



REPORT ON WORLD ENVIRONMENT DAY

5 JUNE 2025



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PATRON
Hon'ble Vice Chancellor
DHSGVV



Prof. Versha Sharma
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Organized by:
Department of Zoology
School of Biological Sciences
Dr. Harisingh Gour Vishwavidyalaya (A Central
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**In collaboration with Madhya Pradesh Council of
Science and Technology**

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OVERVIEW



On the occasion of World Environment Day 2025, the Department of Zoology at Dr. Harisingh Gour Vishwavidyalaya, Sagar, organized a high-impact national webinar titled “*Ending Plastic Pollution*”, aimed at fostering scientific awareness, interdisciplinary dialogue, and policy-oriented action on the escalating global crisis of plastic contamination. The event was convened under the leadership of **Prof. Shweta Yadav**, Head of the Department of Zoology, with **Dr. Smita Shukla** serving as the **Convener and Moderator**, ensuring the academic rigor and thematic coherence of the proceedings. The webinar brought together a distinguished panel of environmental scientists, toxicologists, ecologists, and public health experts, along with faculty members, researchers, and students from various institutions, to deliberate on the multifaceted impact of plastic pollution on biodiversity, ecosystem functioning, and human health.

The scholarly discussions underscored the alarming proliferation of microplastics and nanoplastics in terrestrial, freshwater, and marine ecosystems, highlighting their bioaccumulative nature and potential to disrupt ecological balance through trophic transfer and habitat degradation. Experts presented evidence on the physiological and toxicological consequences of plastic-associated chemicals—such as bisphenol A (BPA), phthalates, and persistent organic pollutants—on endocrine regulation, reproductive health, neurodevelopment, and immunological responses in both wildlife and human populations. The session also addressed the socioeconomic dimensions of plastic waste, emphasizing its disproportionate burden on vulnerable communities, its contribution to environmental injustice, and its implications for sustainable development.

In addition to scientific analysis, the webinar emphasized the urgent need for coordinated mitigation strategies, including the adoption of circular economy models, promotion of biodegradable alternatives,



strengthening of waste segregation and recycling infrastructure, and the implementation of stringent regulatory frameworks at local, national, and international levels. Participants advocated for enhanced environmental monitoring, public education campaigns, and community engagement to foster behavioral change and reduce plastic dependency. The event concluded with a strong call for interdisciplinary collaboration between academia, industry, civil society, and government agencies to develop scalable, science-based solutions for plastic pollution mitigation.

Through this initiative, the Department of Zoology reaffirmed its commitment to environmental stewardship, academic excellence, and national policy engagement, contributing meaningfully to India's broader mission of ecological conservation and sustainable development. The webinar served as a model for integrating scientific research with public discourse, and its outcomes are expected to inform future academic programs, research agendas, and policy recommendations at institutional and governmental levels.





Address by Prof Neelima Gupta
Hon'ble Vice Chancellor
Dr. Harisingh Gour Vishwavidyalaya
(A Central University), Sagar

Prof. Neelima Gupta, Hon'ble Vice-Chancellor of Dr. Harisingh Gour Vishwavidyalaya, delivered a powerful and visionary address during the World Environment Day 2025 webinar, drawing urgent attention to the intensifying climate crisis and its intersection with the global plastic pollution emergency. She began by citing 2024 as the warmest year ever recorded in human history—a stark indicator of the accelerating pace of climate-related anomalies, including extreme weather events, rising sea levels, glacial retreat, and ecosystem destabilization.

Prof. Gupta emphasized that climate change and plastic pollution are not isolated phenomena but synergistic threats that compound one another's impact, resulting in cascading effects on biodiversity, ecological resilience, and the integrity of natural habitats. She elaborated on how plastic waste—particularly microplastics and single-use polymers—exacerbates climate stress by contributing to greenhouse gas emissions during production and degradation, while simultaneously impairing the adaptive capacity of ecosystems.

The Vice-Chancellor underscored the cumulative burden these dual crises place on flora and fauna, disrupting food chains, altering reproductive cycles, and threatening species survival. In response, she proposed a bold and unifying national framework titled “One Nation – One Mission: Ending Plastic Pollution,” aimed at mobilizing stakeholders across government, academia, industry, and civil society toward a shared environmental goal.

