



INDIAN GEOTECHNICAL SOCIETY · INDORE CHAPTER

IGS-FERROCO TERZAGHI ORATION

IFTO – 2026

ONE-DAY NATIONAL SYMPOSIUM

03 OCTOBER 2026 · PREMIUM AUDITORIUM, IPS ACADEMY, INSTITUTE OF
ENGINEERING & SCIENCE, INDORE (M.P)

NEXT GENERATION GEO-ENVIRONMENTAL SOLUTIONS

INNOVATE · ADAPT · SUSTAIN

ORGANIZED BY

IGS-Indore Chapter
Indore, Madhya Pradesh

IN ASSOCIATION WITH

Ferro Concrete Construction (India) Pvt. Ltd., Indore
IPS Academy, Institute of Engineering & Science, Indore

SYMPOSIUM THEME

- Geo-Environmental Site Investigation & Risk Assessment
- Contaminated Land and Groundwater Remediation
- Sustainable Waste Management & Circular Economy
- Climate Change, Geo-Environmental Hazards & Adaptation
- Case Studies & Best Practices

VENUE

Premium Auditorium, IPS Academy, Institute of Engineering & Science
Knowledge Village, Rajendra Nagar, A.B. Road, Indore – 452012



TERZAGHI ORATOR · IFTO-2026

Prof. Manoj Datta

Former Emeritus Professor, Department of Civil Engineering, IIT Delhi

“The Urgent Requirement of Geo-environmental Guidelines for Safe Storage and Utilization of MSW Residues in India”

Early registration closes 25 September 2026 | igsindore92@gmail.com | +91 99264 24474

Prof. Manoj Datta

Former Emeritus Professor, Department of Civil Engineering, IIT Delhi



Prof. Manoj Datta is former Emeritus Professor at the Department of Civil Engineering, IIT Delhi, where he has been teaching and conducting research since 1980. He served as Director of Punjab Engineering College (Deemed University), Chandigarh from 2008 to 2013 (on lien from IIT Delhi), as Dean (Alumni & International Programmes) at IIT Delhi from 2004 to 2007, and as Head of the Civil Engineering Department from 2014 to 2017.

Born in 1955 at Jalandhar, Punjab, his early years were spent at Nangal township, where his father was posted as an engineer on the design and construction of the prestigious Bhakra Dam and the Beas–Satluj Link Project. He completed his school education at St. John's High School, Chandigarh. His areas of specialization include geotechnical and geo-environmental engineering, soil mechanics, foundation engineering, ground engineering, earth dams, landfill engineering, and the design of ash ponds and tailings ponds. He has edited three books in the areas of landfills, solid waste management, and ash ponds, as well as the 1,800-page proceedings of the 6th International Congress on Environmental Geotechnics. He has co-authored the undergraduate textbook “Geotechnical Engineering” with Prof. S.K. Gulhati, has published over 160 papers in journals and conferences, and has guided 11 PhD and more than 60 M.Tech. theses. Prof. Datta has been a consultant to over 150 projects in geotechnical and geo-environmental engineering, and has been involved in the planning, design, construction, and remediation of several waste disposal sites in India, including hazardous waste landfills, MSW landfills, ash ponds, and tailings ponds. He has been Principal Investigator for nine sponsored projects funded by MoEF&CC, DST, ONGC, and others, and was the India team leader for “Protection of Environment in Asia”, funded by the European Commission, with partner institutions from the Netherlands, Germany, and China. He has been associated with the Central Pollution Control Board, the Ministry of Environment and Forests, and the Ministry of Urban Development in framing guidelines and design manuals for Municipal Solid Waste and Hazardous Waste landfills. He has visited Stanford University, Harvard University, and MIT in the USA; Imperial College, Cambridge University, and Cardiff University in the UK; Tianjin University in China; IHE and TU Delft in the Netherlands; and the Universities of Waterloo and McGill in Canada.

AWARDS & HONOURS

- ★ Six best-paper awards of the Indian Geotechnical Society
- ★ IGS (Delhi Chapter) Leadership Award, July 2008
- ★ IGS Annual Lecture, 2011 — Indian Geotechnical Conference, Kochi
- ★ Lifetime Achievement Award, IGS Delhi Chapter, 2017
- ★ Teaching Excellence Award, IIT Delhi, 2018

ORATION TOPIC

The Urgent Requirement of Geo-environmental Guidelines for Safe Storage and Utilization of MSW Residues in India

ABSTRACT

The rapid growth of municipal solid waste (MSW) generation in India has accelerated the adoption of waste-to-energy (WTE) technologies and landfill mining as key components of sustainable waste management. These processes generate large quantities of secondary materials, including bottom ash, fly ash, soil-like material (SLM), construction and demolition (C&D) debris, and other recovered fractions. While these materials offer significant opportunities for beneficial utilization in geotechnical engineering applications, they also contain contaminants such as soluble salts, heavy metals, organic matter, leachable colour, and microplastics that may pose environmental risks if handled or reused without appropriate safeguards.

This lecture presents the outcomes of nearly two decades of research on the engineering characterization, geo-environmental assessment, and utilization potential of MSW residues recovered from landfill mining operations and WTE plants. The engineering behaviour of these materials is discussed together with their physicochemical and environmental characteristics. Recent advances in controlling contaminant mobility and sustainable reuse strategies are also presented.

