in India: Study According recent research, worsening air quality in last two decades has emerged as one of major reasons for high numbers of premature deaths in India. The research was conducted by Indian Institute of Technology (IIT) - Delhi in collaboration with environmental NGO Centre for Environment and Energy Development (CEED). The annual mortality linked to air pollution was in range of 150-300 persons per 1 lakh population. Source: Available from : currentaffairs.gktoday.in/category/environment-current-affairs.

May 23, 2018 Habitat loss may have triggered Nipah outbreak: WHO report According to report by World Health Organization (WHO), human-triggered factors like habitat loss due to deforestation and climate change set off infectious outbreaks such as recent Nipah cases in Kerala. Due to habitat destruction by human activity, flying fox (fruit bat), a natural host of Nipah virus get stressed and hungry, which weakens its immune system, increasing virus load. It results in lot of virus spilling from urine and saliva of bats. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

September 15, 2018 Erratic monsoon rainfall in India partly due to air pollution: According to recent study by scientists from IIT Kanpur, erratic behaviour of monsoon rainfall, including phenomenon of concentrated heavy rainfall on small number of days in localized area can be attributed to the rising air pollution, especially the increase in suspended particles in the atmosphere. The study has found that high pollution levels are not just changing cloud shape and size and depth, but also its microstructure. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.



September 26, 2018 WAYU: Air pollution control device inaugurated in New Delhi: Union Minister for Science & Technology and Earth Sciences and Environment Dr. Harsh Vardhan inaugurated air pollution control device WAYU (Wind Augmentation Purifying Unit) for traffic junctions at ITO



intersection and Mukarba Chowk in New Delhi. The device aims at tackling toxicity in air by sucking in particulate matter and release fresh air It has been indigenously developed by Council of Scientific and Industrial Research National Environmental Engineering Research Institute (CSIRNEERI) as part of Technology Development Project being funded by Department of Science and Technology. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

October 31, 2018 CSIR developed Less Polluting Fire crackers named - SWAS, SAFAL and STAR: The Council of Scientific and Industrial Research (CSIR) scientists has developed less polluting green fire crackers named SWAS, SAFAL, STAR. Green crackers are so named because they do not contain harmful chemicals that would cause air pollution. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs

November 20, 2018 Bad air costs you 4.3 years of your life



now against 2.2 years in 1998: Particulate matter in Delhi has raised 10 times the WHO safe limit in two decades. Over the past two decades, the concentration of fine particulates increased by 69% on average crosses India. The AQLI also points out that India is today the world's second most polluted country, just behind Nepal. Particulate pollution is so severe that it shortens the average Indian's life expectancy by more than 4 years relative to what it would be if WHO air Quality guidelines were met. Source: Available from: timesofindia.indiatimes.com



March, 11, 2019 Ban on stubble burning

The violators are to be prosecuted under the Air (Prevention and Control of Pollution) Act, 1981 and can land in jail. Burning of paddy stubble in fields, especially after kharif crop is harvested in October-November, is rampant across the state. The state environment department has banned burning of paddy stubble in fields across Bengal in an attempt to fight air pollution. The violators are to be prosecuted under the Air (Prevention and Control of Pollution) Act, 1981, and can land in jail. Burning of paddy stubble in fields, especially after kharif crop is harvested in October-November, is rampant across the state. Toxic pollutants released in the air because of the burning in districts such as Murshidabad, the Burdwans and Hooghly can drift towards Calcutta with the northerly wind and push up the city's already high air pollution level. Biswajit Mukherjee, former chief law officer of the state pollution control board, said the notification would remain on paper unless the agriculture department or the panchayats were empowered to act against the violators.

Source: <https://www.telegraphindia.com/states/west-bengal/ban-on-stubble-burning/cid/1686617>



NGT fines Volkswagen Rs 500 crore for 'cheat device' in India diesel cars

March 7, 2019. The National Green Tribunal (NGT) on 7th March slapped a Rs 500 crore fine on German carmaker Volkswagen for presence of cheat devices in their diesel cars plying in India.

The panel, in its report, had said that Volkswagen should pay at least Rs 171.34 crore as a "conservative" fine for the damage its cars caused to environment and general health in India. The automobile giant has been asked to deposit the sum with the Central Pollution Control Board (CPCB) in two months. The money, NGT said, could be used by the CPCB to improve the air quality in and around the Delhi - National Capital Region. The panel, in its report, had said that Volkswagen should pay at least Rs 171.34 crore as a "conservative" fine for the damage its cars caused to environment and general health in India.

Source: https://www.business-standard.com/article/current-affairs/ngt-fines-volkswagen-rs-500-crore-for-cheat-device-in-india-diesel-cars-119030700849_1.html



2018 world air quality report

March 1, 2019, India's national capital region (NCR) emerged as the most polluted region in the world in 2018, according to this new report. Gurugram is the worst affected followed by Ghaziabad, Faridabad and Noida are amongst the top six most worst-affected cities. Delhi has been ranked the most polluted capital in the world, while Gurugram is the most polluted city, according to a Greenpeace report. Delhi has been ranked the most polluted capital in the world, while Gurugram is the most polluted city, according to a Greenpeace report. According to the latest data compiled in the IQ Air Visual 2018 World Air Quality Report and interactive world's most polluted cities ranking, which is prepared in collaboration with Greenpeace Southeast Asia in order to reveal the state of particulate matter (PM2.5) pollution in 2018, Delhi had an average yearly PM2.5 concentration at 113.5 micrograms per cubic metre.

Source: <http://www.indiaenvironmentportal.org.in/content/461648/2018-world-air-quality-report/>



Asthma cases in Chennai double in 5 years

September 5, 2018. The incidence of asthma has almost doubled in the last five to six years in the city. Specifically, incidence of childhood asthma has also gone up, mainly due to outdoor pollution. To reduce vehicular pollution, doctors stress on improving public transportation.

"Nearly seven years ago, the Respiratory Foundation of India undertook a study through the chest disease screening camps organised by Rotary International. Then, the incidence was 5 to 7% in the urban population.

<https://www.thehindu.com/news/national/tamil-nadu/asthma-cases-in-city-double-in-5-years/article24866869.ece>.



WATER POLLUTION

February 19, 2018 Atal Bhujal Yojana: Government formulates ambitious water conservation scheme— The Union Government has formulated ambitious water conservation scheme Atal Bhujal Yojana (ABY) to tackle ever deepening crisis of depleting groundwater level. The Rs 6,000-crore will be piloted under the Ministry of Water Resources, River Development & Ganga Rejuvenation. It is awaiting cabinet's clearance. The scheme after Cabinet's clearance will soon be launched in water-stressed states: Gujarat, Haryana, Karnataka, Maharashtra, Uttar Pradesh, Rajasthan and Madhya Pradesh. It will cover 78 districts, 193 blocks and more than 8,300 gram panchayats across these states. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

February 20, 2018 UK and India upgrade joint research on clean water and clean energy: United Kingdom and India have launched joint research projects on 'Water Quality Research' and 'Energy Demand Reduction in Built Environment'. The 'Water Quality Research' programme has eight projects and 'Energy Demand Reduction in Built Environment' programme has 4 projects, with total joint investment of up to £15 million. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

May 19, 2018 India's freshwater stocks in danger: NASA According first of its kind study of NASA, India is among hotspots where overuse of water resources has caused sharp decline in availability of freshwater. The study was conducted by scientists from NASA's Goddard Space Flight Centre by using an array of NASA satellite observations to track global hydrologic changes. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

August 27, 2018 River Ganga drying up in summers due to groundwater depletion: According to recent study conducted by IIT-Kharagpur, River Ganga has witnessed unprecedented low levels of water in several lower reaches in last few summer seasons. The study was carried out under IITKGP Science and Heritage Initiative (SANDHI) Initiative, which focuses on river systems and its relationship with settlement system. It had used combination of satellite images of groundwater levels of Ganga, numerical simulations and chemical analyses to draw the conclusion. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

June 4, 2018: India's E-waste Generation: Key Facts from ASSOCHAM-NEC Study: A recent ASSOCHAM-NEC study on "Electricals & Electronics Manufacturing in India" has revealed that India recycles only 5% of its e-waste and the country is one of the biggest contributors of e-waste in the world. E-waste of electronic waste refers to the electronic equipment being thrown away. It includes discarded computer monitors, motherboards, Cathode Ray Tubes (CRT), Printed Circuit Board (PCB), mobile phones and chargers, compact discs, head-phones, white goods such as

Liquid Crystal Displays (LCD)/ Plasma televisions, air conditioners, refrigerators and so on. Available from: currentaffairs.gktoday.in/category/environment-current

June 12, 2018 While smaller cities are more efficient at waste segregation, India needs strong commitment to manage its waste: Smaller cities have been innovative and "more successful" in implementing waste segregation at source methodology compared to the bigger ones, a green body today said, as it awarded a small town in Maharashtra for its eco-friendly initiatives. The Centre for Science and Environment (CSE) has been working with cities to promote and implement source segregation and decentralized model of waste management. Available from: www.indiatoday.in

11 September 2018, NGT committees on Solid Waste Management, mid-air refuelling of Tejas: The National Green Tribunal has appointed three committees to monitor disposal of garbage in an eco-friendly manner across the country. The apex monitoring committee will be headed by former Supreme Court judge Justice D K Jain and also comprise Chairman, Central Pollution Control Board, Joint Secretary of Ministry of Environment and Forests and Joint Secretary & Mission Director of Swachh Bharat Mission, Ministry of Housing and Urban Affairs. Warning that failure to ensure proper management of solid waste will have disastrous consequences, the green panel said that deficiencies in the proper management of solid waste have resulted in an outbreak of serious diseases in the past and are likely to do so in future. Available from: exampariksha.com

October 2, 2018 World Habitat Day: The World Habitat Day was observed every year on first Mon-day in October all over the world. This year it was observed on 1 October 2018 with theme 'Municipal Solid Waste Management'. The purpose of day is to reflect on state of cities and towns and basic human right to adequate shelter. It also aims to remind world of its collective responsibility for habitat of future generations. This year's theme aims to high-light issue of solid waste management as global is-sue that affects everyone. It seeks to bring change in public attitudes to minimize waste and stop littering, regularization of informal waste pickers, increase recycling and reusing, solid waste planning including adequate landfill sites to improve current state of solid waste management in cities across the world and save money to become 'Waste-Wise Cities'. Available from: currentaffairs.gktoday.in





January,10,2019. The River Rejuvenation Committee (RRC) will reduce pollution in seven rivers, the Ashwani Khud, Pabbar, Beas, Giri and the Sukhna, Markandey and Sirsa in the industrial corridor of Baddi-Barotiwal-Nalagarh (BBN). The committee will use drones to study the polluted stretches of the rivers.

Sewage and effluent treatment plants, bio-diversity parks and flood plain zones will be set up as per action plan that the pollution control board is likely to submit to the NGT by January 31.

<https://www.tribuneindia.com/news/himachal/7-polluted-rivers-under-ngt-scanner/711266.html>

Speed up work on Namami Gange projects: Gadkari

August 1, 2018. Expressing concern over the delay in the completion of projects relating to the Namami Gange mission in Uttarakhand at a review meeting here, Union Water Resources Minister Nitin Gadkari instructed officials and contractors concerned to complete these by the year-end. The projects are sewerage treatment plants (STPs), ghats and crematoria. The state's projected sewerage generation in 2035 is 122 MLD while the existing treatment capacity is about 98 MLD. The projects under implementation will create a capacity for treating about 132 MLD. In Haridwar, there are four projects under implementation, including I&D project at Jagjeetpur and Sawai (17.1 km), STP (hybrid annuity-based PPP) at Jagjeetpur and sewer network project at Arihant Vihar and New Vishnu Garden, Kankhal. The city generates 74 MLD of sewage, but the existing capacity is 63 MLD. The ongoing projects will create 82 MLD capacity. In effect, it will have a treatment capacity of 127 MLD after completion of the projects. Other projects under construction in the state include one STP and I&D at Muni Ki Reti, two STP projects in Rishikesh, O&M work at Tehri, upgrade of STP at Uttarkashi, one STP and I&D, and one upgrade at Srinagar and STP and I&D projects at Rudraprayag, Karnprayag, Nandprayag, Chamoli-Gopeshwar, Joshimath and Badrinath.

Source: <https://www.tribuneindia.com/news/uttarakhand/speed-up-work-on-namami-gange-projects-gadkari/629888.html>

Solid Waste Management

Solid waste: NGT tells government to get cracking

Mar 12, 2019, National Green Tribunal on Monday expressed concern over the unsatisfactory implementation of the Solid Waste Management Rules, 2016. The green court said it was extremely dissatisfied with the solid waste management in the city and the AAP government cannot just lie back and shun its responsibilities. A bench headed by NGT chairperson Justice Adarsh Kumar Goel said there was a serious need for a review at every level to implement the waste management rules and noted that the condition of sewage network was very bad and there was "absolute apathy" on part of authorities. "People are dying because of pollution, there is no proper policy, please devote some time... we have not yet come across any good officer or counsel for Delhi who understands the cause," the bench observed. It also voiced concern over illegal banquets and marriage halls and said they are violating norms and causing pollution by organising weddings and other functions without permission.

The tribunal said that functioning of the Delhi Pollution Control Committee (DPCC) is very unsatisfactory and it has to depend on the Central Pollution Control Board (CPCB) every time for data and reports. During the hearing, Delhi chief secretary Vijay Dev told the bench that the government was taking sincere steps to implement rules and organise training programmes to sensitise its employees. He said individual accountability of officers would be fixed and action would be taken against the erring officials. Dev told NGT that the waste lying unattended at the plants would be disposed of and land allotted for the same.

Source: <https://timesofindia.indiatimes.com/city/delhi/solid-waste-ngt-tells-govt-to-get-cracking/articleshow/68365602.cms>



National Green Tribunal tells East Corporation to sort out row over landfill site with DDA

TNN | Updated: Mar 13, 2019, 08:25 IST

NEW DELHI: National Green Tribunal (NGT) has asked East Delhi Municipal Corporation (EDMC) to resolve disputes at the administrative level while disposing of a plea by the civic body seeking land to manage garbage at Ghazipur landfill site. The green court said the issue of availability or suitability of the site for the landfill and its allotment is to be sorted out between EDMC and Delhi Development Authority in accordance with the law. "We have considered the matter. We find it difficult to pass further orders on the applications. The matter pending before the tribunal already stands disposed of. Inter-departmental dispute is to be resolved at administrative level. Jurisdiction of the tribunal is to provide remedy to a victim for environment protection against action taken in violation of norms," a bench, headed by NGT chairperson Justice Adarsh Kumar Goel, said. "Rules are in force, which have to be followed. Applicants do not have grievance against the authorities, which may fall under sections 14 and 15 of NGT Act, 2010," it said.