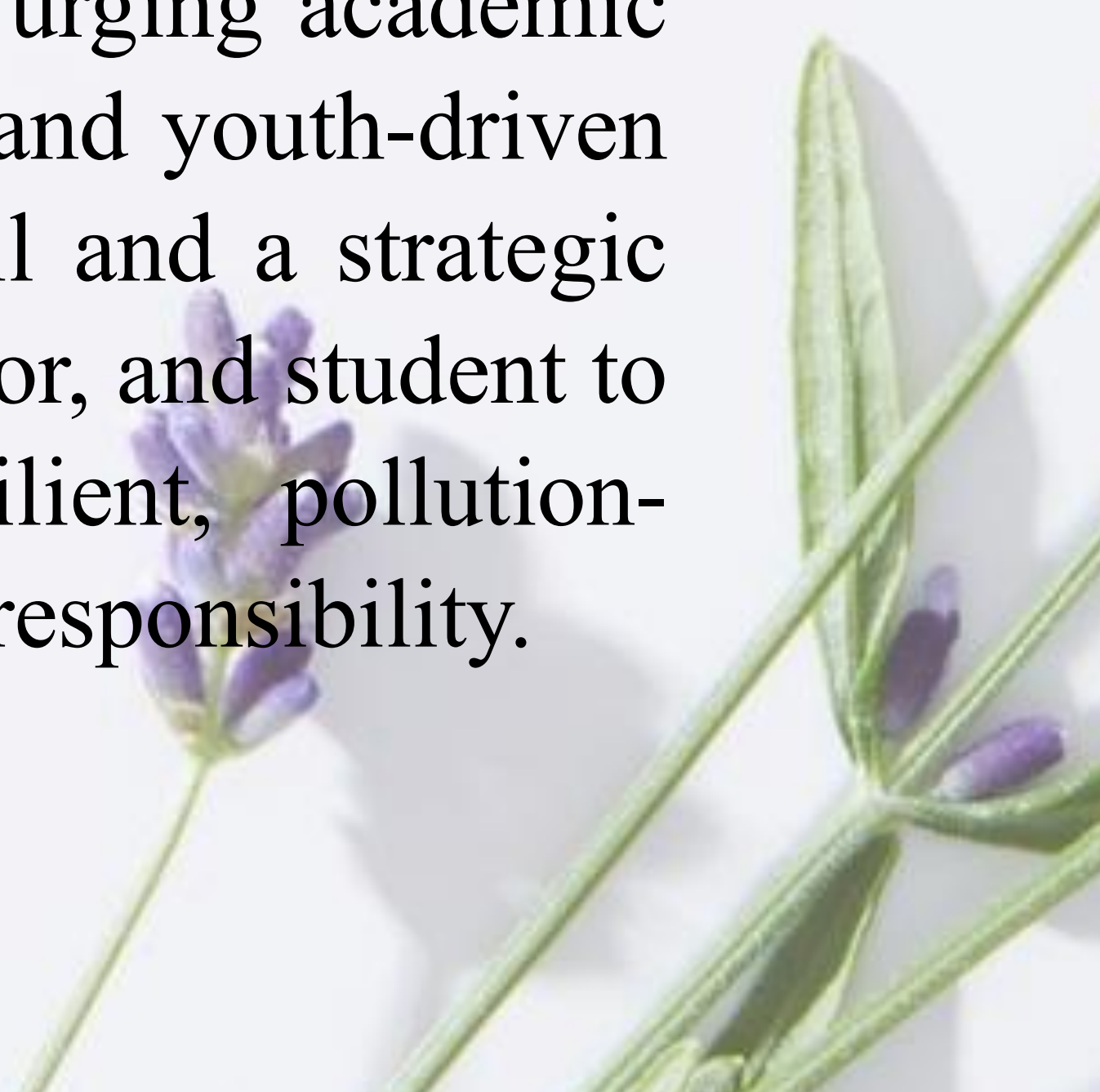
Prof. Gupta stressed that effective plastic waste management must transcend technical solutions and embrace collective societal



engagement rooted in environmental ethics and participatory governance. She advocated for the integration of circular economy principles—including eco-design, extended producer responsibility (EPR), and closed-loop recycling systems—to minimize resource extraction and waste generation. She highlighted the importance of behavioral transformation, urging individuals and institutions to adopt sustainable consumption patterns, reduce dependency on plastic products, and foster environmental stewardship through education and awareness. Her address also called for policy innovation and scientific research, encouraging the development of biodegradable alternatives, advanced waste treatment technologies, and robust environmental monitoring frameworks.

