AMITY UNIVERSITY

UTTAR PRADESH

AMITY ACADEMIC STAFF COLLEGE

IN ASSOCIATION WITH

NATURAL RESOUCRES & ENVIRONMENTAL SCIENCES DOMAIN

ORGANISES

FIVE DAY FACULTY DEVELOPMENT PROGRAM

on

"Perspectives on Tools and Techniques for Conservation of Natural Resources"

09th – 13th May, 2022

REPORT

The Five Day Faculty Development Program On "Perspectives on Tools and Techniques for Conservation of Natural Resources" from 09th to 13th May, 2022 was conducted on virtual platform.

The program was conducted by Natural Resources and Environmental Sciences (NRES) Domain with the blessings of **Honorable Founder President – Dr. Ashok Kumar Chauhan Sir**.

Under the continuous guidance and encouragement from **Honourable Vice-Chancellor Madam** the five days FDP was conducted.

The FDP highlighted the importance of the issue of the natural resource conservation.

Amity University Uttar Pradesh has always taken initiatives on globally important issues under the guidance of visionary Founder President Dr. Ashok K. Chauhan, Chancellor Dr. Atul Chauhan and Vice Chancellor Prof. (Dr.) Balvinder Shukla.

With the aim to create awareness amongst the University and college faculty Community and to upskill them in Natural resource conservation tools and techniques Natural resources and

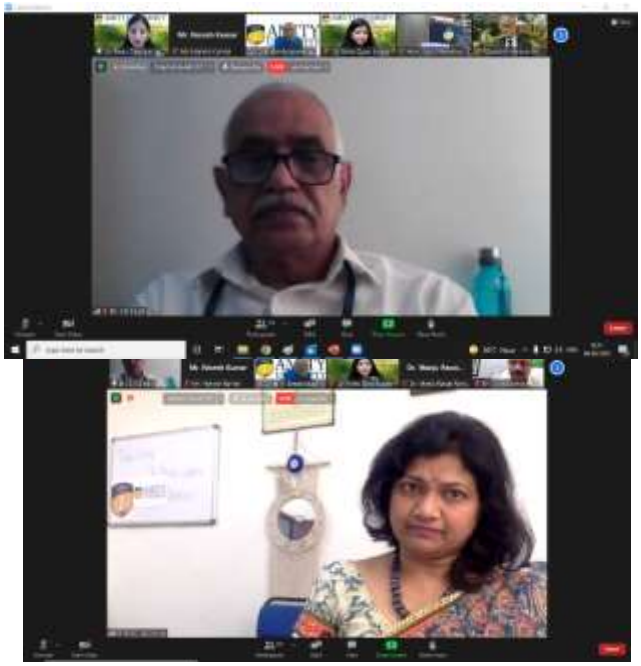
environmental sciences domain conducted five days long faculty development programme including technical sessions and assessments

The deliberations by resource persons encompassed wide ranging topics and critical issues such as climate change, ESG, Bioremediation, Forest conservation, as well as the Sustainable Development Goals.

- The event was started by INAUGURAL FUNCTION. Dr. Renu Dhupper welcomed the guests and the eminent speakers on behalf of NRES domain,

- As a tradition and culture, the event began with the curtain raiser followed with the blessings of almighty and lightening of the lamp. All the guests have participated in the virtual lightening of the ceremony.

- The event further progressed with the introduction to the theme by Dr. Renu Dhupper who shared the genesis and the importance of the FDP to create awareness amongst the faculty Community about conservation of natural resources.



- Dr. S. P. Singh, Director, ASNRSD Director ASNRSD gave the opening remarks focussing on the need for conservation of natural resources.

- Prof Tanu Jindal, Group Additional Pro- Vice Chancellor (R&D), Amity University Uttar Pradesh then addressed the gathering mentioning the tools and techniques developed at Amity for conservation of natural resources.