The green court also said that it was leaving the issue with the authorities concerned without expressing any opinion on merits at this stage. The saturation of Ghazipur landfill site and the non-availability of alternative land to manage garbage had prompted EDMC to move NGT. EDMC had moved an application, seeking direction to DDA to hand over a piece of land at Sonia Vihar and a plot at Ghonda Gajran for solid waste management facilities on a priority basis. Advocate Balendu Shekhar, appearing for EDMC, had said the two pieces of land were approved and appraised by CPCB and it should be handed over to the corporation.

Source: <https://timesofindia.indiatimes.com/city/delhi/ngt-tells-e-corp-to-sort-out-row-over-landfill-site-with-dda/articleshow/68383169.cms>





BIODIVERSITY

January 2, 2018 Schistura Larketensis: New species of blind fish discovered inside Meghalaya cave -Scientists have discovered a new species of blind fish named Schistura larketensis inside a cave in East Jaintia Hills district of Meghalaya. The fish has been named after Larket village, where the cave has been found to encourage local people to take up biodiversity conservation. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

January 4, 2018 Scientists discover four new balsam species in Arunachal Pradesh: Scientists have discovered four new balsam species from various locations in Eastern Himalayas in northeastern state of Arunachal Pradesh. They are Impatiens haridasanii, Impatiens pseudocitrina, Impatiens nilahitae and Impatiens roingensis. Infrastructure project like road widening works, deforestation and other development activities are posing a threat to the natural habitat of the new species. Source: Available from : currentaffairs.gktoday.in/category/environment-current-affairs.



January 15, 2018 Elcysma Ziroensis: New moth species discovered in Arunachal Pradesh Researchers from Bombay Natural History Society (BNHS) have discovered a new species of moth, scientifically named Elcysma ziroensis from Talley Wildlife Sanctuary in Arunachal Pradesh. The discovery was published in the Journal of Threatened Taxa, an international journal on conservation and taxonomy. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

March 19, 2018 Ptilomera nagalanda: New species of water strider found in Nagaland: Scientists from Zoological Survey of India (ZSI) have discovered new species of water strider named Ptilomera nagalanda Jehamalar and Chandra in Nagaland. It was found in river Intanki in Peren district of Nagaland. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

April 3, 2018 Fimbristylis agasthyamalaensis: New plant species discovered in Western Ghats : Researchers have discovered new grass-like plant species named Fimbristylis agasthyamalaensis in Ponnudi hills within the Agasthyamala Biosphere Reserve in the Western Ghats biodiversity hotspot. It has been classified as sedge, the grass-like plant and has been named after the locality from which it was found. Source: Available from <https://currentaffairs.gktoday.in/category/environment-current-affairs>.

April 27, 2018 Fejervarya goemchi: New frog species named after Goa Scientists have identified a new species of frog called Fejervarya goemchi in the highland plateaus of the Western Ghats parts of Goa. It has been named after state of Goa where the species is discovered. It was identified using combination of morphology, geographic distribution range and molecular methods to distinguish from other Fejervarya species found in South and South East Asia. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.



May 22, 2018 International Bio-diversity Day: The International Bio-diversity Day is observed every year on 22 May to increase understanding and awareness of biodiversity issues. The theme this year is 'Celebrating 25 Years of Action for Biodiversity'. It marks 25th anniversary of entry into force of Convention on Biological Diversity (at United Nations Environment Programme Headquarters, Nairobi on 22 May 1992) and to highlight progress made in achievement of its objectives at national and global levels. On the occasion, National Mission for Clean Ganga and World Wildlife Federation (WWF)-India jointly organized workshop Ganga and its Bio-diversity: Developing a Road Map for Habitat and Species Conservation in New Delhi. The workshop was aimed at forming integrated approach for conservation of Ganga's ecology, environment and biodiversity by restoring Ganga's ecological integrity. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

May 25, 2018, Singchung Bugun Village Community Reserve wins India Biodiversity Award 2018: Arunachal Pradesh-based NGO Singchung Bugun Community Reserve (SBVCR)

won the India Biodiversity Award 2018 in the "Conservation of wildlife species" category. It was awarded for its efforts to conserve rare critically endangered bird Bugun Liocichla. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

October 31, 2018 WWF : India among nations that face grave danger to soil biodiversity: According to recently released Global Soil Biodiversity Atlas prepared by World Wide Fund for Nature (WWF), India among nations that face grave danger to soil biodiversity. The atlas was released as part of WWF's biennial Living Planet Report (LPR) 2018. The key aspect of this year's report was threat to soil biodiversity and pollinators, the two key drivers of biodiversity. These two key



drivers loss were due to over exploitation of natural resources and agriculture. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

December 31, 2018 India submits sixth national report to Convention of Biological Diversity : India has submitted its sixth national report (NR6) to the Convention on Biological Diversity (CBD) highlighting the progress it has made in achieving the 12 National Biodiversity Targets (NBT) set under the convention process. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs



Mumbai: Debris threaten biodiversity around Lokhandwala lake

Continuous unabated dumping of construction and demolition waste along the lesser known 4.5 acres Lokhandwala lake is not only threatening this freshwater body but also the trees as well as important biodiversity around the lake. The local active residents from Lokhandwala who have been working for years to safeguarded the lake and even carried out plantations around the periphery are up in arms against BMC officials for not only failing to stop rampant dumping of the debris but also not clearing mounds of debris that has been collected over last several months on both sides of the road that leads to BMC's transit garbage dump from Lokhandwala backroad. "There are tonnes and tonnes of debris and most of them is construction waste being dumped mostly at night. The situation is such that the debris are now almost five to ten feet tall at places, which shows how long the debris were being dumped," said conservation filmmaker Sumesh Lekhi from Friends of the Environment- a citizens body that had initiated a campaign to save the lake in 2012.

Source: <https://www.dnaindia.com/mumbai/report-mumbai-debris-threaten-biodiversity-around-lokhandwala-lake-2714517>



RENEWABLE ENERGY

February 10, 2018 Government launches ASH TRACK mobile app for Fly Ash management: Ministry of Power has launched Web based monitoring System and Fly Ash mobile application named ASH TRACK. It was launched by Minister of State (IC) for Power and New & Renewable Energy R.K Singh in New Delhi. These plat-forms will enable better management of y ash produced by thermal power plants by providing interface between ash producers (thermal power plants) and potential ash users such as cement plants, road con-tractors etc. Source: Available from:currentaffairs.gktoday.in/category/environment-current-affairs.

March 23, 2018 Global carbon emissions hit record high in 2017 IAE According to International Energy Agency (IEA), the glob-al energy related carbon dioxide (CO2) emissions rose to historic high of 32.5 giga tonnes in 2017. It was due to higher energy demand and slowing of energy efficiency improvements. This large amount of global energy-related carbon emissions comes after it was at for three years.



and Expo (REINVEST- 2018) was organized by Ministry of New and Renewable Energy in Noida from October 3 to 5, 2018. It was inaugurated by Prime Minister Narendra Modi in the presence of Secretary General of United Nations Antonio Guterres. 2nd Global RE-INVEST also hosted First Assembly of International Solar Alliance (ISA) and Meeting of the Energy Ministers of Indian Ocean Rim Association (IORA) countries. Available from: currentaffairs.gktoday.in/category/environment-current-affairs



Source: Available from: currentaffairs.gktoday.in/ category/ environment-current-affairs.

August 10, 2018 World Biofuel Day: World Bio-fuel Day (The In-ternational Biodiesel Day) is observed every year on August 10 to create awareness about the importance of non-fossil fuels i.e. Green Fuels or Bio-fuels an alternative to conventional fossil fuels. Bio-fuels are renewable, bio-degradable, sustainable and environment friendly fuel. It can be seen as alternative to conventional fossil fuels. Source: Available from: currentaffairs.gktoday.in/category/ environment-current-affairs

October 5, 2018 REINVEST- 2018: 2nd Global Renewable Energy Investment Meeting and Expo held in Noida : The second Global Renewable Energy Investment Meeting

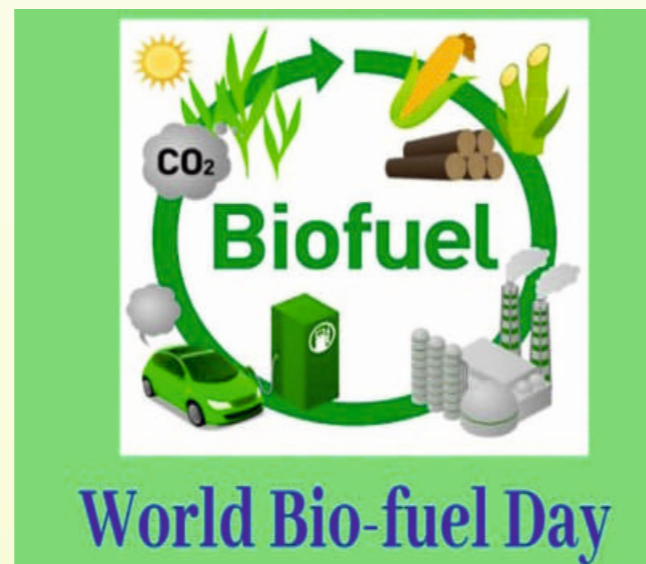
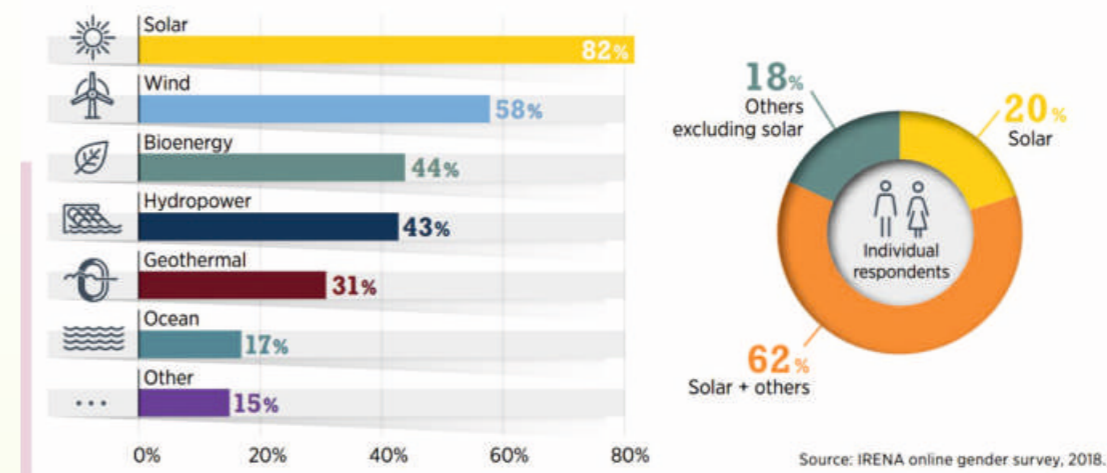


Figure 1.9 Types of renewable energy technology relevant to the work of individuals responding to the survey



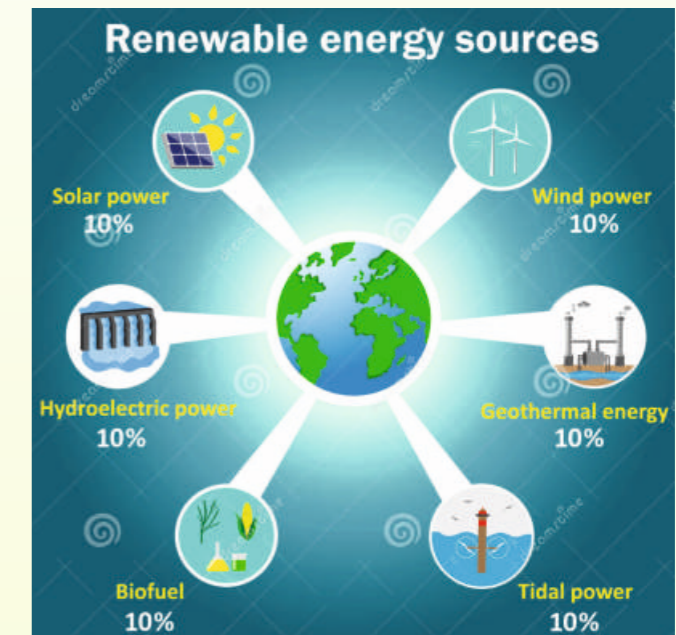
Renewable energy: a gender perspective January 1, 2019 (International Renewable Energy Agency (IRENA)) Renewable Energy: A Gender Perspective provides new insights on women's role in renewable energy employment and decision making globally. This key report by the International Renewable Energy Agency (IRENA) aims to help fill the knowledge gap in this field. Based on a ground breaking, first of its kind online survey combined with in-depth research, the study highlights the importance of women's contributions in the energy transformation, the barriers and challenges they face, and measures that governments and companies can take to address these.

Source: <http://www.indiaenvironmentportal.org.in/content/460589/renewable-energy-a-gender-perspective/>

Renewable energy market analysis: GCC 2019, January 1, 2019 International Renewable Energy Agency (IRENA), Renewable energy has advanced rapidly in the Global Cooperation Council (GCC) countries since 2014.

The project pipeline reached almost 7 gigawatts (GW) of new power generation capacity by 2018, after record breaking bids in renewable energy auctions in the United Arab Emirates (UAE) and Saudi Arabia made solar power cost competitive with conventional energy technologies. This report from the International Renewable Energy Agency (IRENA) explores the prospects for renewables to diversify both national economies and the combined GCC energy mix, while also helping the region meet climate commitments and contribute to the 2030 Agenda for Sustainable Development.