Prof. Gupta emphasized the pivotal role of universities and research institutions as catalysts for change, capable of generating evidence-based solutions and nurturing environmentally conscious citizens. In conclusion, she reaffirmed the university's commitment to aligning its academic mission with national sustainability goals, positioning the institution as a proactive contributor to India's ecological transition and global climate leadership. She identified plastic pollution as one of the most pervasive and symbolic manifestations of unsustainable human behaviour, linking it directly to irresponsible consumption patterns and the unchecked exploitation of natural resources. Her proposed framework—“One Nation – One Mission: Ending Plastic Pollution”—calls for a collective awakening and coordinated action across all sectors of society. This vision emphasizes responsible energy use, sustainable resource management, and transformative behavioural shifts at both individual and institutional levels.

Prof. Gupta advocated for embedding environmental consciousness into public policy, education, and civic engagement, urging academic institutions to lead the way in fostering eco-literacy and youth-driven innovation. Her address served as both a clarion call and a strategic roadmap—inviting every citizen, policymaker, educator, and student to become an active stakeholder in building a resilient, pollution-free future rooted in sustainability, equity, and shared responsibility.





Address by Prof. Ramesh C. Sharma
Former Prof.& Head
Department of Environmental
Sciences HNB Garhwal
(A central University) Uttarakhand

Prof. Ramesh C. Sharma delivered a deeply analytical and thought-provoking keynote address during the World Environment Day 2025 webinar, offering a panoramic view of the global plastic crisis through the lens of environmental science, toxicology, and sustainability. His presentation began with a systematic classification of plastic typologies, including thermoplastics (such as polyethylene, polypropylene, and polystyrene), thermosetting polymers, and emerging alternatives like bioplastics and oxo-degradable materials. He emphasized that the chemical stability and resistance to biodegradation of conventional plastics contribute to their **environmental persistence**, allowing them to remain intact in ecosystems for hundreds of years and accumulate in alarming quantities.

Prof. Sharma highlighted the **magnitude of global plastic production**, citing that over **6.3 billion tons of plastic waste** have been generated since the 1950s. Of this, only **19% has been recycled**, approximately **600 million tons incinerated**, and the remainder either landfilled or dispersed into terrestrial and aquatic environments. He drew attention to the staggering rate of consumption, noting that **millions of plastic bottles are purchased every minute worldwide**, reflecting unsustainable production and consumption patterns that are deeply embedded in modern lifestyles. These figures, he argued, are symptomatic of a linear economy model that prioritizes convenience over environmental responsibility.

To address this systemic challenge, Prof. Sharma proposed the development of a **“Plastic Footprint” accountability mechanism**, analogous to the carbon footprint model, which would quantify and monitor the contributions of various stakeholders—including manufacturers, distributors, retailers, and consumers—to plastic waste generation. This framework, he suggested, could serve as a foundational tool for environmental governance, enabling policymakers to design targeted interventions, enforce producer responsibility, and incentivize sustainable practices across the supply chain.