- Followed by a wonderful addressed by Mentor of NRES domain, Prof. (Dr.) D K Bandyopadhyay Chief Advisor (FPO); Chairman (Amity Law Schools), emphasizing on the purpose of FDP Summing up the importance of natural resources and discussing the SGDs goal, he has emphasized on the role of academia, researchers to contribute to sustainable development.

- Our Respected Vice Chancellor madam, **Prof. Balvinder Shukla** Ma'am. emphasized on the importance of tools and strategies to conserve natural resources.

Our Guest of Honour: Dr. Jagmohan Sharma, IFS Director General, Environmental Management and Policy Research Institute, Bangalore engaged all audience with examples of natural resources neglect and need to awareness.

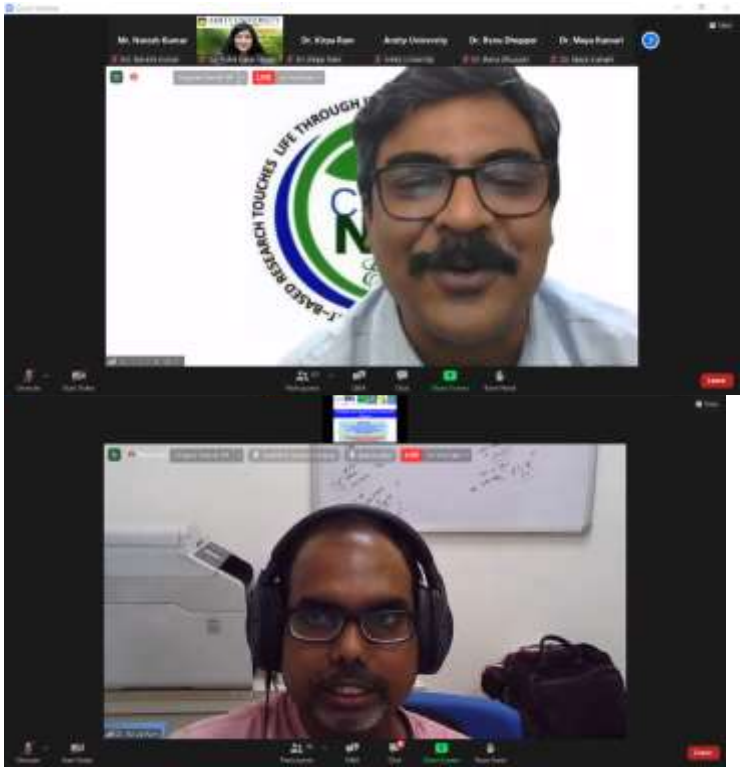
Our next Guest of Honour: Dr. Vivek Saxena
Co-Founder & CEO, CAMPA,
(Compensatory Afforestation Fund Management and Planning
Authority, Govt. of Haryana explained in detail the tools and techniques prevalent in natural resource conservation.

- Our chief guest **Dr. Vinod B. Mathur**, Chairperson, National Biodiversity Authority (NBA) enthralled all participants with his lecture on training needs and awareness

In the end Vote of thanks was given by Dr.Lolita Pradhan

AFTER INAUGRAL FUNCTION, The sessions of the FDP started with lectures and deliberations by eminent resource persons.

On the first day session **Dr. Debasis Chakraborty** Senior Principal Scientist. Address. Genetics and Molecular Biology Div. CSIR-National Botanical Research Institute engaged all with bioremediation techniques



After him Dr. Kirpa Ram Assistant Professor Institute of Environment and Sustainable Development Banaras Hindu University explained about the groundwater pollution

Vote of thanks was given by by **Dr. Ashutosh Tripathi**

Day 2

Dr. V P Sharma Chief Scientist IITR, Lucknow graced our FDP and engaged all with his presentation. He talked about the development strategies for environmental sustainability, monitoring and management. He explored the latest technologies that can help surveyors to be faster and innovate workflows to meet clients needs with fewer resources and outstanding quality.