Source: <http://www.indiaenvironmentportal.org.in/content/460641/renewable-energy-market-analysis-gcc-2019/>





CLIMATE CHANGE

January 13, 2018 Environment Ministry refuses captive breeding of Chiru: The Ministry of Environment and Forests and Climate Change (MoEFCC) has refused to allow captive breeding of Chiru (Tibetan antelope), whose underfur is used for making famous shahtoosh shawls. The suggestion for captive breeding was made by Parliamentary Standing Committee on Science & Technology, Environment & Forests asking to consider captive breeding as it will add to livelihood of people of Kashmir. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

February 5, 2018 Environment Ministry launches Green Good Deeds campaign: The Union Ministry of Environment, Forests and Climate Change (MoEFCC) has launched Green Good Deeds campaign. It was launched by Environment Minister Dr. Harsh Vardhan in New Delhi. The purpose of the people-oriented campaign is to sensitise people and students, in particular about climate change and global warming. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

February 13, 2018 India State of Forest Report (ISFR) 2017: The Ministry of Environment, Forest and Climate Change (MoEFCC) has released India State of Forest Report (ISFR) 2017. It has revealed that total forest and tree cover in India has increased of over 8,021 sq. km (about 80.20 million hectare) which is one percent increase from 2015. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

March 24, 2018 Earth Hour 2018 observed across the world: The twelfth edition of Earth Hour was observed across the world on 24 March 2018 to take a global call on climate change. To mark this day, cities worldwide turned their lights off for one hour from 8:30 pm to 9:30 pm local time. Earth Hour is people's movement inspiring individuals to take stand against climate change. It is organized by the World Wide Fund for Nature (WWF) with an aim to enable harmonious existence of human and wildlife. It aims at encouraging people to turn off their nonessential equipment's to promote conservation and sustainable energy. Its goal is to raise awareness for sustainable energy use and create a more environmentally sustainable lifestyle. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

April 3, 2018 India at risk of food shortage due to climate change: Study According to recently published global study, India is among countries which are at greatest risk of food insecurity due to weather extremes caused by climate change. The study had examined how climate change could affect vulnerability of different countries mainly 122 developing and least developed countries (mostly in Asia, Africa and South America) to food insecurity when people lack access to sufficient quantity of affordable, nutritious food. It examined projected changes in weather extremes and their implications for freshwater availability and vulnerability to food insecurity. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

April 28, 2018 Asia Pacific Regional Workshop of UNCCD held in New Delhi

The Asia Pacific Regional Workshop of United Nations Convention to Combat Desertification (UNCCD), jointly hosted by Ministry of Environment, Forest and Climate Change (MoEFCC) and UNCCD was held in New Delhi. The four day work-shop aimed at building capacity of Asia Pacific Region to monitor and report on land degradation. It was attended by delegates from about 40 Asia Pacific countries, as well as representatives from 12 Indian states affected by land degradation, researchers and scientists from scientific institutions of national importance. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

May 15, 2018 Government launches full-fledged Green Skill Development Programme Ministry of Environment, Forest and Climate Change (MoEFCC) launched full edged Green Skill Development Programme (GSDP). It aims to train over 5.5 lakh workers in environment and forest sectors in the country through 30 courses by 2021 for sustainable conservation and management of natural resources. GSDP-ENVIS mobile application was also launched to provide more information and applying to courses under GSDP programme. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

May 29, 2018 "Gaj Yatra" launched in Garo Hills of Meghalaya: Ministry of Environment, Forest and Climate Change (MoEFCC) rolled out 'Gaj Yatra', an awareness campaign to protect elephants from Tura in Garo Hills of Meghalaya. It was organized by the Wildlife Trust of India in collaboration with the State Forest Department. Under this campaign, an elephant mascot will be taken across districts frequented by



jumbo herds for generating awareness among the people. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

August 31, 2018 Environment Ministry releases India's National REDD+ Strategy: Union Ministry of Environment, Forest and Climate Change (MoEFCC) has released National Reducing Emissions from Deforestation and Forest Degradation (REDD+) strategy for India. It aims at achieve climate change mitigation by incentivizing forest conservation. This strategy will soon be communicated to United Nations Framework Convention on Climate Change

(UNFCCC). Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

October 23, 2018 Ministry of Environment launches Harit Diwali Swasth Diwali campaign: Union Ministry of Environment, Forests and Climate Change (MoEFCC) has launched Harit Diwali Swasth Diwali campaign aimed to reduce adverse environmental conditions especially pollution in the country after post Diwali celebrations due to excessive bursting of crackers which contributes significantly to air and noise pollution. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

Climate change affecting productivity: study

March, 20, 2019. India's crop productivity and labour efficiency are at stake due to climate change, finds a study conducted by researchers at Indian Institute of Technology Delhi. The research findings that were made public on Tuesday said that though the cropping season in India is increasing, it cannot be directly correlated to the increase in crop production as the temperature is increasing rapidly.

The study conducted by research scholar Vinnarasi Rajendran and Professor of the Department of Civil Engineering, Dhanya C.T., said that their research finds that summer season is encroaching into winter season, resulting in a drastic reduction in the length of pleasant comfortable days (thermal comfort) especially over the northeast and southern India (warm-humid) regions. "The drastic and joint increase in the day and night temperatures will be a major threat to crop cultivation in India. Especially, the largest wheat production states of Punjab, Haryana and Uttar Pradesh will be severely affected due to the increase in night time temperature, particularly in winters," they said.

Source: <https://www.thehindu.com/news/cities/Delhi/climate-change-affecting-productivity-study/article26585192.ece>

Airlines plead for exemption from carbon tax

March 12, 2019, The airline industry made a strong plea in parliament on Tuesday to be exempted from the proposed carbon tax saying it will undermine its competitiveness. The tax only applies to economic activities which emit greenhouse gases within South Africa and will therefore not apply to international airlines. The carbon tax, which is due to take effect from June this year, is provided for in the Carbon Tax Bill which has been adopted by the National Assembly and is now being processed by the National Council of Provinces' select committee on finance

Source: <https://www.businesslive.co.za/bd/companies/transport-and-tourism/2019-03-12-airlines-plea-for-exemption-from-carbon-tax/>

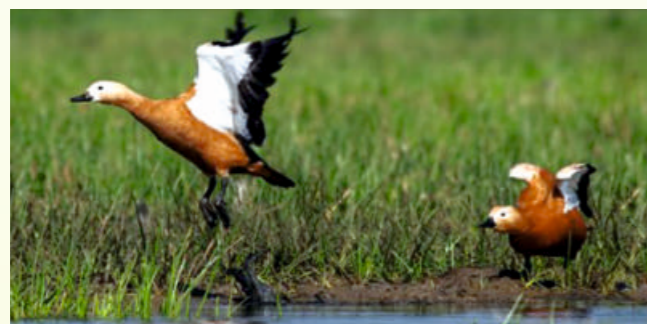




ENVIRONMENTAL SUSTAINABILITY

(EARTH, ENVIRONMENT, OZONE DAY)

January 19, 2018 Mangalajodi Ecotourism Trust of Odisha wins prestigious UNWTO Award: Mangalajodi Ecotourism Trust in Odisha has won prestigious United Nations World Tourism Organization (UNWTO) Award for Innovation in Tourism Enterprise at 14th UNWTO Awards ceremony held in Madrid, Spain. The award was given in recognition of Mangalajodi's business model that is both economically viable and environmentally sustainable based on principles of community ownership and Eco Tourism. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.



January 24, 2018 India Ranked 177 in Environmental Performance Index (EPI): India has been ranked 177 among 180 countries in the Environmental Performance Index (EPI) – 2018. This index has been developed by Yale University and Columbia University in collaboration with the World Economic Forum and the Joint Research Centre of the European Commission. This report has been released on 23 January, 2018 on the sidelines of World Economic Forum meet in Davos. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

February 3, 2018 Floating Treatment Wetland launched to purify Nekkampur Lake in Hyderabad: The Floating Treatment Wetland (FTW) was inaugurated on World Wetlands Day (February 2) in Nekkampur Lake in Hyderabad to clean and purify the polluted water body. Plants planted on FTW can clean the lake by absorbing nitrates and other pollutants in the water.



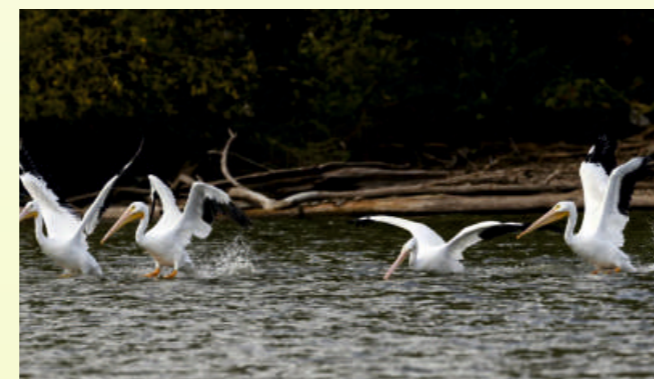
This day marks the date of the adoption of the Convention on Wetlands (also called as Ramsar Convention) in 1971 in the Iranian city of Ram-sar on the shores of the Caspian Sea. The theme for year 2018 is "Wetlands for a Sustainable Urban Future". The theme underlines the importance of wetlands and that the future of urban centres hinges on wetlands. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs

February 6, 2018 Pelican Bird Festival-2018 held in Kolleru Lake: The 'Pelican Bird Festival-2018' was held for first in Atapaka Bird Sanctuary on at Kolleru Lake in Andhra Pradesh. It was jointly organized by Andhra Pradesh Tourism Authority (APTA) and Krishna district administration. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

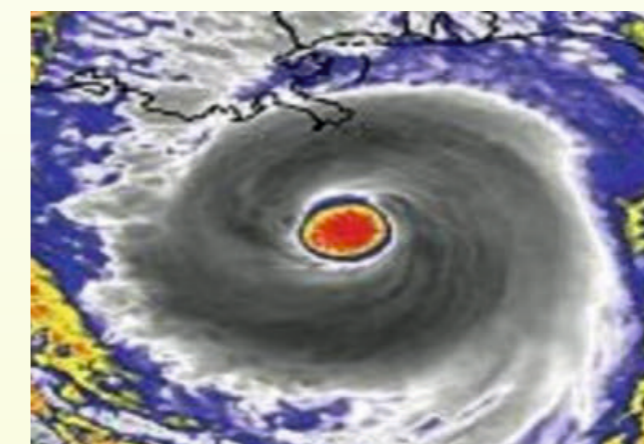
March 3, 2018 World Wildlife Day: The World Wildlife Day is observed every year on 3rd March to celebrate and raise awareness about the world's wild fauna and flora. It is celebrated to mark the signing of Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) on this day in 1973. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

March 20, 2018 World Sparrow Day: The world sparrow day (WSD) is observed every year on March 20 to raise awareness of the house sparrow and other common birds in urban environments and threats to their populations. The rationale for celebrating the Day is to use it as a platform to underscore the need to conserve sparrows as well as the urban biodiversity. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

April 23, 2018 Earth Day: Every year Earth Day is being observed on 22nd April to build support for environmental protection around world. It aims to encourage people to carry out activities that will benefit Earth, such as recycling more, using solar power or plant trees. It also aims to raise awareness that humans have a collective responsibility to promote harmony with nature and to balance the economic, social and environmental needs of present and future generations. The theme for 2018 Earth Day is 'End Plastic Pollution'. It is dedicated to providing information and inspiration needed to fundamentally change human attitude and behavior about plastics. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.



June 2, 2018 Ensemble Prediction Systems (EPS): IMD's new forecast model : The Ministry of Earth Science (MoES) has launched a new system to generate more accurate and area specific forecast of extreme weather events including rains, heat wave and cold wave. The new Ensemble Prediction System (EPS) has been touted as best available model after such a system available in Europe. Source: Available from:



currentaffairs.gktoday.in/category/environment-current-affairs.

June 5, 2018 Environment Day: The Environment day to be celebrated on June 5 has a slogan of 'Beat Plastic Pollution' with an aim to make 500 meter area around Taj Mahal litter free and phase out single use plastic, Union Minister Mahesh Sharma administered a pledge to Agra Residents. The pledge called "Taj Declaration to Beat Plastic Pollution" was made in the presence of United Nations Environment Program (UNEP). Source: Available from : currentaffairs.gktoday.in/category/environment-current-affairs.

June 8, 2018 Ocean Day: The World Oceans Day is being observed every year on 8th June to raise global awareness of current challenges faced by the international community in connection with the oceans. The day also seeks to provide unique opportunity to honour, protect, and conserve the world's oceans. The focus of World Oceans Day 2018 is on 'Preventing plastic pollution and encouraging solutions for a

healthy ocean'. It also co-incided with theme of World Environment Day 2018 - 'Beat Plastic Pollution'. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

September 16, 2018 International Day for the Preservation of the Ozone Layer: The International Day for Preservation of Ozone Layer (or World Ozone Day) is observed every year on September 16 for the preservation of the Ozone Layer. This year, the theme for the Day is 'Keep Cool and Carry On:



The Montreal Protocol'. The day was designated by United Nations General Assembly (UNGA) on December 19, 1994. Its observance commemorates the date in 1987 on which Montreal Protocol was signed on substances that deplete the ozone layer. It also is intended to spread awareness of the depletion of the Ozone Layer and search for solutions to preserve it. Source: Available from: currentaffairs.gktoday.in/category/environment-current-affairs.

September 28, 2018 Narendra Modi, Emmanuel Macron jointly awarded UN's Champions of Earth Award: Prime Minister Narendra Modi and French President Emmanuel Macron jointly awarded 2018 Champions of the Earth award, UN's highest environmental honour. They were chosen in Policy Leadership category of the award for their pioneering work in championing International Solar Alliance (ISA) and promoting new areas of levels of cooperation on environmental action. It is also PM Modi's unprecedented pledge to eliminate all single use plastic in India by 2022. Source: Available from; currentaffairs.gktoday.in/category/environment-current-affairs.





Centre outlines urban agenda for next 20 years

January, 16, 2018, Environmental sustainability could become the next major challenge as India surges along its projected growth trajectory and the country needs to strike a balance where the benefits of urbanisation are maximized without compromising the environmental benchmarks, a report by the government has said.

"The outcomes of new urban agenda based on sustainable urban planning would include reducing water and electricity use by 50 per cent from that of normal use, enabling over 60 per cent of urban travel by public transport, generating half of power from renewable sources, promoting walking and cycling for last mile connectivity, compact and cluster urban development, promoting natural drainage patterns, reducing waste generation of all kind, promoting greenery and public places," Naidu added.

Source: <https://www.thehindubusinessline.com/economy/environmental-sustainability-could-be-the-next-major-challenge-report/article9180511.ece>



COVER STORY : AIR POLLUTION IN DELHI/NCR

There are multiple factors resulting in the invisibility of the areas in and around Delhi, leading to pollution:

- Burning of rice shuck left when harvest home by farmers in geographical area, Haryana and Western state within the month of October 2017.
- In the NCR region, dust pollution by construction activities (metro, buildings etc.)
- Pollution of vehicles rapidly increasing every day adding to the reason of this invisibility
- Industrial pollution by large and small scale industries.
- Bursting of firecrackers on Diwali festival made the situation worse.
- Visibility is poor in Delhi NCR was very bad in the end of 2017 as pollution levels reached 30 times the World Health Organization's recommended limit in some areas.
- The 2005 'WHO Air quality guidelines' provide world steering on thresholds and limits for key air pollutants that cause health risks.
- The guidelines indicate that by reducing particulate matter (PM10) pollution from 70 to 20 micrograms per cubic meter, air pollution-related deaths can be controlled by around 15 per cent.