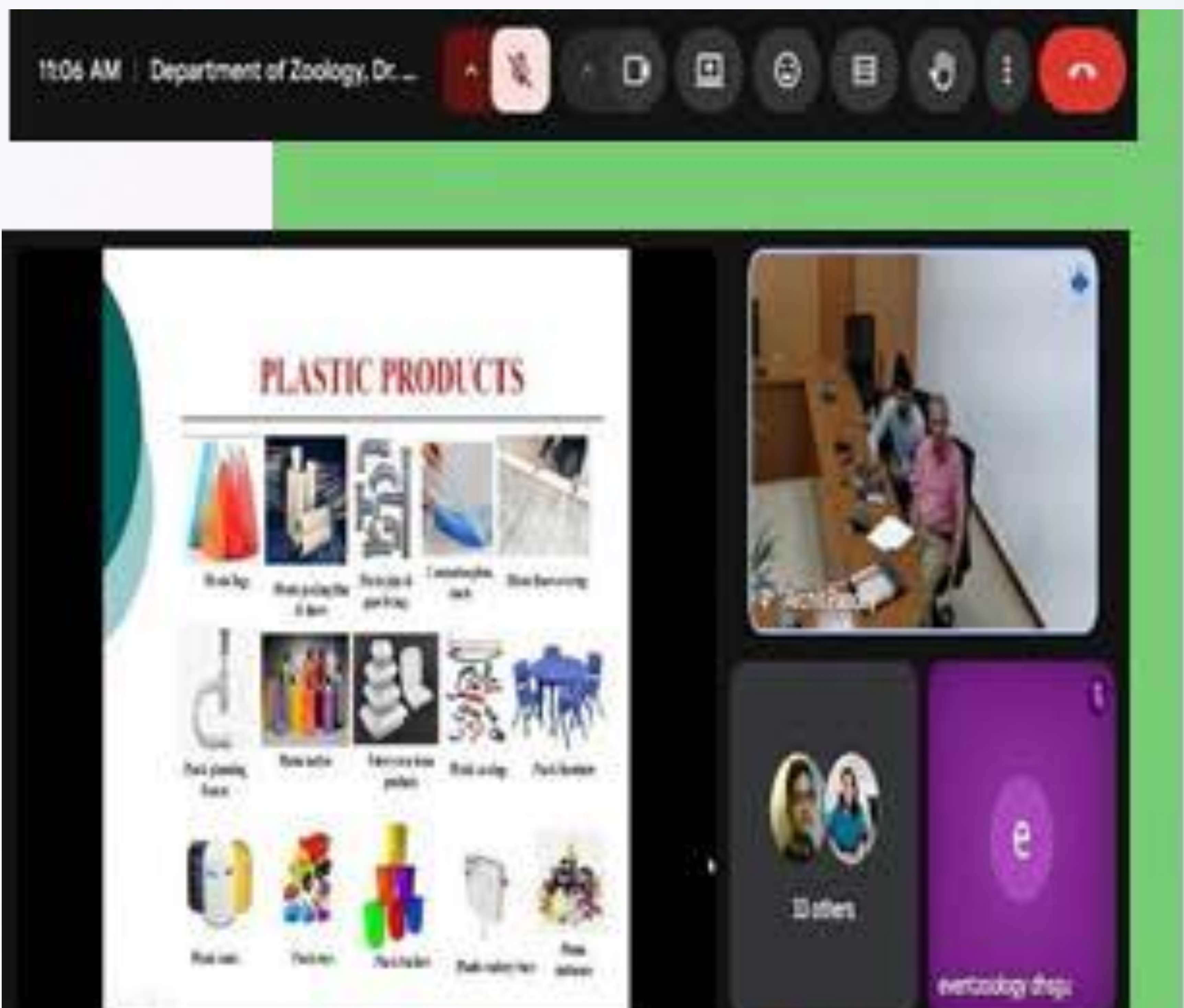
In his address, Prof. Sharma also reviewed **global and national initiatives** aimed at mitigating plastic pollution. At the international level, he referenced the United Nations Environment Programme’s efforts to negotiate a legally binding global plastics treaty, as well as the Basel Convention’s amendments to regulate transboundary plastic waste movement. Nationally, he discussed India’s **Plastic Waste Management Rules**, the ban on single-use plastics, and the implementation of **Extended Producer Responsibility (EPR)** guidelines, which mandate producers to manage post-consumer plastic waste. He emphasized that while these policies represent significant progress, their effectiveness hinges on robust enforcement, public participation, and continuous scientific input.

Prof. Sharma underscored the importance of **environmental education** in cultivating ecological literacy and behavioral change. He advocated for integrating plastic pollution awareness into school curricula, university programs, and community outreach initiatives to empower citizens with the knowledge and tools needed to make informed choices. He also called for **scientific innovation** to develop biodegradable alternatives, enhance polymer recycling technologies, and improve microplastic detection and remediation methods.

Furthermore, he addressed the **toxicological hazards** associated with plastic pollution, particularly the leaching of harmful additives such as bisphenol A (BPA), phthalates, and flame retardants. These substances, he explained, have been linked to endocrine disruption, reproductive

toxicity, carcinogenicity, and neurodevelopmental disorders in both humans and wildlife. He stressed the need for interdisciplinary research to understand the long-term health implications of chronic exposure to plastic-derived chemicals and to develop safer material substitutes.

In conclusion, Prof. Sharma called for a **holistic and integrated approach** to plastic pollution mitigation—one that combines policy reform, technological advancement, public engagement, and scientific inquiry. He urged stakeholders across academia, industry, civil society, and government to collaborate in crafting a resilient and sustainable future. His keynote address served as a clarion call for transformative action, reinforcing the urgency of reversing the trajectory of plastic pollution and safeguarding environmental and public health for generations to come.