Followed by Dr. Suraj Kumar Singh
Associate Professor
Suresh Gyan Vihar University, Jaipur. He elaborated on GIScience for resources management. He talked about forest resource and environment, mineral resource and water resource management with the application of geographical instrument system.

And **Dr. Chander Kumar Singh,** Associate Prof, Department of Natural and Applied Sciences.

He focused on different facets of environmental conservation.

Post lunch Prof. Manish Kumar, Professor UPES, Dehradun delivered on the fact think globally, act globally, a research idea generation perspective. He further discussed different challenges in the Indian environmental system and how we can cope with those challenges.

Our speaker Dr. Usha Meena,

Associate Prof. SES, JNU, New Delhi engaged participants in a detailed understanding of the subject. She discussed about the relation between green plants and climate change. She also presented climate change impacts on plants and further elaborated on the monitoring techniques with real time instruments.

Vote of Thanks was given by **Dr. Kartikeya Shukla**

Day 3

Our speaker Dr. Kamna Sachdeva, Associate Professor · TERI School of Advanced Studies engaged all in human impact studies of environmental pollution alongwith case study assessment.

Our speaker Dr. Richa Nagar Assistant Professor, AIES deliberated on environmental research methodologies. She elaborated twelve guiding principles of engineering for sustainable development.

Our speaker Dr. Kedar Sharma

Associate Professor and Head, Department of Civil Engineering at the Institute of Engineering and Technology, JKLU. Joined us with some new aspects of rainwater harvesting. He discussed different approaches, methods and factors for rainwater harvesting and concluded by telling various challenges and its remediation.

Our speaker Dr. Parashram Patil

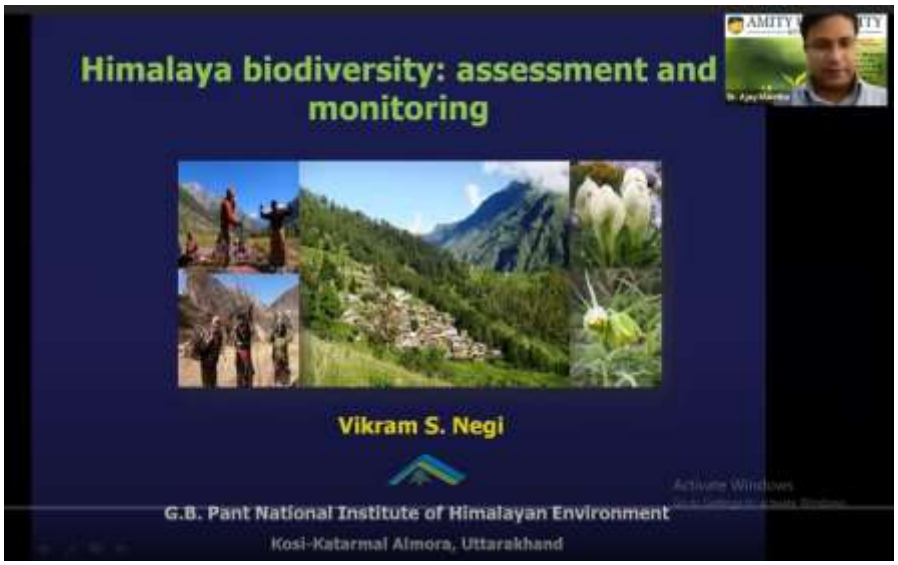
Founder and President
The Institute for Natural Resources delivered a special talk on forest accounting and climate change. He discussed identification of the risk of disaster and its climate adoption and mitigation.

Our speaker Kaviraj Singh
Founder | Managing Director
Earthood Services Private Limited joined us and deliberated on various aspects of sustainable development.

Day 4:

The fourth day of the FDP, held on 12th May, 2022, was moderated by Dr. Ajay Maletha, assistant professor, Amity Institute of Forestry and Wildlife, Amity University, Noida.

Each presentation was followed by a short question-answer session. The first speaker was **Dr. Vikram S. Negi**, scientist-E, G.B. Pant National Institute of Himalayan Development, Uttarakhand.