The demand captures the inadequacy of society's re-sponse to the problem of air pollution. Everybody worries concerning pollution throughout winter however disregards it once things improve attributable to environmental condition factors. Delhi is usually within the news for its poor air quality. However, associate degree analysis of the winter (November and December 2017) and summer (April-May 27, 2018) air quality levels of 10 state capital cities shows dangerous grip of a multi-pollutant crisis, and are currently facing a severe health challenge (available from : www.indiatoday.in). While within the summer months, Delhi had 65 per cent days when poor and very poor air quality was recorded, in winters this percentage increased to 85. On solely concerning one per cent of the monitored days in summer months was the air quality ascertained to be satisfactory within the town.

The WHO guidelines apply worldwide and are based on expert evaluation of current scientific evidence in all the

(O3), Nitrogen dioxide (NO2), and Sulphur dioxide (SO2). (available from : www.indiatoday.in).

Steps taken in Delhi to combat air pollution: (available from : www.indiatoday.in).

1. The Indian Medical Association (IMA) declared "a state of medical emergency" at the time and urged the government to "make each attainable effort to curb this menace".
2. The setting Pollution (Prevention and Control) Authority (EPCA) asked the Delhi-NCR governments to start out getting ready for steps like odd-even and an entire ban on construction activities if pollution aggravates.

The IARC and WHO designates particulates a Group 1 carcinogen. Particulates are the deadliest forms of air pollution due to their ability to penetrate deep into the lungs and blood streams unfiltered, causing permanent DNA mutations, heart attacks and premature death. Due to the extremely hepatotoxic health effects of material, most governments within the world, together with Asian nation, have created emission laws however it's been robust for Asian nation to maintain a healthy level. The safe limit of PM a pair of 2.5 is 60 ug/m3 and most Indian cities have the simplest way higher pollution level. (available from: www.indiatoday.in). Pollutant particles PM2.5 live but a pair of 2.5 micron, up to thirty times finer than the dimension of human hair, will imbed themselves deep into the lungs and enter the bloodstream, triggering respiratory or cardiovascular diseases. The city's air witnessed an enormous spike in air pollutants PM2.5, PM10 that was counted at 452 and 336, severally. According to the international standards, the permissible range for PM 2.5 is 25.

Solutions: Replace fossil fuels with renewable energy. Reforestation. Reduce emissions from agriculture. Change industrial processes.



YOUNG RESEARCH SCIENTIST WORK



Bacterial diversity of Southwest Indian Ridge and Central Indian Ridge with special reference to PAH degrading and metal tolerant community

Sakshi Garg, K P Krishnan, Tanu Jindal

Amity Institute of Environmental Sciences, Amity University Uttar Pradesh

M.Sc. Environmental Sciences (Batch 2016-18)

Oceans are the source of wealth, opportunity, and abundance as they provide us food, energy, and water and are helpful in sustaining the livelihoods of hundreds of millions of people. Oceanic crust is formed at mid oceanic ridges that are a boundary between two major tectonic plates that are drifting apart and gradually spreads ahead. Through the hydrothermal vents the seawater gets heated up and arises out of it that brings up metals and minerals along from the mantle portion. Different newly introduced substances gets mixed up in the surrounding seawater changing the physical and chemical parameters. The heat in this region is a cause of pyrolytic activities giving rise to PAH. Thus, a diversity of biota is seen at the ridge ecosystems. Southwest Indian Ridge and Central Indian Ridge are less investigated and therefore has been explored in this study to look for the diversity of bacteria in the region along with those showing resistance to heavy metals and PAH. Enrichment was done with the PAH mixture and metal solutions; after which the culture was allowed to grow. Determination of the nucleotide sequence of the gene encoding for 16SrRNA of the selected isolates showed that these isolated strains belong to these genera: Ruegeria, Labrenzia, Nitratireductor, Thalassospira, Erythrobacter, Thalassospira, Alteromonas, Halo-monas, Marinobacter, Pseudoalteromonas and Pseudomonas. All the isolates are the members of phylum Prteobacteria, Pseudomonas being the most abundant.

Impact of Mining on Soil, Ecology & Biodiversity, Jaisalmer

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Jaisalmer is one of the important states in the mineral map of India. Mining of mineral is an amalgamation of old and new world, bringing financial upliftment in the country since, the Stone Age. Mining activities impacts environment and human beings; positive impacts like improvement of socio-economic of the area, infrastructure development; negative impacts like air pollution, soil pollution, rehabilitation and resettlement and the most prominent impact is on flora and fauna. The study discusses the impact of mining on soil by analyzing the parameters pH, Bulk density, Electrical Conductivity (EC), Cation ex-change Capacity (CEC), Water Holding Capacity (WHC), Total Kjeldahl Nitrogen (TKN), Sodium Absorption Rate (SAR), Ca-Mg, and Porosity which are responsible for soil fertility. Mining has negative impact on ecology & biodiversity of that region and on migratory and

RET species. By analyzing the present situation of the study area, the presence of limestone made soil of the study area tolerable to high level of calcium. The soil doesn't immediately show any ill-effects but ecology might and proper pre-cautionary measures should be taken to preserve the flora and fauna of the region.

Air Quality Modeling of Delhi Region Using Remote Sensing Technology

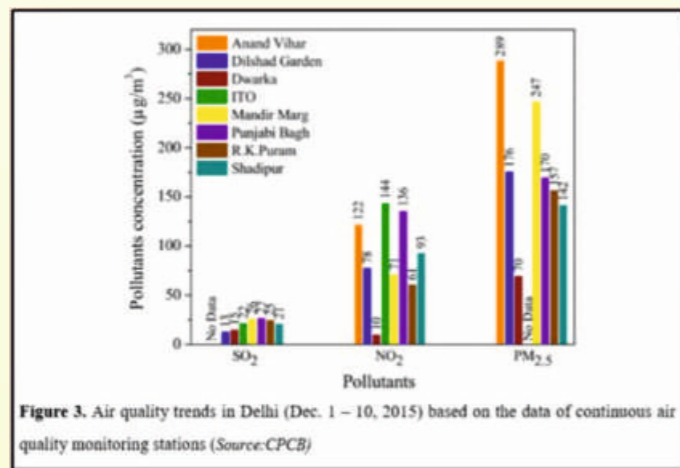
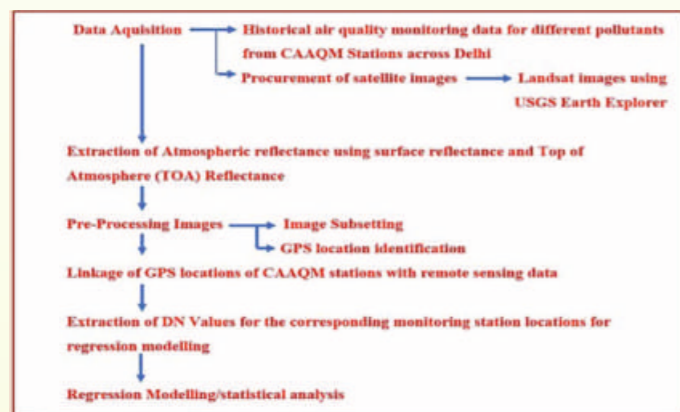
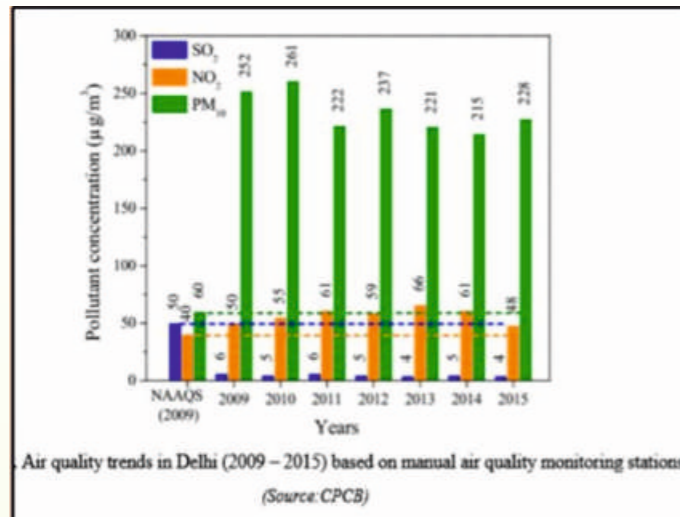
Aditi Vashisht, Shivangi Somvanshi, Parikshet Shrivastava

Amity Institute of Environmental Sciences, Amity University Uttar Pradesh

M Sc. Environmental Sciences (Batch 2016-18)

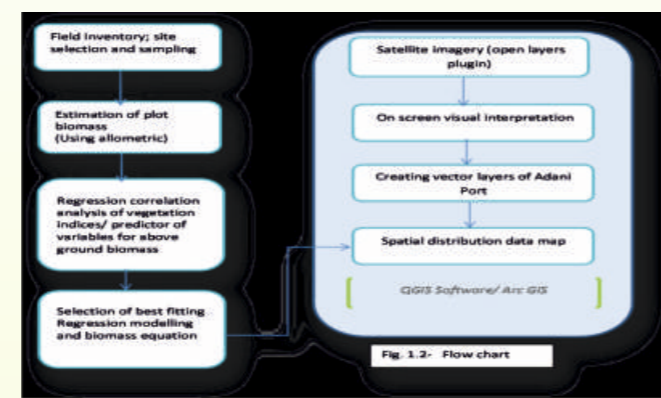
The world is urbanizing at an alarming rate. In developing countries like India, urbanization and development usually start and proceeds in an unplanned way. This unplanned and uncontrolled urbanization leads to ecological imbalance, and ultimately, ecological collapse. This not only leaves adverse effects on the ecology of the area, but may also convert the area into a multiple hazard prone zone. Of all the hazards that our ecology is prone to in today's environmental scenario, air pollution has become a major concern. The deteriorating air quality has become a high priority with respect to regulation of environment that we live in today. Deterioration of air quality in most of the large cities in India has majorly been a condition driven by industrialization, uncontrolled growth of population, and increased dependence on automobiles. Clean healthy air is the primary prerequisite for a healthy and long-term sustenance of humankind and of the ecosystems that sustain the humankind. Keeping this in view, an attempt has been made to develop a GIS model which will help conveniently obtain air quality information directly from remotely sensed data. The paper demonstrates the potentiality of linking satellite derived data with the ground truth data, by using GIS as the aiding tool. Remote sensing data of Land sat 8 OLI/TIRS Collection 1 Level 1 was acquired from USGS earth explorer for April month of years 2013, 2015 and 2017. Historical ground truth data for the same time span as of the remote sensing data was collected for the research study. Image processing and statistical were also used to create the model by using data from year 2015 to predict air quality statistics for year 2019.

	Date	Satellite	Path	Row	Source
2013	11 APRIL	LANDSAT 8 OLI/TIRS C1 LEVEL-1	146	40	USGS Earth Explorer
	18 APRIL		147	40	
2015	1 APRIL	LANDSAT 8 OLI/TIRS C1 LEVEL-1	146	40	USGS Earth Explorer
	8 APRIL		147	40	
	17 APRIL		146	40	
	24 APRIL		147	40	
2017	6 APRIL	LANDSAT 8 OLI/TIRS C1 LEVEL-1	146	40	USGS Earth Explorer
	13 APRIL		147	40	
	22 APRIL		146	40	
	29 APRIL		147	40	



Quantization of carbon mitigated through above ground biomass in Adani Ports & Special Economic Zone
Priyanka K, Sumit Palliwal, Tanu Jindal
Amity Institute of Environmental Sciences, Amity University Uttar Pradesh
M Sc. Environmental Sciences (Batch 2016-18)
 The project deals with the integration of Geological Information System and field inventory in order to assess the biological asset of Adani Ports & Special Economic Zone Limited, Mundra, in the context of carbon sequestration.

Green development of three layer canopy being a requirement of environment clearance, an area of total 412.27 hectares has been formed with sustainable planning and management by the horticulture department of APSEZL. The study comprises of indirect measurements of carbon stock and the carbon mitigation ability of the green belts through calibrated relationships between field inventory and satellite imagery of vegetation indices. Urban planned green belt above ground biomass has a complex structure of multi-species, multi-dimensional properties and requires well planned sampling to derive an biomass model Equation. Mapping of tree canopy and vegetation is done through sentinel-2 imagery in GIS platform (QGIS software). Calculation of above ground biomass and deriving model equation will be performed through IBM SPSS software. The concept of artificial neural network model also plays an important role to derive the equation.



Siderophore Producing Bacteria from Tropical Marine Environment: A Case Study
Pallavi Bhardwaj, PV Bhaskar, Manju Ranjan Rawat, Tanu Jindal
Amity Institute of Environmental Sciences, Amity University Uttar Pradesh
M Sc. Environmental Sciences (Batch 2016-18)

Iron is a key trace element present in extremely low concentrations (<0.2 nM) in the oceans, and it may be one of the factors that controls biological production in the open ocean, especially in High Nitrate, Low Chlorophyll (HNLC) regions including parts of the Southern Ocean, and the subarctic and equatorial Pacific (Martin et al., 1991; Martin, 1992). Heterotrophic bacteria utilize about 50% of the primary production in marine and fresh water (Williams, 1981; Cole et al., 1988). Availability and uptake of iron by heterotrophic bacteria through range of organic ligands and iron binding compounds plays a key role in sustaining the secondary production and making it available to phytoplankton biomass. Siderophores are one such group of low molecular weight iron chelators which show high affinity for dissolved iron and are generally produced by wide variety of heterotrophic bacteria. In the present study, Siderophore type chelates were detected using Csaky test and Neiland's assay from four sediment bacterial cultures isolated from mangroves of Goa and grown in nutrient enriched IDSM (Iron Deficient Media). Media was enriched with glucose and ammonium (as carbon and nitrogen source) to check the growth and siderophore production. The isolates were subjected to microscopy and biochemical assays for

identification. Further bacterial DNA was also extracted for QPCR and amplified sequences were sent for sequencing. Preliminary results revealed that the isolates Rib 3Ai, Cot 2A viii, Cot 4A iv and Cot 8A v belonged to Mycobacterium spp., Staphylococcus spp., Corynebacterium spp., and Bacillus spp. The isolates were tested for growth and siderophores production under different iron concentrations (10nM, 100nM, 1µM, 10µM, 50µM), carbon source (Xylose, cellobiose, glucose), metals (Cu and Mn), temperature (5°C, 15°C and 25°C) and pH (5.5, 6.5, 7.5 and 8.5) over 360 hours of incubation. Result showed all the four bacteria produced hydroxamate type of siderophores. Siderophores production as well as growth was altered at high iron concentrations, low temperature and pH while siderophores produced showed iron specific binding compared to other metal ions.