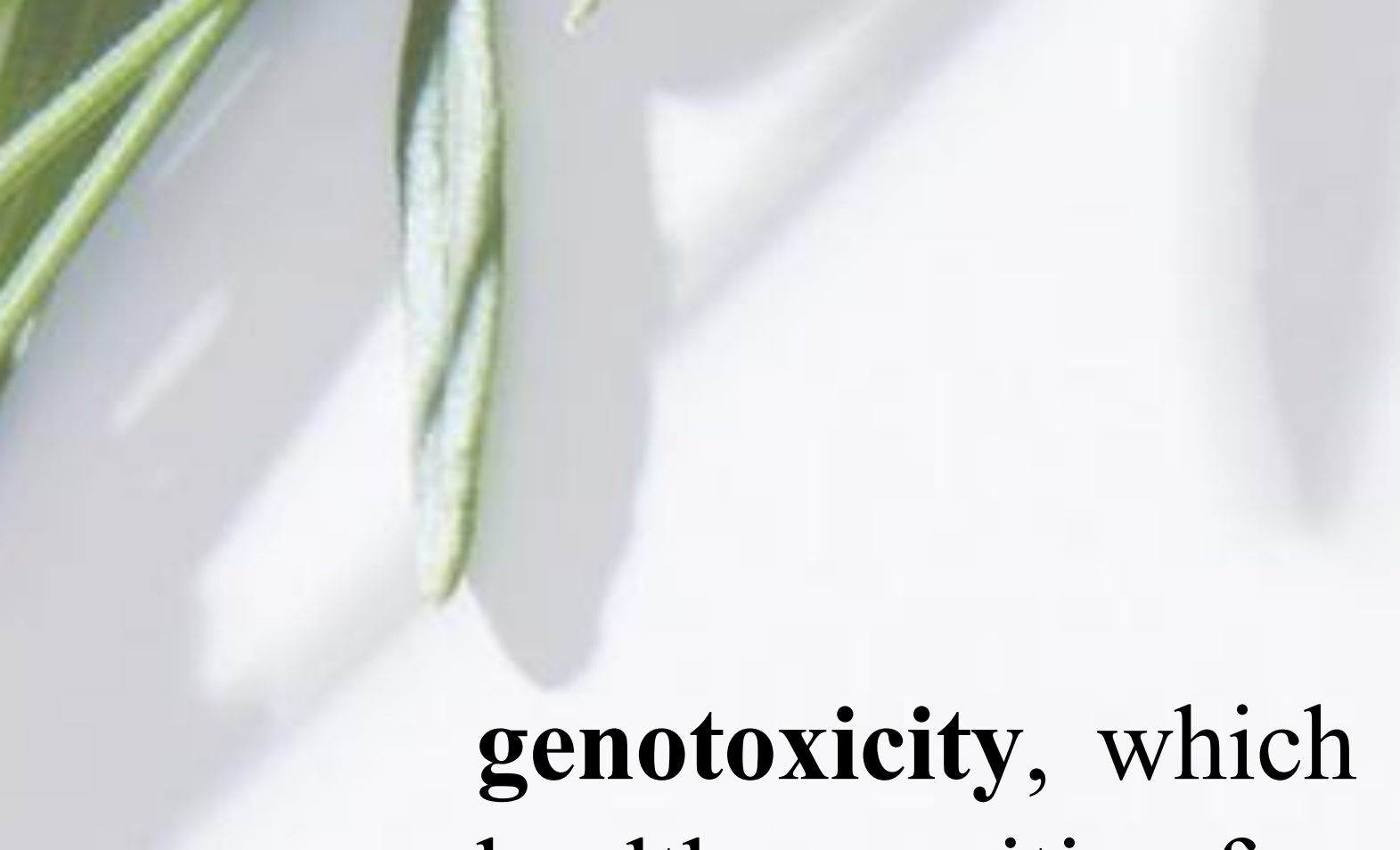




**Prof Versha Sharma Dean
School of Biological Sciences
Dr. Harisingh Gour Vishwavidyalaya
(A Central University) Sagar**

Prof. Versha Sharma, Dean of the School of Biological Sciences, delivered a compelling and scientifically grounded keynote address during the webinar, emphasizing the critical need to reassess humanity's entrenched reliance on plastic materials. She challenged the adequacy of the traditional triad—reduce, reuse, and recycle—as a standalone framework for plastic waste mitigation, advocating instead for a transformative shift toward **innovative, interdisciplinary, and science-driven strategies** that integrate cutting-edge research, policy reform, and technological advancement. Prof. Sharma highlighted the alarming ubiquity of **microplastics**, which have emerged as a pervasive contaminant infiltrating virtually every environmental compartment—from oceanic depths and freshwater systems to agricultural soils and atmospheric layers.