A doctorate in botany from H.N.B. Garwhal University, he is an expert in the fields of forest ecology, rural ecosystem, forest resource management, biodiversity conservation, rehabilitation ecology and long-term ecological monitoring. His presentation was on the topic of Himalaya biodiversity assessment and monitoring. The Himalayas boast of being a confluence of several biodiversity hotspots and are of immense ecological and evolutionary significance. The region harbors several endemic floral and faunal species including the largest amalgamation of endemic and schedule-I species in India. The ecosystem is also responsible for providing ecosystem services to the downstream people. Dr. Negi also talked about the demand and supply of medicinal plants in his presentation, stressing the high economic value of the vegetation. He also talked about the wild edible species (around 675 in number) in the region. These are the non-timber forest products commonly harvested by the rural inhabitants. The speaker talked about his research work wherein he explained that 98 non-protected areas in the region were identified and their biodiversity was being assessed. The ex-situ conservation part of his research involves the identification of threatened plant species of the region, development of protocol for their mass multiplication, subsequent use of tissue culture and other methods for their mass multiplication, and planting of the species in suitable natural areas. This procedure has successfully been followed for twenty species by his team and they have dubbed the procedure “lab to land”. His team has also helped farmers to sell their produce to the pharmaceutical companies. He also presented data on the flora, mammalian and avian species richness of the region before going on to discuss the

changing forest types in the region. His presentation also included infographics on the change in faunal diversity with altitude. He also talked about the methodologies for the establishment of long - term ecological monitoring sites and sampling methods in alpine ecosystems.

The second speaker of the day was **Dr. Puneet Pandey,** visiting professor, Seoul University, South Korea.

A wildlife geneticist, he is currently involved in a project on conservation genome resource bank for Korean wildlife, particularly for Amur tiger and leopard. His presentation was on genetic approaches for wildlife conservation. He talked about the application of genetics in wildlife conservation and management. He also discussed different methods of wildlife genetic sample collection and the protocols involved in the proper storage of genetic samples. He also discussed the methods of DNA extraction from genetic samples, the use of molecular markers and some case studies. He also talked about the use of genetic studies in the field of wildlife forensics and trade.

The third speaker of the session was **Dr. Satyaranjan Behera** of the State Biodiversity Board, Odisha. He has been working on endangered marine fauna trade and has extensive experience in his field of research. His presentation dealt with the case studies on olive ridley sea turtles along the Odisha coast. He discussed the breeding biology of the species in Orissa and the threats faced by the species. He also talked about the use of satellite telemetry to study the species along the Odisha coast and the marine habitat utilization by the different sexes of the species in India and Sri Lanka.

The final speaker of the session was **Dr. Y.K. Sharma**, former head of the botany department, Lucknow University and ex-director, C.B. Gupta P.G. College of Agriculture, Lucknow. He has over 37 years teaching experience and has published over 75 papers. He is an expert in plant physiology, nutrition and molecular biology. His presentation was on the topic of natural capital resources, their exploitation and solutions. He discussed the different natural resources, their present conditions, and the threats being faced by them. He also discussed the problem of e-waste.

The final speaker for the session was **Dr. Y.K. Singh**, the head of the pathology division of C.B. Gupta Krishi Mahavidyalay, Lucknow.

He has worked on the studies of fusarial wilts. He spoke about the relation between mushrooms and environments. He also talked about the use and importance, particularly from a nutritional point of view, of different kinds of mushrooms. The presentation was followed by the screening of a documentary.

The session was concluded with a vote of thanks which was delivered by **Dr. Murali Krishna Chatakonda**, assistant professor, Amity Institute of Forestry and Wildlife.

Day 5:

The fifth day of the FDP, held on 13th May, 2022, was moderated by Ms. Richa Sharma Assistant professor, Amity School of Natural Resources and Sustainable Development, Amity University, Noida. Each presentation was followed by a short question-answer session.