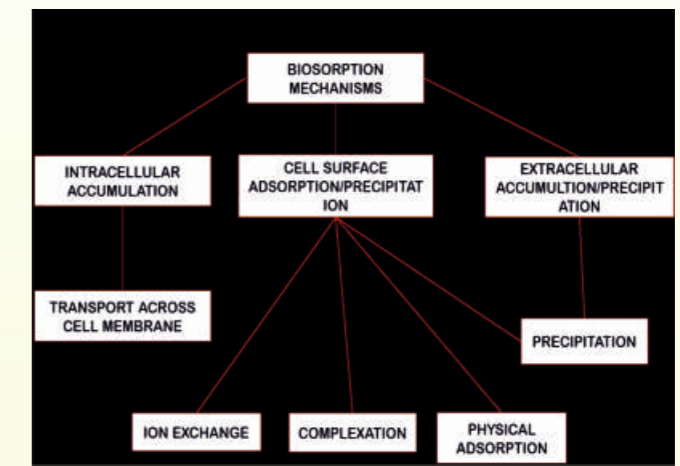
Groundwater pollution in the vicinity of River Yamuna and its health aspects
Binsin Ciesotsu, Prateek Srivastava, Ambrina Sardar Khan
Amity Institute of Environmental Sciences, Amity University Uttar Pradesh
M Sc. Environmental Sciences (Batch 2016-18)

This study was conducted to evaluate the groundwater quality in the vicinity of River Yamuna, Delhi. Ground water samples from hand pumps were collected from seven sites nearby the river which were utilised by the people. The analysed particularly focused on the determination of ten physicochemical parameters (pH, electrical conductivity, total dissolved solids, turbidity, nitrate, nitrite, phosphate, sulphate, chloride and silica) and eight heavy metals (Arsenic, Lead, Nickel, Iron, Cadmium, Copper, Chromium and Zinc) using standard procedure (APHA 2005) and compared with BIS (2012) drinking water limits. Multi parameter probe, UV-VIS Spectrophotometer and Atomic Absorption spectrometer were equipment used in the study. The Statistical analyses like mean, standard deviation, and variance, coefficient of variance and correlation of the obtained data were carried out. Water quality Index (WQI) and Heavy metal pollution Index (HPI) of the groundwater samples were assessed. Health survey of the communities was also carried out. WQI of all the samples were found to be in excellent quality while HPI of the samples revealed heavy metal concentration slightly above the critical value. Correlation analyses suggest that the electrical conductivity has high positive correlation with other four considered water quality parameters.

"Performance Evaluation of Sugarcane Bagasse and Peanut Hull as Biosorbent for the Removal of Synthetic Dyes from Textile Industry Wastewater"
Kaihao Chongloi, Manoj Chandra Garg, Tanu Jindal
Amity Institute of Environmental Sciences, Amity University Uttar Pradesh
M Sc. Environmental Sciences (Batch 2016-18)

Water pollution by dyes is a major concern as they are hazardous not only to aquatic life but also to humans. Dye removal by conventional methods is considered to be inefficient and harmful to the environment. Therefore, removal of dyes using economically efficient biosorbents and environmentally friendly techniques becomes crucial. This can be achieved by the process of biosorption which is the passive up-take of pollutants using biological materials

like agricultural waste. In present study, Response Surface Methodology (RSM) was used to obtain the optimized conditions for the removal of dye from textile industry wastewater by using sugarcane bagasse and peanut hulls as low-cost biosorbents. Parameters such as temperature, pH, biosorbent amount and concentration of the dye were investigated on the re-removal process. Comparisons were made between the two different biosorbents to see which is more efficient in the removal of dyes from aqueous solution. From the experimental results, maximum colour removal of 73.29 % by sugarcane bagasse was obtained at pH (5), dye concentration (40 mg), temperature (20°C), and biosorbent amount (1 g), while maximum colour removal of 67.93 % by peanut hulls was obtained at pH (6), dye concentration (50mg), temperature (25°C) and biosorbent amount (1.5 g).



Biosorbent (Sugarcane Bagasse (A) and washed (B) & Peanut hull (A) and Sugarcane Bagasse (B) after grinding and sieving

Impact of the Najafgarh drain on the Water Quality of Yamuna River

Astha Bansal, Tanu Jindal

Amity Institute of Environmental Sciences, Amity University Uttar Pradesh

M Sc. Environmental Sciences (Batch 2017-19)

Water quality analysis provides an overview of the various physico-chemical properties of water and possible uses for drinking, irrigation, bathing and other purposes. The assessment of the water quality of the Najafgarh drain and the Yamuna River was done to know about the harmful impacts of the Najafgarh Drain on the water quality of Yamuna River in Delhi. The monitoring was done in the month of May in. It was concluded that River Yamuna is receiving large amounts of untreated and partially treated wastes from domestic sewage and industrial effluents. Moreover, the various drains releasing their wastes directly into the river is further declining the water quality of River Yamuna. Out of all the water samples collected, the water sample from Palla was found to be the best in terms of water quality.

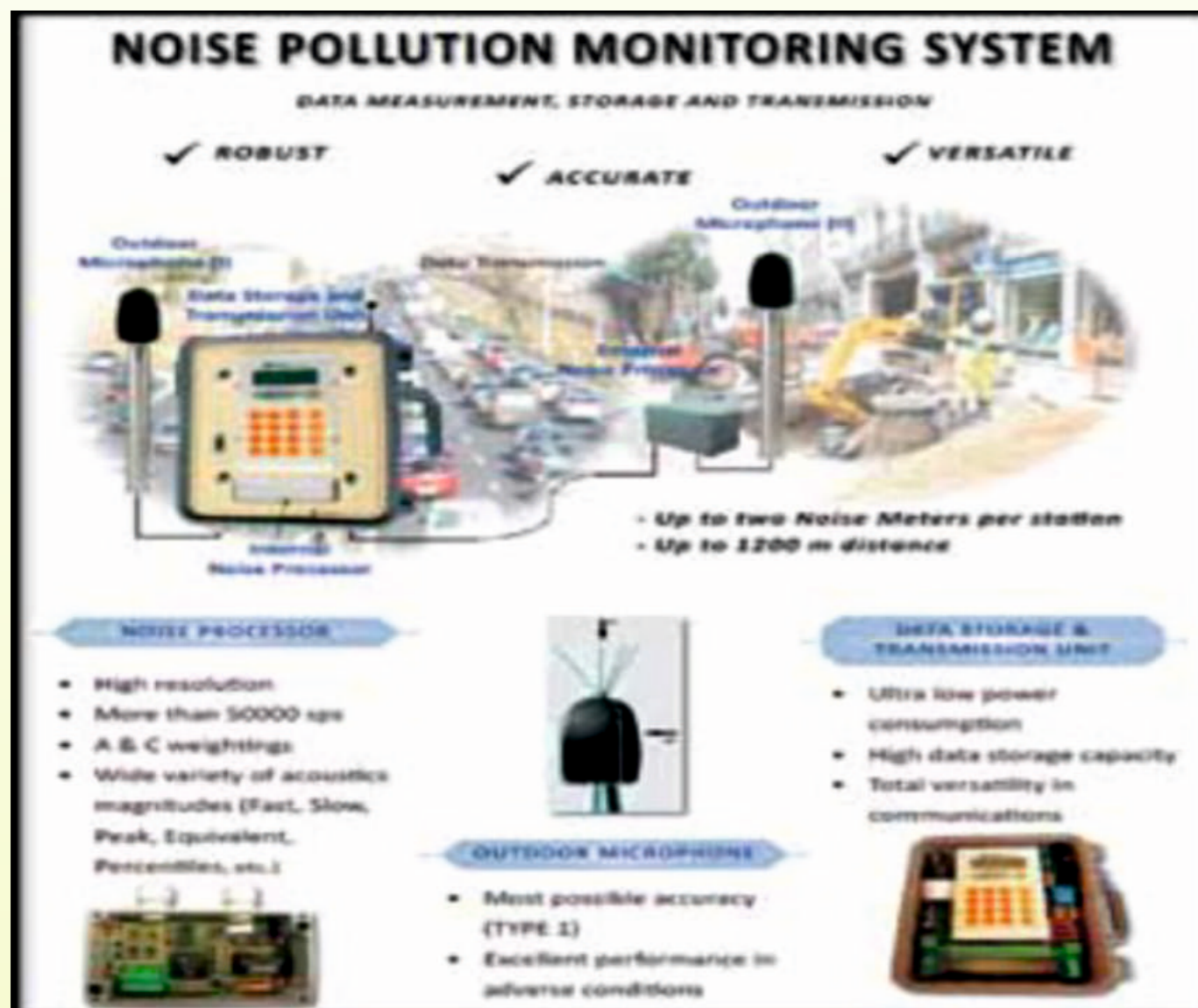
Trend Analysis of Noise Stations in India Central Pollution Control Board

Astha Bansal, Tanu Jindal

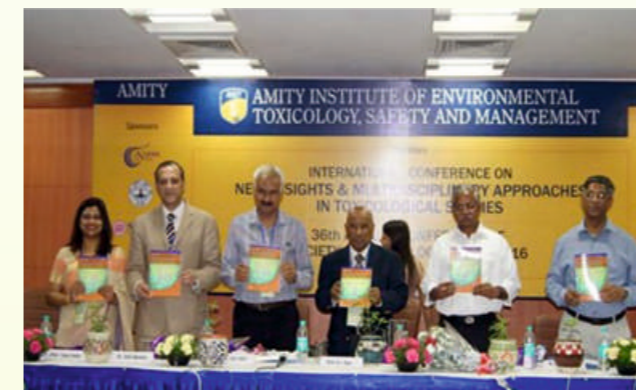
Amity Institute of Environmental Sciences, Amity University Uttar Pradesh

M Sc. Environmental Sciences (Batch 2017-19)

1. Procurement of monthly and yearly noise data over the period of 2011-2016
2. Compilation of the procured data into tabular format for detailed average noise level for day and night time respectively
3. Analysis of the noise level depending upon the different zones namely industrial, silence, commercial, and residential zones.
4. The above procedure comprises of cluster of data which requires ample amount of time to be taken care of.
5. The work namely called as Trend analysis was carried for 70 stations across major metro cites of India.
6. The analysis gives the basic idea of which city consists of noisiest record and the violation of noise standards



EVENTS & CONFERENCE



WATER DAY CELEBRATION WITH CENTRAL WATER COMMISSION

"Nature for Water"- Exploring Nature Based Solutions to the Water Challenges

In association with Central Water Commission March 22, & Industrial Water Index" ONGC, Vasant Kunj, New Delhi.

The "Water Day Celebration- - Nature for Water" with Central Water Commission, was held on 22nd March. The programme started with presentation by CWC officials. They informed that the total availability of water has not depleted in the country but per capita demand has decreased. The house in the panel discussion pointed that the quality of water resources has deteriorated immensely. Later in the afternoon session the data through our research about chemical and microbial contamination of ground water and surface water in various rivers Yamuna, Hin-don and Ghaggar. We have studied persistent organic pollutant, pesticide, heavy metals and emerging pollutants also.



Shri U.P. Singh, Secretary, Ministry of Water Resources gave the overall picture of whole country about the water usage. He spoke extempore very relevant points about irrigation technologies, river interlinking etc. Prof. Tanu Jindal addressed to him about our Energy Harvesting through Solar panels in the farms for irrigation purpose.

Shri Arjun Ram Meghwal, Hon'ble Union Minister of State for Water Resources, River Development & Ganga Rejuvenation and Parliamentary Affairs hails from West Rajasthan where there is extreme water scarcity. He mentioned that this planet is livable only because its unique property of having water.



His talk was very interactive and every-body was impressed and enjoyed. Later we all met him and apprised him about our work on drains of Delhi, contaminating ground water and also on Yamuna, Hindon and Ghaggar river. We mentioned to him about our patent on "Cost Effective Water Testing Kit" for use by every student and housewife.

Prof. Tanu Jindal addressed thoughts on "Protection of our precious natural water resource with special reference to India, adaptation and mitigation strategies".

We also interacted with H.E. Mr. Tomasz Kozlowski, Ambassador of the European Union to India. Ms. Henrietta FAERGEMANN, First Counsellor, Environment, Energy, Climate Change & Urbanisation, Delegation of the European Union to India., Mr. Rajesh Kumar, Assessor, Former Chairman, CWC, Ms. Madhu Mohanan, Communication Officer, International Commission on Irrigation and Drainage, Mr. Geumjun Lee, Deputy Director, Korea Rural Community Corporation and other important officials from CWC Shri S. Masood Husain, Chairman, Dr. N.K. Mathur, Member (D&R), Shri Y. Paithankar, Chief Engineer and Dr. R.N. Sankhua, Director along with her participants. We made a mega presence with students and faculty participations and had active participations in panel



discussions & proposed to partner with CWC in analyzing quality of water bodies.

Second Event

We are also invited tomorrow at Launch of the "World Water Development Report" (WWDR) and the "Industrial Water Index" ONGC, Vasant Kunj, New Delhi. Water Day is also celebrated at the Institute today with presentations by students and also short films. Faculty also gave their valuable suggestions on the possible research areas.



WORLD EARTH DAY ON "END OF PLASTIC WASTE"

April 20, : A workshop cum exhibition was organized by Amity Institute of Environmental Toxicology, Safety & Management (AIETSM) and Amity Institute of Environmental Sciences (AIES) on the occasion of World Earth Day Celebration on April 20, in Amity University Noida. The workshop deliberate upon the challenges posed plastic waste and extreme events to examine various analytical tools to improve the under-standing of adaptation and mitigation strategies. The workshop would bring academicians, planners, administrators, researchers and other stakeholders from across the country for setting up a knowledge sharing platform to strengthen the capacities of people and organizations, generate awareness, and develop climate leadership among the young students. We are celebrating the Earth Day with a view to stimulate global awareness and to encourage people to become active participants to sustain life by saving Environment on earth.



Prof. Tanu Jindal, Director, AIETSM and AIES was invited to speak on the theme of "End of Plastic Waste". She gave a very comprehensive overview of plastic usage recycling and reduction. She stressed to cut the usage of plastic bags as the garbage piles are seen lying in huge quantity on roads even in hill stations. PET is being largely used in the manufacture of plastics and have potential of leaching for phthalates and bisphenols. Leaching of plastics is more in Bisleri bottles because the water is of high purity and the pH is neutral. She also told about the Great Pacific Garbage Patch as marine plastic pollution is on the rise and many of



the marine animals consume a lot of plastic waste deliberately therefore she emphasized on consumption of seafood grown in aquaculture to avoid toxicity. She also shared a good piece of information about the concept of "plastic roads" and its huge prevalence in India with a whopping area of 33,796 km already been used for making plastic roads following the same. The second speaker of the session was Dr. Ram Boojh who is working as a Programme Specialist at UNESCO, New Delhi. He apprised that there is a need of research on the use of micro plastics as they go into the marine system and ultimately in aquatic or-ganisms some of which are also consumed as sea food.