Drawing on recent biomedical research, she explained that microplastics can enter the human body through multiple exposure pathways, including **inhalation of airborne particles, ingestion via contaminated food and water, and dermal absorption through skin contact**. Once internalized, these particles are capable of translocating across epithelial barriers and localizing in specialized lymphoid tissues such as **Peyer's patches** in the small intestine. From there, they may penetrate the circulatory system, enabling systemic distribution and bioaccumulation in vital organs including the **gonads, liver, kidneys, and brain**. Prof. Sharma elaborated on the **pathophysiological consequences** of such accumulation, citing emerging evidence of **oxidative stress, endocrine disruption, neuroinflammation, and**



genotoxicity, which collectively pose serious threats to reproductive health, cognitive function, and immune regulation.

Her address also underscored the **ecological ramifications** of microplastic pollution, noting its role in altering soil microbiomes, impairing aquatic life, and disrupting nutrient cycling. She called for **multidisciplinary research collaborations** that bridge molecular biology, toxicology, environmental science, and public health to unravel the complex interactions between microplastics and biological systems. Furthermore, Prof. Sharma advocated for the development of **novel detection technologies, biodegradable polymer alternatives,** and **policy instruments** that can effectively regulate plastic production, monitor environmental exposure, and safeguard human and ecological health.



In closing, she emphasized that addressing the microplastic crisis requires not only scientific innovation but also **societal introspection and behavioural change**, urging stakeholders across academia, industry, and governance to unite in crafting a resilient and sustainable future. Her address served as a clarion call for action, reinforcing the urgency of integrating environmental consciousness with biomedical vigilance in the national agenda for sustainable development.



Scientific Debate Competition: “Plastic Alternatives – Are Biodegradable Materials the Real Answer?”

As a flagship event of the World Environment Day 2025 celebrations, the Department of Zoology at Dr. Harisingh Gour Vishwavidyalaya, Sagar, organized a **Scientific Debate Competition** on the theme “*Plastic Alternatives – Are Biodegradable Materials the Real Answer?*” The event was conducted under the academic supervision of **Dr. Smita Shukla**, supported by a dedicated organizing committee comprising faculty members and research scholars. Designed to promote scientific inquiry, critical thinking, and evidence-based discourse, the competition served as an intellectual platform for students to explore the multifaceted dimensions of plastic alternatives in the context of environmental sustainability.

The competition witnessed enthusiastic participation from **98 undergraduate and postgraduate students** representing diverse disciplines within the life sciences. Participants were divided into proposition and opposition teams, each tasked with constructing scientifically grounded arguments either in favor of or against the widespread adoption of biodegradable materials as substitutes for conventional plastics. The debate was structured to simulate a formal scientific forum, with each team presenting opening statements, rebuttals, and concluding remarks, followed by a moderated Q&A session.

The **proposition team** advocated for biodegradable materials as a viable and environmentally responsible solution to the global plastic crisis. Drawing upon recent research, they highlighted the **biodegradability potential** of materials such as polylactic acid (PLA), polyhydroxyalkanoates (PHA), and starch-based polymers. They emphasized the **reduction in carbon footprint, lower ecological toxicity, and compatibility with composting systems**, arguing that these materials offer a sustainable pathway to mitigate plastic pollution and reduce dependency on fossil fuel-derived polymers.

Conversely, the **opposition team** presented a critical analysis of the **scientific, economic, and infrastructural limitations** associated with



biodegradable alternatives. They pointed out that many so-called biodegradable plastics require **industrial composting conditions** to degrade effectively, which are not widely available in most regions. The team also raised concerns about **high production costs**, **limited mechanical strength**, and the **risk of greenwashing**, where products are marketed as eco-friendly without meeting rigorous environmental standards. Furthermore, they stressed the importance of **life-cycle assessments (LCA)** to evaluate the true environmental impact of these materials, cautioning against simplistic solutions to complex ecological problems.

The debate was adjudicated by a panel of faculty members with expertise in environmental science, biotechnology, and ecological economics. Participants were evaluated on the basis of **scientific accuracy**, **depth of research**, **data interpretation**, **logical coherence**, and **clarity of presentation**. The competition not only fostered a spirit of academic excellence but also encouraged students to engage with real-world sustainability challenges through a scientific lens.