Prof. S.P. Singh addressed to Participants and gave Opening Remarks of the Day.

He said this is very important subject of nature resources which is receiving a very high importance in the recent years specially to address the alarming situation of global gardening and threat to our environments it's a really great challenge for all of us how to deal with the issue of global warming and the deterioration of environment which is happening to us. The possible answer so far looks upon me is only to conserve mutual resources and do a social network development.

Ms K Rathna, CEO, Indian Bamboo Resource & Technology CIBART, New Delhi

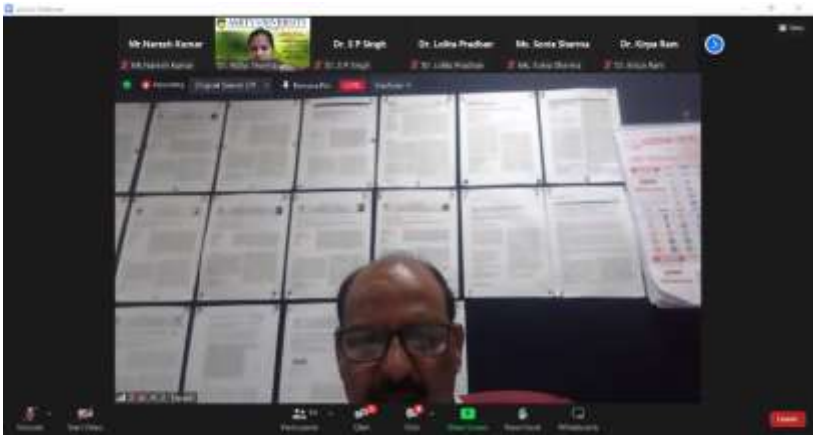
She discuss about how bamboo is one of the wonderful material which is just happening to be one of the material which is helping in the conservation and also the protection of the natural and helping in the climate change. One bamboos which are very much distinct and very fascinating plant which is a wide range of values and uses for the human kind and how they are going to be playing and very significant role in the biodiversity conservation and which are also contributing to the soil and water management.

Ms. Indu Kumari , Manager and Project Lead, Indo Global Social Service Society (IGSSS)

She shared about the rule of millets uh on promoting sustainable consumption and production in our country. She also briefed about indo global social service society. we talk about food it's a vital ingredient of our life but we know that now we know that all is not well with the food we are eating so a lot of dangerous chemicals have found a way into our bodies through excessive use of pesticides fertilizers and toxic elements to make the which is used to make food more attractive chemical pesticides colors adulteration these are causing various issues like birth defects acute poisoning cancer, asthma and reproductive diseases obesity and other disorders.

Dr. R.D. Tripathi :

He discussed about Development of Safer Rice crop for Arsenic Contaminated Regions of India



Rice. Arsenic is a container it's a cause of cancer. We have characterized the seven low arsenic accumulating rice cultivars and from breeding and selection method we identified one of the rice cultiva is CN17952-CSCR NBRI. Screening and selection and multilocation field trials with low arsenic cultivars is also in the development of a new rice variety (CN1794-2 CSIR NBRI) as a MukhtaSri for the Arsenic Contaminated Regions.

