



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद Indian Institute of Technology (Indian School of Mines), Dhanbad

For Immediate Release: February 24, 2025

PRESS-RELEASE

IIT (ISM) Dhanbad Hosts 2nd Centenary Lecture on Mass Extinction

The Indian Institute of Technology (Indian School of Mines) Dhanbad successfully organized the 2nd Centenary Lecture of the Department of Applied Geology on Monday. The lecture, titled "*Mass Extinction of Life on Earth: Past, Present, and Future*," was delivered by **Prof. Sunil Bajpai, FASc, FNASc**, Professor (HAG) at the Department of Earth Sciences, IIT Roorkee, and former Director of the Birbal Sahnii Institute of Palaeosciences, Lucknow. The event was held at the prestigious **Golden Jubilee Lecture Theatre** of IIT (ISM) Dhanbad.

Speaking on the occasion, **Prof. Bajpai** emphasized the importance of understanding past biodiversity and environmental changes to analyze current and future trends. He highlighted that mass extinction events represent periods of catastrophic biodiversity loss within short geological timespans. Historically, five major extinctions—the **Ordovician, Devonian, Permian, Triassic, and Cretaceous extinctions**—have profoundly impacted Earth's biodiversity.

Prof. Bajpai warned that the Earth is now experiencing a **sixth mass extinction, the Holocene or Anthropocene extinction**, primarily driven by human activities such as habitat destruction, pollution, overexploitation of species, and climate change. He pointed out that current extinction rates are **100 to 1,000 times higher than the natural background rate**, posing serious threats to global ecosystems.

According to Prof. Bajpai, projections suggest that **10-40% of species could be lost by 2100** if global warming exceeds **2°C**, exacerbated by ocean acidification and rapid biome shifts. He stressed the urgency of global intervention, advocating for measures such as reducing **CO2 emissions, protecting refugia habitats, and enhancing adaptive capacity in vulnerable species**.

"Past extinctions provide invaluable lessons on how to mitigate large-scale biodiversity crises," Prof. Bajpai stated. "By leveraging insights from 500 million years of biotic collapse and recovery, we can preempt planetary tipping points and implement sustainable conservation strategies. The future of Earth's biodiversity depends on our ability to learn from the past and take decisive action."

The lecture commenced with a warm welcome and felicitation of **Prof. Sunil Bajpai** by **Prof. S. Sarangi, Head of the Department of Applied Geology, IIT (ISM) Dhanbad**. Additionally, **Prof. A.K. Bhaumik** of the Department of Applied Geology presented a brief profile of the distinguished speaker. The event witnessed active participation from students, faculty members, officers, and staff of IIT (ISM) Dhanbad.

The Department of Applied Geology at IIT (ISM) Dhanbad remains committed to fostering academic excellence and advancing research in Earth Sciences. The Centenary Lecture Series is an initiative aimed at enriching knowledge and inspiring discussions on pressing global issues.

Rajni Singh

Dean (Corporate Communications)