The event concluded with a **felicitation ceremony**, where winners and outstanding performers were awarded certificates and prizes in recognition of their analytical acumen and oratory skills. The debate served as a dynamic educational exercise, reinforcing the importance of **interdisciplinary dialogue**, **evidence-based reasoning**, and **youth engagement** in shaping the future of environmental policy and innovation. It exemplified the Department's commitment to nurturing environmentally conscious scholars equipped to contribute meaningfully to India's sustainable development goals



Painting Competition: “Beat Plastic Pollution”

As part of the World Environment Day 2025 celebrations, the Department of Zoology at Dr. Harisingh Gour Vishwavidyalaya, Sagar, organized a vibrant and intellectually engaging **Painting Competition** on the theme “*Beat Plastic Pollution.*” The event was coordinated by **Dr. Brajesh Kumar Maurya**, who ensured the seamless execution of the program with the support of faculty members and student volunteers. The competition attracted **enthusiastic participation from**

82 students across various academic disciplines, transforming the event into a dynamic confluence of scientific awareness and artistic expression.

The primary objective of the competition was to foster **environmental consciousness through visual storytelling**, encouraging students to explore the scientific, ethical, and ecological dimensions of plastic pollution. Participants were invited to depict the **multifaceted consequences of plastic waste**, including its infiltration into marine ecosystems, disruption of food chains, degradation of biodiversity, and long-term threats to planetary health. Many artworks portrayed **microplastic contamination, oceanic gyres, entangled marine fauna, and landscape transformation**, effectively translating complex environmental phenomena into compelling visual narratives.

Several entries also reflected the **interconnectedness of human behavior and ecological outcomes**, emphasizing the urgency of adopting **eco-friendly alternatives, sustainable consumption patterns, and circular economy principles**. The paintings served not only as aesthetic artifacts but also as **scientific commentaries**, illustrating the biochemical persistence of plastics, their toxicological impact on wildlife, and the socio-environmental costs of unchecked plastic dependency.

The competition was evaluated by a panel of faculty members with expertise in environmental science, visual arts, and science communication. Judging criteria included **scientific**

relevance, creativity, visual impact, and clarity of environmental messaging. The event successfully cultivated critical thinking, interdisciplinary engagement, and youth-led advocacy, positioning art as a powerful medium for environmental education and public outreach.

In his concluding remarks, **Dr. Maurya** commended the participants for their innovative interpretations and commitment to sustainability, highlighting the role of creative platforms in amplifying ecological awareness. He also acknowledged the efforts of student volunteers who contributed to the organization and promotion of the event, reinforcing the importance of collaborative action in environmental stewardship.

The Painting Competition emerged as a **model initiative for science-art integration**, demonstrating how visual media can effectively communicate complex environmental issues and inspire collective responsibility. It aligned with the broader mission of the university to promote **environmental literacy, youth empowerment, and sustainable development**, making a meaningful contribution to the national campaign against plastic pollution.



PLANTION DRIVE

On the occasion of World Environment Day, the university campus witnessed a vibrant and ecologically significant plantation drive spearheaded by Hon’ble Vice Chancellor Prof. Neelima Gupta. The initiative was not merely ceremonial—it embodied the university’s enduring commitment to environmental stewardship and biodiversity enhancement. Prof. Gupta inaugurated the event by planting a selection of high-value, ecologically beneficial species, chosen for their aesthetic appeal, medicinal properties, and long-term environmental impact.

Among the notable species planted were:

Common Name	Scientific Name	Notable Features
Sago Palm	<i>Cycas revoluta</i>	Ornamental, drought-resistant, slow-growing
White Champaca	<i>Michelia alba</i>	Fragrant flowers, used in perfumery
Golden Champa	<i>Magnolia champaca</i>	Medicinal uses, vibrant yellow blossoms
Rudraksha Tree	<i>Elaeocarpus ganitrus</i>	Sacred value, air-purifying properties
Sandalwood	<i>Santalum album</i>	Aromatic wood, high economic and cultural value

These species were strategically planted in biodiversity zones across the campus to promote carbon sequestration, shade creation, and habitat enrichment for local fauna. Faculty members, students, and staff actively participated, each contributing to the green legacy of the institution. The drive also included an awareness segment where experts discussed the ecological roles of native and exotic species, the importance of soil health, and long-term care strategies for saplings.

Prof. Neelima Gupta's leadership and vision transformed the event into a living classroom—where environmental values were not only taught but practiced. The plantation drive stands as a testament to the university's proactive role in aligning academic excellence with ecological responsibility, inspiring future generations to nurture and protect the planet.