The third speaker for the occasion was **Dr. Rasik Ravindra**, Panikkar Professor, MoES and Former Director, NCAOR, Goa. He spoke on the topic "The Earth and We". He apprised that about 5% of our land is de-graded in some way or the other. He also apprised about an interesting recent research where scientists have started detailed studies on a mutant enzyme known as Ideonella sakaiensi, which appears to feed exclusive-ly on plastic polyethylene terephthalate (PET) used widely in plastic bottles. The last presentation of the day was given by **Dr. Chirashree Ghosh**, Associate Professor, Department of Environmental Sciences, University of Delhi.



She gave a talk on the source, generation rate & endpoint of plastic waste. She emphasized on the fact that micro beads which are a form of micro plastics only should be banned completely from the market as they are hazardous to humans in the long run.

Exhibition

On the occasion, students of Amity Institute of Environmental Sciences participated in Exhibition on "End of Plastic Waste" theme. The students presented their posters and photographs on the occasion.

WORLD ENVIRONMENT DAY

With Ministry of Environment, Forest and Climate Change (MoEF&CC) and UN at Vigyan Bhawan by

Amity Institute for Environmental Toxicology, Safety and Management (AIETSM) &

Amity Institute of Environmental Sciences (AIES)

Amity University celebrated World Environment Day, with MoEF&CC and UN at Vigyan Bhawan, Delhi. This year India was the global host of United Nations for World Environment Day celebrations. The theme for this year's edition was "BEAT PLASTIC POLLUTION" and the conference was mainly focused on combating single-use plastic pollution. The conference was named as "THE KNOWLEDGE COALITION". The theme urged various stakeholders like governments, industry, manufacturers, NGOs, communities, academics and public to come together and explored sustainable alternatives to urgently reduce the production and excessive use of single-use plastic. Plastics are polluting our oceans, damaging marine life, ecosystem and threatening human health as well. Different sessions were held on plastic pollution and its management, policies for combating plastic pollution etc. Exhibition on the theme was also put up where various states, ministries as well as industries showcased their works.

Amity University was the only university which has set up a stall at the exhibition from 2nd June - 5th June, and has exhibited its environmental initiatives like research, Courses, conferences, seminars, events, patents, prototypes of technology etc. Many delegate and visitors visited the stall and showed interest in the research work that Amity is doing in the field of environment. People showed keen interest in Water Testing Kit, Biodegradable plastic, portable water purifier etc. and inquired about the tech-nology used for these research works. Water testing kit was a hit at the stall and all its information pamphlets were exhausted. Delegates also discussed about our expedition to Antarctica and Southern Ocean and what was the research outcome of the expedition. Many exhibitors from industries, academics and students showed interest in collaboration at Amity University. They also registered their remarks in the visitor diary.

Amity students which are working as interns in various organizations like Chintan, GIZ etc. also visited Amity stall and cheered up. UN Global stall was a USP of the exhibition where they showcased about how our environment is getting degraded because of human activities with the focus on



plastic pollution which is the theme of the event. At the plenary ceremony of the event Prime Minister Sh. Narendra Modi Ji addressed the people present that and told about marine litter, micro plastic litter, re-ducing plastics in oceans etc. He showed support for UN initiative to combat plastic pollution. It was a learning experience for everyone to visit and to be a part of this World environment day event to meet dignitaries from across the globe, presenting their ideas on the ways to combat Plastic Pollution.



WORLD OZONE DAY & WORLD ENVIRONMENT HEALTH DAY CELEBRATIONS

International workshop On

Environment, Climate Change and Impact on Human Health
24th-25th September,

Amity Institute for Environmental Toxicology, Safety and Management & Amity Institute of Environmental Sciences organized an International workshop on "Environment, Climate Change and Impact on Human Health" from 24th-25th September, as part of World Ozone Day and World Environment Health Day celebrations.

International Day for the preservation of Ozone Layer is an annual observance celebrated on 16th of September every year to spread awareness and bring attention to the depletion of the ozone layer. The day is celebrated not only to commemorate the date on which the Montreal Convention was signed, but mainly to create awareness about how fast the ozone layer is getting depleted. The chief aim to observe



this day as an international occasion is to generate a sense of awareness about the ozone layer, how it is formed and what are the methods to stop its depletion. Annual celebration of International Day for the Preservation of the Ozone Layer has its own theme and keeps on changing from year to year. This year international ozone day was celebrated with the theme "Keep cool and carry on: the Montreal Protocol". "Earth Without ozone is like house without a roof". World Environment Health Day is celebrated on 26th of September every year. This year's theme of 'Global Food Safety and Sustainability' aims to support the provision of more safe food, to make use of precious water and nu-trient resources, and for communities to increasingly value sustainable food

production.' Environmental Health Day addresses all the physical, chemical, and biological factors external to a person, and all the related factors impacting behaviors. It encompasses the assessment and control of those environmental factors that can potentially affect health. It is targeted towards preventing dis-ease and creating health-supportive environments. Charles Simmons quoted "Sickness is the vengeance of nature for the violation of her laws".

To mark the commencement of this International Workshop on Environment, Climate change and Impact on Human Health, Director AIETSM and AIES Prof. Dr. Tanu Jindal explained in depth the Ozone layer depletion, Indoor air pollution, use of chemicals and its health impacts and also highlighted Amity's, Environmental Initiatives. Institute courses B.Sc., M.Sc. and PhD Pro-gramme, Research, Project, Patent, Green Technology. Many eminent speakers came to grace the workshop. Dr. Markandey Rai, Senior Advisor of UN Habitat talked about Climate change, human health and developmental challenges of the 21st century.

Second day of the workshop had sessions by Green Skill India on short duration and long duration courses like smart cities, water management, energy conservation, STP & ETP, rain water harvesting and many more. Dr. Srinivas Ravindra, Director, Ms. Kshama Rangan and Mr. Sumit Kapur, Green Skill India, addressed the students and explained to them how these courses can enhance their career skills and will also help them to become responsible human beings towards their environment. They also conducted a Green Entrepreneurship Program in which they gave knowledge about setting up a business and SWOT Analysis, project and internship, financial and marketing skills to the students. International award winning environment movie by CMS Vatavaran and environment movies by Amity students were showcased during the workshop. a) Ring the changes b) Fighting Air Pollution c) Gangnauli

To represent ozone layer depletion consequences more appropriately, Stephen King once said "Even a zombie lurking through the night can seem pretty cheerful compared to the existential horror of the ozone layer dissolving under the combined assault of the million fluorocarbon spray cans of deodorant".

Participants of the exhibition on Beat the plastic with models and posters by students of various disciplines were selected for award.

ENVIRONMENTAL POLLUTION, SOIL HEALTH AND SUSTAINABLE AGRICULTURE

National conference on "Environmental Pollution, Soil Health and Sustainable Agriculture" 15-17 January, 2013 was held under the aegis of Indian Network for Soil Contamination Research (INSCR) in association with University of Delhi and Amity University Uttar Pradesh at Amity University Campus, Noida. In the inaugural ceremony, convener of the conference Prof. Tanu Jindal highlighted the themes of the conference:

- Ø Soil contamination and human health
- Ø Technology for monitoring and prediction of soil contaminants
- Ø Sources of soil contamination
- Ø Improving soil health and agriculture.

She emphasized on the importance of soil health, agriculture and environmental conservation.

Dr. Ashok K. Chauhan, Founder President, Amity University, Noida, presided over the function and conveyed his best wishes for the success of the conference. He said that soil constitutes a vital component of the natural environment and civilizations have developed and declined on the status of soil as healthy soil ensures our own survival. He conveyed that the factors responsible for soil damage would be well recognized and the deliberations at the conference would provide remedies for ameliorating the maladies which afflict our soil.

Prof. H.C. Agarwal, Vice President, INSCR, Advisor, Centre for Science & Environment and highlighted the activity of INSCR



for prevention of soil deterioration. The eminent guest of honours Dr. K.C. Gupta, Director, Indian Institute of Toxicology Research, Lucknow, discussed about toxicological impacts of the harmful chemicals causing imbalance of the soil microflora. Dr. P.B. Rastogi, Director, Impact Assessment in Ministry of Environment & Forest, intimated the initiatives of Ministry on environmental impact assessment in relation to soil conservation.

Dr. Rup Lal, General Secretary, INSCR and Dean, Examinations, Department of Zoology, University of Delhi, discussed about the degradation of persistent toxic Lindane pesticide in soil using genetically modified bacteria. Dr. SV Eswaran, Emeritus Scientist, CSIR, St. Stephan's College, DU, Delhi, also presented his views on human values and environmental ethics. On the occasion, Dr. S S Kukal, Professor, Department of Soil Science, Punjab Agricultural University, Ludhiana, spoke on the modern technological life style and environmental degradation due to huge energy consumption. Eighty seven papers were presented in different sessions of three days on major themes. Discussions were made on

problems of soil contamination, soil toxicology, soil management, soil microflora, fauna, nutrients and associated habitat which have the potential to influence the soil ecosystem, agriculture, environment and economy.

Soil is the elixir of life and essential for our existence. It is one of the five components of earth, water, fire, air and space. Soil is affected by industrial pollution as well as excessive use of agrochemicals in agricultural practices. Soil is generally assumed as an inexhaustible resource, which is used and overused continually for increasing production. The soil today has virtually become lifeless in many places. The need to take actions to sustain soil and its immediate environment has become an imperative and challenging task in today's environment.

On the day of valedictory ceremony Dr. G.S. Sidhu, Principal Scientist and Head of Regional Centre, National Bureau of Soil Survey and Land use Planning, New Delhi addressed on



"Dynamics of Land use and its impact on soil properties in Indo-Gangetic Plain'. The summary of the deliberations were made. The participants gave their feedbacks and were delighted to learn and exchange the ideas over the three days period listening to various research deliberations on environmental pollution, soil health and sustainable agriculture. An interactive session was held with all delegates and students and many ideas originated for further research and studies on the conference themes. For sustainable outcomes, action plan was discussed for organizing future collaborative events and projects for improvement of environment, soil and agriculture scenario in India.

Prof. Tanu Jindal in her vote of thanks said that there is need for real green revolution in agriculture using organic farming and integrated pest management for conservation of good health of soil. After all final truth is

"Mitti se aaye hain, mitti mein mil jaana hai..."

Aey musafir zindagi ka yahi ek afaana hai..."

As rightly said by Wendell Berry

"The soil is the great connector of our lives, the source and destination of all".

NATIONAL WORKSHOP ON "POLLUTION PREVENTION PARADIGM" HIGHLIGHTS AND RECOMMENDATIONS

Amity Institute of Environmental Toxicology, Safety and Management Director, Prof. Tanu Jindal organized a National Workshop on "Pollution Prevention Paradigm" on May 11, 2012 at Amity University campus, Noida in association with Ministry of Earth Sciences (MoES). The eminent guests of honour, Dr. G.V. Subrahmanyam, Prof. S.P. Gautam, Dr. Rajesh Kapur, Dr. S.K. Raza, Dr. Timothy Neely along with Vice Chancellor, Pro Vice Chancellor, Prof. Saran, Prof. S. S. Agrawal and M. Gen. Dhawan were grace the occasion. Dr. Ashok K. Chauhan presided over the function and gave his valuable time and thoughts.

General Dhawan commence the programme with a wonderful presentation about Amity Group and after that Prof. Tanu Jindal explained about the themes of the workshop and highlights, achievements and future plans of AIETSM.

Dr. Subrahmanyam, Advisor, Ministry of Environment & Forest, acquainted the masses and the research scholars about the Ministry of Environment & Forests (MoEF's) initiative in promoting R & D activities in the area of environmental sciences. He also intimated about the recently introduced 30 post doctoral fellowship and encouraged the young scholars and doctorates to pursue them for cutting edge research in environmental improvement and prevention.

Dr. S.P. Gautam, M.P. Public Service Commission & Former Chairman, Central Pollution Control Board (CPCB), defined the concept of pollution prevention and paradigm. He stressed the need of right policies and their proper implementation to ensure prevention of pollution. He also emphasized on the need to curb carbon emissions and reduce carbon and energy footprints to ensure sustainable development.

Dr. Rajesh Kapur, Scientist 'G' and Head, Department of Food and Nutrition, DBT, deliberated on the current problem of pollution being faced globally and the potential initiatives to prevent the pollution graph. He also raised the call on the concept of public private partnership (PPP) and highlighted the importance of how this partnership can be translated to bring a change in the current developmental process.



Dr. S.K. Raza, Director, Institute of Pesticide Formulation Technology, discussed about environmental friendly control release formulations for better efficacy of pesticides to reduce the load of toxicants from the environment.

Dr Timothy Neely, Chief- Environment, Science and Technology Affairs, U.S. Embassy, explained the essence of the clean air to breathe being the basic need of every life on the earth.

Founder President, showed his concern towards the importance of pollution prevention policies and implementations. He discussed the idea of Public Private Partnership (PPP) to achieve Pollution Prevention Paradigm (PPP) in true and practical sense. During his address he also mentioned the



consideration for establishment of "Amity School of Research and Studies" and about starting new courses in "Environmental Sciences". He appreciated the speakers and for many more events to come in future for environmental conservation. Then he also wished fruitful research collaboration, projects and patents to the participants in the workshop.

The abstract book was released at the workshop inaugural function. This booklet had a compilation of 45 abstracts from all over the country, with 21 oral papers and 24 poster presentations in various themes of the workshop. The scientific sessions were categorized in three key areas.

Session-1, "Urbanization and air pollution", was chaired by Dr. D.S. Rathore, former Vice Chancellor, CSK Himachal Pradesh Krishi Vishwavidyalaya, Palampur and Dr. Kuldeep Singh, Emeritus Scientist. Four research papers were presented. Presentation by Abhinav Garg, DU paper entitled "Comparative analysis of benzene measurement in ambient air and human breath at refueling station in urban Delhi" and Jamir Chubamenla from University of York, UK on "Ground level ozone impacts on food crop production in India" were specially appreciated.

Session 2, Sewage waste and water contamination was chaired by Dr. Pradeep Singh, IAS officer and Prof. S.S. Agrawal, Director General, Academic, Innovation & Research Coordination and Director, Amity Institute of Pharmacy with appreciable contributions from Dr. Shakeel A. Khan, IARI, N.Delhi on "Phycoremediation of sewage waste water by microalgae *Chlorella minutissima* for the agricultural use", and Govind Singh Bajwa, from Department of Environmental Studies, DU on "Spatio-temporal analysis of ground water quality in two contrasting districts of NCT of Delhi".