Ms. Priyanka Dhingra : ESG PROFESSIONAL

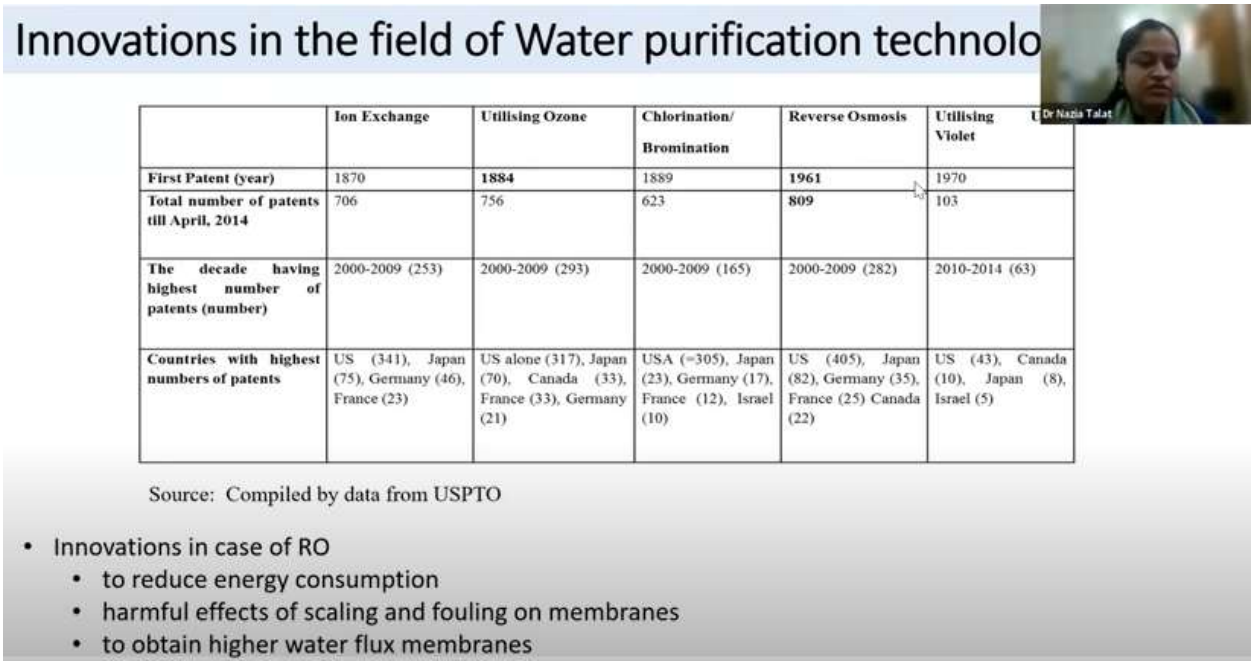
She talked about ESG as a tool for investor to assess corporate sustainability environmental conservation. What's good for the society is also good for your portfolio. How investors look at it so for the investment community in India suddenly the news is abuzz with these buzzwords green energy recyclable eco-friendly carbon neutral chemical free energy efficient net zero clean fuels organic sustainable biodegradable.

A small documentary was shown during the FDP.

Concluding Remarks and Vote of Thanks by Dr. Maya Kumari, Assistant Professor, ASNRSD

Dr Nazia Talat, Assistant Professor, Dept of Environmental Studies, Shyama Prasad

Mukherjee College for Women, University of Delhi,



	Ion Exchange	Utilising Ozone	Chlorination/ Bromination	Reverse Osmosis	Utilising U Violet
First Patent (year)	1870	**1884**	1889	**1961**	1970
Total number of patents till April, 2014	706	756	623	**809**	103
The decade having highest number of patents (number)	2000-2009 (253)	2000-2009 (293)	2000-2009 (165)	2000-2009 (282)	2010-2014 (63)
Countries with highest numbers of patents	US (341), Japan (75), Germany (46), France (23)	US alone (317), Japan (70), Canada (33), France (33), Germany (21)	USA (=305), Japan (23), Germany (17), France (12), Israel (10)	US (405), Japan (82), Germany (35), France (25) Canada (22)	US (43), Canada (10), Japan (8), Israel (5)

She outlined about the Evolution of Water purification Technologies in India. how the systems of water verification actually work and also level water purification technologies and why do we actually need them, understand how technologies evolve for that , preferences of consumers forms and also the role of regulation mechanisms if there are any in terms of the state of support if you look at the status of water worldwide we see that there is a lot of image and especially in terms of pure water purified water or drinking water.

We are happy to report that the FDP was appreciated by all our participants and helped in upskilling faculty and researchers regarding natural resources conservation. All eminent speakers shared their knowledge and rich experience of natural resource conservation strategies.