Vote of Thanks



The World Environment Day 2025 celebration at Dr. Harisingh Gour Vishwavidyalaya, Sagar, culminated in a solemn and heartfelt Vote of Thanks delivered by Dr. Brajesh Kumar Maurya, representing the Department of Zoology. In his address, Dr. Maurya acknowledged the collective efforts of faculty members, student volunteers, guest speakers, and participants whose contributions ensured the success of the multi-event program. He emphasized that the celebration was not merely ceremonial but a substantive initiative that significantly enhanced scientific understanding, environmental literacy, and social commitment toward mitigating the escalating crisis of plastic pollution.

Dr. Maurya reflected on the diverse academic engagements held throughout the day—including keynote addresses, scholarly webinars, scientific debates, and creative competitions—which collectively fostered a culture of interdisciplinary dialogue, critical inquiry, and youth-led advocacy. He noted that the events provided a platform for students and scholars to explore the ecological, physiological, and policy dimensions of plastic pollution, while also encouraging innovative thinking and community-oriented solutions.

The Department of Zoology, comprising Dr. Shashwat Singh, Dr. Priyoneel Basu, Dr. Sandeep Kumar, Dr. Somenath Ghosh, Dr. Kashmeerea, and Dr. Brajesh Kumar Maurya, collectively reaffirmed its institutional mission to promote environmental stewardship, interdisciplinary research, and community engagement in alignment with national and global sustainability goals.



The faculty expressed their commitment to integrating environmental themes into academic curricula, facilitating student-led research on ecological challenges, and organizing outreach programs that bridge science and society.

Dr. Maurya concluded by reiterating the importance of sustained action beyond World Environment Day, urging all stakeholders—students, educators, researchers, and policymakers—to remain actively engaged in the pursuit of ecological resilience, plastic-free ecosystems, and sustainable development. The ceremony ended on a note of optimism and resolve, with participants pledging to carry forward the momentum generated by the event into their academic, professional, and civic lives.



Minute-to-Minute Programme Schedule

Event: World Environment Day 2025

Date: 5th June 2025

Time: 10:30 AM –5:00PM

Theme: Ending Plastic Pollution

Platform: Google link <https://meet.google.com/wsx-kghv-tao>

Organized by Department of Zoology

School of Biological Sciences,

Dr. Harisingh Gour Vishwavidyalaya (A Central University), Sagar (M.P.)

Time	Agenda	Person Responsible
10:30 AM	Welcome Address & Introduction to the Webinar	Dr. Smita Shukla (Moderator)
10:32 AM	Opening Remarks	Prof. Shweta Yadav (Convener and Head, Dept. of Zoology)
10:35 AM	Address by Dean, School of Biological Sciences	Prof. Versha Sharma
10:40 AM	Address by Hon’ble Vice Chancellor	Prof. Neelima Gupta
10:45 AM	Invited Talk	Prof. Ramesh C. Sharma
11:30 AM	Vote of Thanks	Dr. Brajesh Kumar Maurya
2:00 PM	Debate Competition (Theme: Plastic alternatives: Are biodegradable materials the real answer?)	Dr. Smita Shukla & Organizing Team
3:30 PM	Painting Competition (Theme: Beat Plastic Pollution)	Dr. Brajesh Kumar Maurya & Student Volunteers
4:30 PM	Commemorative Plantation	Dr. Smita Shukla
5:00 PM	Concluding Remarks & Result Announcement	Prof. Shweta Yadav

Brochure



Patron
Prof. Neelima Gupta
Hon'ble, Vice Chancellor,
DHSGU, Sagar



World Environment Day

5th June, 2025



Dean
Prof. Versha Sharma
School of Biological Sciences



INVITED TALK

By

Prof. Ramesh C. Sharma
Former Head, Department of Environmental Sciences
HNB Garhwal -246174
(A Central University)
Uttarakhand



Conveaner
Prof. Shweta Yadav
Department of Zoology

Time: 10:30-11:30 AM

Google Link:

<https://meet.google.com/wsx-kghv-tao>

Organized by:

Organized by:

Department of Zoology
School of Biological Sciences
Dr. Harisingh Gour Vishwavidyalaya
(A Central University)
Sagar-470003 (M.P.) India



Coordinator
Dr. Smita Shukla
Department of Zoology





Neelima Gupta

Archit Pandey

Mohit Devali...

28 others

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