Session 3, Current environmental issues and health impacts" was chaired by Dr. Shakeel A. Khan, and Dr. A.K. Dixit from IARI, New Delhi. In this session Piyush Mohapatra, from Toxics Link discussed on "Emerging chemicals safety and waste Management issues in India and the impacts on human health". An enlightening lecture on "Heavy metals in cosmetics, their toxicity and health impacts" was given by Prof. S.S. Agrawal, Director General, Amity Institute of Pharmacy. Similar Paper of Sujata Saxena, from Central Institute for Research on Cotton Technology, Mumbai on "Environment friendly options for textile processing" was also deliberated.

The best oral and poster presentations were conferred with 'Certificates of Appreciation'. For the oral presentation first

prize were given jointly to Mr. Abhinav Garg and Mr. G.S. Bajwa, second prize to Dr. Shakeel A. Khan and third to Ms. Jamir. The first prize in poster presentation was won by Mr. Nirpen, paper entitled "An impact on groundwater quality due to discharge of sewage waste in unlined drains", second prize to Mr. Anuj, Paper entitled "Estimation of lead concentration in milk and milk products" and the third prize went to Mr. Joseph, paper entitled "Removal of water soluble toxic dye by graphene oxide nano sheets".

Concluding remarks from Prof Tanu Jindal were delivered post sessions with warm thanks to owed to Founder President and Ministry of Earth Sciences. She also emphasized on key to achieving a sustainable society and tackling the complex environmental challenges of the twenty first century is Pollution Prevention Paradigm (PPP), reducing or eliminating pollution before it is emanated. The idea has been discussed since 1976, but has only lately gained widespread support from both the private and public sectors. Pollution prevention is apt and environmentally safe and our efforts should be oriented in this direction as stitch in

Fighting Pollution



Amity Institute of Environmental Toxicology, Safety and Management (AIETSM) in association with Ministry of Earth Sciences organized a National Workshop on "Pollution Prevention Paradigm" on May 11, 2012 at Amity University, Noida.

The event began with a presentation about Amity Group by Maj General Dhawan, Director, International Affairs Department, while Prof. Tanu Jindal, Director AIETSM apprised the audience about the highlights of the event.

Speaking on the inauguration of the workshop, Dr. G.V. Subrahmanyam, Advisor, Ministry of Environment & Forest, said, "The ministry is taking initiatives to promote research and development in the field of environmental sciences." He said 30 post doctoral fellowships had been introduced to encourage young scholars and doctors to pursue research in environmental restoration and prevention of its degradation. Expressing concern over rising pollution, Founder President, Amity University, Dr. Ashok K Chashan, said that there is a need to formulate policies that would reduce pollution.

National Workshop on Pollution Prevention Paradigm was a step by Amity University towards building a greener and safer world.

Other guests of honour who graced the occasion were Prof. S.P. Gautam, Dr. Rajesh Kapur, Dr. S.K. Raza, Dr. Timothy Neely along with Vice-Chancellor, Pro-Vice Chancellor, Prof. Saran and Prof. S.S. Agrawal.

The first session of the workshop on "Urbanization and Air Pollution", was chaired by Dr. D.S. Rathore, Former V.C., CSK Himachal Pradesh Agricultural University and Dr. Kaldeep Singh, Emeritus Scientist. Four research papers were also presented during the first session. The second and third session discussed water contamination and current environmental issues and their impact on health. Dr. S.P. Gautam, Former Chairman, CPCB, defined the concept of pollution prevention and paradigm. Dr. Rajesh Kapur, Scientist 'G' and Head, DDT, touched on the concept of private partnership (PPP). Dr. SK. Raza,

Director, Institute of Pesticide Formulation Technology, discussed the load toxic pesticides from the environment. The best oral and poster presentations were conferred certificates. Abhinav Garg and G.S. Bajwa jointly won the first prize for oral presentation while Shakeel A. Khan and Jamir bagged the second and third prize respectively. Research Fellow Nirpen's paper entitled "Impacts on groundwater quality due to discharge of sewage waste in unlined drains" won him the first prize in poster presentation while Anuj, Research Fellow won 1 second prize for his paper "Estimation of lead concentration in milk and milk products". The third prize went to Joseph from Curtin University, Perth.

The event also released a booklet containing 45 abstracts from all over India 21 oral papers and 24 poster presentations on themes of the workshop.

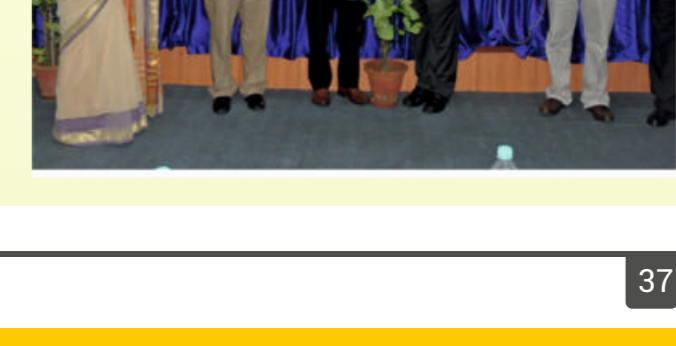
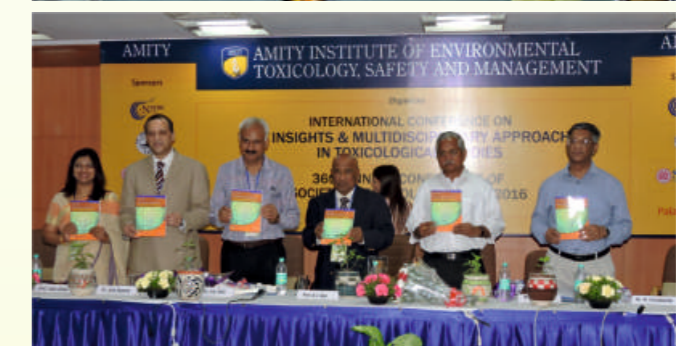
"INTERNATIONAL CONFERENCE ON NEW INSIGHTS & MULTIDISCIPLINARY APPROACHES IN TOXICOLOGICAL STUDIES" 36TH ANNUAL CONFERENCE OF SOCIETY OF TOXICOLOGY (INDIA) 2016

In the inaugural session, Prof. S. K. Garg, President-Society of Toxicology, Dr. K. S. Rao, President-Association of Toxicology, Prof. Alok Dhawan, Director - Indian Institute of Toxicology Research, and all other leading professionals from various fields of toxicology were present from all over India.

There were sixteen sessions in three days on eleven major themes with two new insights added on "Polar Ecotoxicology" and "Radiation toxicology", which our institute is exploring under Ministry of Earth Project on Antarctica and DST project on cell phone and cell tower radiations. There were 60 oral presenters and approximately 50 poster presentations. On the first day evening a wonderful cultural event was organized by students of AIES followed by a Gala dinner.

In valedictory session, points for future collaborations, MoUs and recommendations were discussed. Hon'ble Founder President, Amity University, complimented for successful organization of the conference and emphasized on further outcomes and long term relations with all the worthy delegates, faculty and students present. He also gave Arcadia passes to all. One Fellow of STOX, six oral and six poster awards were recognized.

We are planning to bring a book with Springer of selected full papers. The conference not only added intellectually to Amity but also generated resources and funds from DST, ICMR and other sponsorships for further utilization.



NATIONAL CONFERENCE ON EARTH & ENVIRONMENT POLLUTION AND PREVENTION



A national conference on the pressing problem of environment pollution, was organized by Amity Institute of Environmental Toxicology Safety & Management (AIETSM) in association with Ministry of Earth Sciences. Convener of the conference, Prof. Tanu Jindal, director, AIETSM, highlighted the themes of the conference as land use and soil health, ocean and water resources and air quality, atmosphere and climate change.

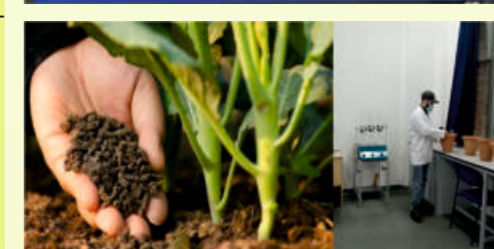
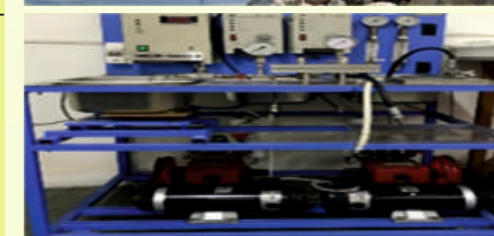
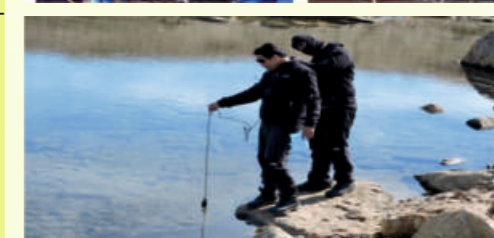
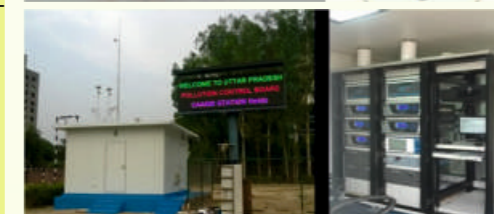
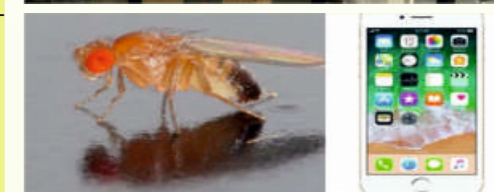
The conference was inaugurated by a galaxy of experts including Dr. John Dunham, deputy chief, environment, science and technology, affairs, US Embassy; Dr. Vinod Babu, Incharge, Hazardous Waste Management Division, CPCB; Dr. RK Khandal, VC, UP Tech University; Dr. Sajay Bajpai, director/scientist 'F', Technology Mission Cell, Water & Solar

Energy, DST. Dr. Ashok K. Chauhan, Founder President, Amity Universe, conveyed his best wishes for the success of the conference and wished all the participants good luck.

A total of 88 papers and 9 lectures were presented during the conference, which served as a platform to sensitize the masses about the grave implications of environmental deterioration. Among the eminent guests who delivered talks were Prof. R.K. Singh-CSIR, Lucknow, Prof. Neera Kapoor-IGNOU, New Delhi, Dr. R.S. Antil, HAU, Hisar, Dr. Chirashree Ghosh, DU, Dr. J. Behari, Prof. (Retd.), JNTU, Delhi, Dr. R.B. Lal, Deputy Director, Impact Assessment Division, Ministry of Environment and Forests and Prof. Rasik Ravindra, Earth System Science Organization, Ministry of Earth Sciences, New Delhi

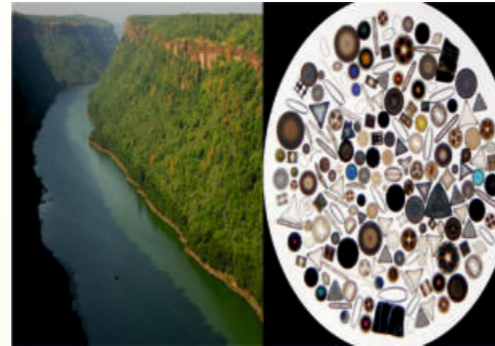
RESEARCH PROJECTS

SR. NO.	PROJECT TITLE	FUNDING AGENCIES	PRINCIPAL INVESTIGATOR
1.	Development of a cost effective Lysimeter & method for leaching studies to estimate risk assessment of ground water contamination (2015)	DST	Prof. Tanu Jindal
2.	Mobile phone and tower exposure measurement and biological correlations (2016)	DST	Prof. Tanu Jindal
3.	Continuous Ambient Air Quality Monitoring Station (CAAQMS) by UP Pollution Control Board (UPPCB) (2017)	UPPCB	Prof. Tanu Jindal
4.	Screening of microorganism from Indian sector of Southern Ocean for antimicrobial activity with their molecular characterization (2017)	MoES	Prof. Tanu Jindal Dr. Abhishek
5.	Environmental toxicological studies and environmental monitoring with NCAOR for estimation of POPs in Antarctica (2014)	MoES	Prof. Tanu Jindal
6.	Performance Evaluation of Forward Osmosis Membrane System for Applications within the Agriculture and Textile Industries.(2017)	DST	Dr. Manoj C. Garg
7.	Assessment of toxicity on Vegetative Crops by application of Municipal Solid Waste Compost (MSWC)	DST-SERB	Dr. Manju Rawat Ranjan



RESEARCH PROJECTS

SR. NO.	PROJECT TITLE	FUNDING AGENCIES	PRINCIPAL INVESTIGATOR
8.	Development and application of Diatom indices for the ecological assessment of the Chambal river system (2014)	DST	Dr. Prateek Srivastava
9.	Estimation of instream nitrogen removal processes and its role in the nitrogen budget of Yamuna river (2014)	DST	Dr. Pawan Kumar Jha
10.	Study of contamination of soil and water through heavily loaded unlined drains in Delhi (2014)	MoES	Prof. Tanu Jindal
11.	Dissipation, leaching and persistence of Chlorpyrifos in three types of soils with different pH	DST	Prof. Tanu Jindal
12.	Analysis of Surface and Groundwater pollution by Indiscriminate use of Agrochemicals (Pesticides) in selected Paddy, Cotton and Vegetable Growing Farms of India	MoEF	Prof. Tanu Jindal



PATENTS

- Jindal, Tanu. 2016. An exposure system for dosimetric application of microwaves to small insects, Provisional draft of CRN 1948, Filed July 22, 2016
- Jindal, Tanu. 2013. Simple Lab/Field Lysimeter. 353/DEL/2009, Filed February 25, 2009, and issued February 8, 2013
- Jindal, Tanu. 2013. Photochemical method for degradation of persistence pesticide. 592/DEL/2013, Filed February 28, 2013
- Jindal, Tanu. 2012. Low Cost Water Testing Kit. 2912/DEL/2012, Filed August 7, 2012.
- Jindal, Tanu. 2012. Development of natural pesticides from plants with acetyl cholinesterase inhibitory activity. 3963/DEL/2012, Filed December 20, 2012.
- Jindal, Tanu. 2011. Assembly to measure volatilization and mineralization of Xenobiotics. 1908/DEL/2009, Filed September 15, 2009, and issued March 8, 2011.



INTRODUCTION

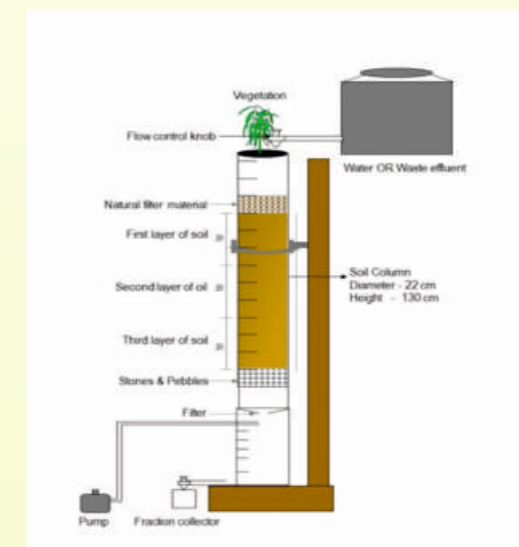
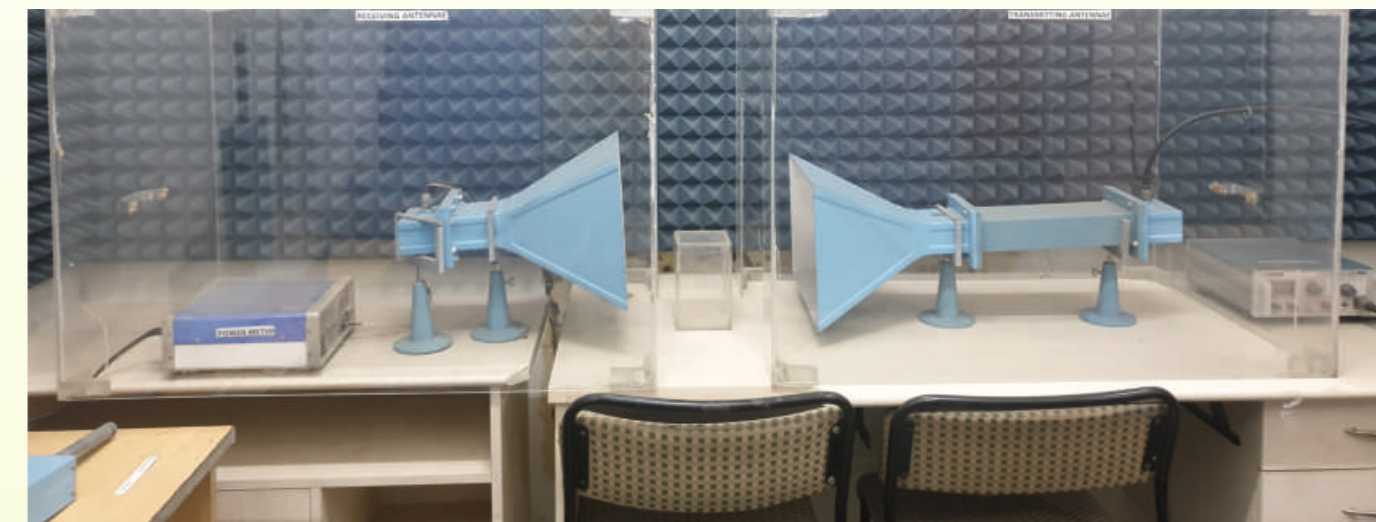
The present invention provides a water test kit to determine the inorganic contaminants which is based on physiological parameters and their correlations with the help of statistical analysis. Fifteen different parameters of water quality can be analyzed by using a single test kit.

ADVANTAGES

- Fifteen significant water quality parameters in a single kit.
- Gives information on suitability of water for drinking.
- Easy to use - simple steps following the manual.
- Cost effective - 25 samples, 15 parameters can be tested

USERS AND MARKET

- School and College students:** Students learning about water quality in schools and colleges will be the primary users of our proposed water testing kit.
- Research scholars:** Researcher working on water quality analysis would be benefited saving lot of time and being cost effective.
- House hold and other:** House hold users will be beneficial to monitor drinking water quality in low cost with easy.



AMITY INSTITUTE OF ENVIRONMENTAL SCIENCE EVENTS



ORIENTATION



GUEST LECTURE (PH.D. M.SC. & B.SC.)



FAREWELL



OATH CEROMONY



CONVOCAATION



ALUMINI MEET



CONCLUDING CEROMONY



AMITY INSTITUTE OF ENVIRONMENTAL SCIENCE EVENTS



AIR POLLUTION MITIGATION STRATEGY BY AWARENES CAMPAIGN; EXHIBITION; RADIO PROGRAM & WORKSHOP FOR" SAY NO TO CRACKERS"



AMITY ENVIRONMENT MODEL PROJECT PRESENTATION

ENVIRONMENT RESEARCH FACILITIES



MICROBIAL LABORATORY



SOLID WASTE MANAGEMENT LABORATORY



WET LABORATORY



EMF RADIATION EXPOSURE SETUP



FUME HOOD FOR TOXICOLOGICAL ANALYSIS



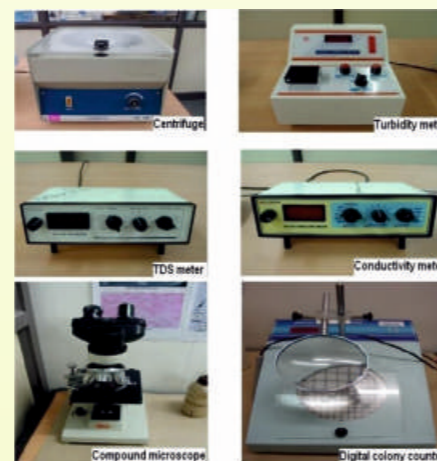
GAS CHROMATOGRAPHY



MOLECULAR TOXICOLOGY LAB



RESPIRABLE DUST SAMPLER (PM₁₀)



WATER ANALYSIS

GREEN CHALLENGES: INDIAN CONTEXT

Green India Mission (GIM) which is one of the eight Missions outlined under National Action Plan on Climate Change (NAPCC), acknowledges the influence forests have on environmental amelioration through climate change mitigation, food security, water security, biodiversity conservation and livelihood security of forest-dependent communities. It hinges on decentralized participatory approach by involving grass root level communities and organizations in decision making, planning, implementation & and monitoring (Available from : www.moef.nic.in).

GREEN UP MISSION (Available from : www.jagranjosh.com)

1. Plantation (Afforestation and Reforestation) by Forest Department
2. Road side/canal side plantation
3. Enhance agro Forestry
4. Enhancement of Private Plantation by Land Owners
5. Establishment of climate change and agriculture cell/ Coordination & Monitoring
6. Identification of Vulnerable areas and assessing Vulnerability
7. Establishment of Climate Field Schools (CFS)
8. Promotion of Carbon Sequestration Agricultural Practices (PILOT)
9. Soil Management Practices
10. Farming system approach for diversifying incomes and livelihoods.
11. Diversification of cropping systems and promotion of a biotic stress tolerant crop varieties in identified villages.
12. Popularization of Agro-forestry in identified villages along with climate responsive research programmes.

Projects that are helping the India Go Green: (Available from: officechai.com)

1. Waste Ventures – Waste management
2. EnCashea – Collecting waste in exchange of cash
3. Banyan Nation – Recycling plastic
4. Fourth Partner Energy – Making solar energy accessible
5. Say Trees – Tree plantation drives
6. Ecommerce for products made out of waste
7. Recycling waste flowers
8. Ecotech – Rainwater harvesting
9. The Living Greens – Rooftop farming
10. Green Ventures – Sustainable energy solutions
11. Investment in Emission Control System
12. Loss of Biodiversity & Food Productivity

The Green India Mission will involve participation of non-government agencies and local organizations as well. This will certainly help the project run smoothly and create job avenues for the local residents. It also aims to preserve eco-logical services such as biodiversity, hydrological services, carbon appropriation and regulate the collection of forest items such as fuel, fodder, timber and other forest produces. Future plans are being made to execute pre-plantation, pit digging, planting and watering, fencing, plant support and protection activities, weeding, mulching and fertilization. Available from : www.indiatoday.in



UPCOMING

EVENTS

2019

1. CE2C-2019 – CONFERENCE ON ENERGY AND ENVIRONMENTAL CHALLENGES (CE2C-2019) 18 Jan 2019 - 19 Jan 2019 • Nagpur, India
2. ICIWEE-2: International Conference on Industrial Water, Energy And Environment CODISSIA Complex Coimbatore, India, January 25-26, 2019
3. ICACCA 2019 : International Conference on Agriculture and Climate Change Adaptation Mumbai, India February 7 - 8, 2019
4. World Sustainable Development Summit 2019 (Attaining The 2030 Agenda: Delivering on Our Promise) February 11-13, 2019 India Habitat Centre, Lodhi Road, New Delhi, India
5. ICSC-2019: International Conference on Smart Cities Ansal University Gurugram, India, March 8-9, 2019
6. CIAAS 2019: The 2019 meeting of the China India Association of Atmospheric Scientists IIT Delhi New Delhi, India, March 22- 24, 2019
7. 3rd Agriculture & Climate change Conference March 24-26, 2019 Budapest, Hungary
8. Spring 2019 ACS National Meeting & Exposition : Call for Papers March 31-April 4, 2019 Orlando , Florida
9. 6th World Congress on Climate Change and Global Warming April 24-25, 2019 Vancouver, Canada
10. 4th Green & Sustainable chemistry Conference (Elsevier) May 5-8, 2019, Dresden, Germany
11. 9th Edition of International conference on Environmental Science & Technology June 24-25, 2019 Moscow, Russia
12. ICEP 2019 : International Conference on Environment and Pollution Zurich, Switzerland July 29 - 30, 2019
13. International Conference on Toxicology & Applied Pharmacology August 19-21, 2019, Paris, France
14. 6th World Conference on Climate Change September 09-11, 2019 Berlin, Germany
15. IEEE UEMGREEN 2019: 1st International Conference on Ubiquitous Energy management for Green Environment University of Engineering & Management, Kolkata. University Area, Newtown, Kolkata, West Bengal 156 Kolkata, India, September 24-27, 2019
16. 9th International Conference on Environment and Climate Change November 18th-19th, 2019, Johannesburg, South Africa

ADVERTISEMENT FOR FACULTY POSITIONS

Faculty Applications are invited for Assistant Professors in Amity Institute of Environmental Toxicology Safety and Management & Amity Institute of Environmental Sciences, Amity University - Noida, Uttar Pradesh :

QUALIFICATIONS:

- 1st class M.Sc. / M. Tech- Environment Engineering & related field degrees from reputed college / University.
- PhD from reputed University with minimum two publications in reputed refereed journals.
- The applicant must have cleared National Eligibility Test (NET) conducted by the UGC.

DESIRABLE:

- 2+ years experience
- Please submit the research concept note/Project proposal (min. 2 pages)

ADVERTISEMENT FOR JUNIOR RESEARCH FELLOW

Applications are invited for the post of Junior Research Fellow & Technical Assistant for Environmental Research Projects .

POSITION: Junior Research Fellow

QUALIFICATION:

- M.Sc. Environmental Sciences, M.Tech- Environment Engineering, Chemistry, Applied Science and related field.
- NET would be preferred.

POSITION: Technical cum Field Assistant

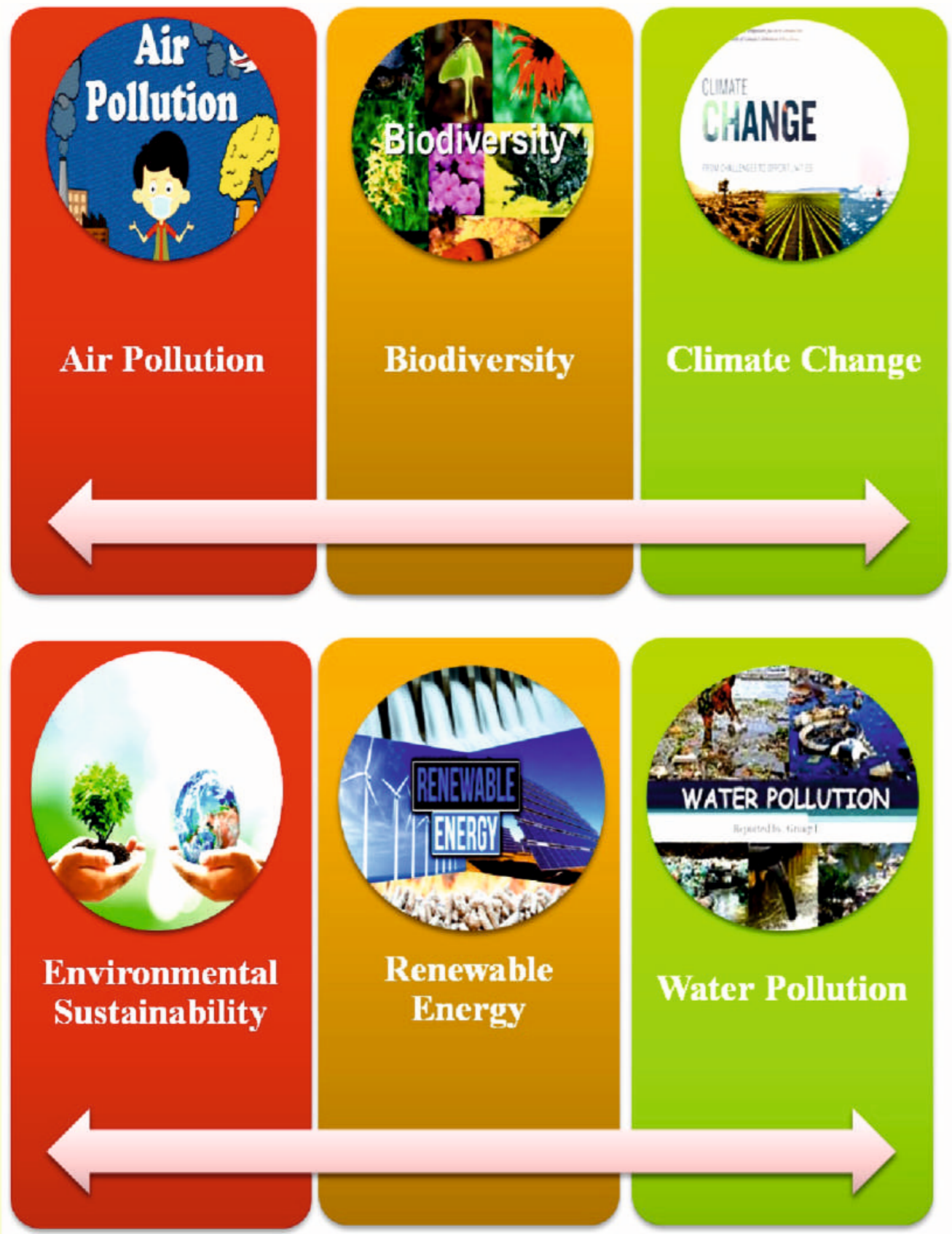
QUALIFICATION:

- B.Sc. in any stream Emoluments

DESIRABLE :

- Also submit summary of project undertaken at Post graduate level (min. one page).

Interested candidates should submit their CV to careers@amity.edu, cc to tjindal@amity.edu
Please mention your email ID, contact number and complete postal address



“ Save earth,
to bring worth,
for the new birth.”