Although significant progress has been made in recovering valuable materials from legacy waste dumps and WTE facilities, current practices in India are largely guided by generalized waste management provisions and limited environmental compliance criteria. In many instances, recovered residues are stored or reused without residue-specific protocols, application-specific engineering criteria, or comprehensive geo-environmental evaluation. This highlights the need to move beyond simple waste recovery towards scientifically informed and engineering-controlled utilization.

Drawing upon international practices and recent Indian research, the lecture discusses the principles of safe storage as well as restricted and unrestricted beneficial utilization of MSW-derived materials. It concludes by advocating the development of a comprehensive geo-environmental regulatory framework for India that integrates engineering performance with environmental protection — promoting resource recovery and circular economy objectives, protecting soil and groundwater resources, and facilitating environmentally responsible infrastructure development.



DISTINGUISHED SPEAKERS

EXPERTS IN GEOTECHNICAL & GEO-ENVIRONMENTAL ENGINEERING



Dr. S. K. Prasad

Professor, CED, Vidyavardhaka College of Engineering, Mysuru

Geotechnical and earthquake engineering; 37+ years of teaching, research and consultancy experience.



Dr. Ashutosh Mandape

Assistant Professor, CED, IIT Indore

Environmental and geo-environmental engineering; 8+ years of experience; Ph.D. from AcSIR at CSIR-NEERI, Nagpur.



Dr. Mohit Somani

Assistant Professor, School of Infrastructure, IIT Bhubaneswar

Geo-environmental engineering including landfill rehabilitation, methane emission control and remediation of contaminated soils; 40 research publications.



Dr. Arpit Jain

Assistant Professor, Department of Civil and Environmental Engineering, IIT Patna

Geotechnical engineering research with a focus on soil liquefaction, soil dynamics, geophysical site characterization, ground improvement, and AI/ML applications in geotechnical engineering.



Dr. Ashish Juneja

Professor, Department of Civil Engineering, IIT Bombay

Geotechnical engineering, centrifuge modelling and numerical methods; DEM tools for jointed rock and granular materials.



Dr. B. Janaki Ramaiah

Associate Professor, CED, IIT Tirupati

Geotechnical and geo-environmental research with a focus on sustainable ground engineering solutions.



Dr. N. Unnikrishnan

Professor and Head, Civil Engineering, College of Engineering, Trivandrum

Geotechnical Engineering/Foundation Engineering Consultant in India.

REGISTRATION DETAILS

CATEGORY	TILL 25 SEPT 2026	AFTER 25 SEPT 2026
IGS Member	₹ 100	₹ 150
Non-IGS Member	₹ 250	₹ 300

REGISTER



PAY



Note: The registration fee for members of the IGS Indore Chapter will be borne by Ferro Concrete Const.(I) Pvt.Ltd., Fees are inclusive of symposium kit and refreshments. Scan the codes above to register and to pay.

ABOUT THE ORATION & THE ORGANIZERS

IFTO – 2026

ABOUT THE IGS-FERROCO TERZAGHI ORATION

The award is designated as the 'IGS-Ferroco Terzaghi Oration' for outstanding contribution to geotechnical engineering in India and at the international level, in line with the Rankine and Terzaghi Lectures. All nationals and internationals are eligible for this prestigious oration. It is a biennial award, and the speakers are chosen alternately from India and abroad.

The award carries a cash prize of ₹ 1,00,000/- (Rupees One Lakh only), plus travel expenses and a plaque with citation. The IGS-Ferroco Terzaghi Oration was originally instituted by Dr. Mahavir Bidasaria, Past President, IGS, in the year 2008.

ABOUT THE INDIAN GEOTECHNICAL SOCIETY & IGS INDORE CHAPTER

The Indian Geotechnical Society (IGS) is a professional organization of geotechnical engineers, geologists, and other related professionals in India. Founded in 1948, it is the premier professional organization in India for those interested in geotechnical engineering, engineering geology, and related fields. The Society aims to promote the advancement and dissemination of knowledge related to geotechnical engineering, engineering geology, and allied disciplines, providing a platform for members to exchange ideas and collaborate. IGS is an Affiliated Member of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) and has 91 representatives across 35 Technical Committees of ISSMGE.

The IGS Indore Chapter is an active regional chapter of the Indian Geotechnical Society, promoting geotechnical engineering knowledge, professional interaction, and technical activities among academicians, engineers, researchers, and students in the region. The chapter regularly organizes technical lectures, workshops, training programmes, conferences, and knowledge-sharing activities to strengthen collaboration between academia and industry.

ABOUT FERRO CONCRETE CONSTRUCTION (INDIA) PVT. LTD.

Founded by Dr. Mahavir Bidasaria in 1970, Ferro Concrete Construction (India) Pvt. Ltd. (FERROCO), Indore, is a specialized engineering and construction company with expertise in geotechnical engineering, ground improvement, dam construction and rehabilitation, foundation treatment, drilling, grouting, anchoring, tunnels, bridges, flyovers, and other major infrastructure works. With experienced engineering professionals, specialized equipment, and extensive project experience, FERROCO contributes to the development of safe, durable, and sustainable infrastructure. The company specializes in field of Grouting Technology and has been instrumental in framing 3 Indian Standards in area of **Grouting** i.e. IS 6066, IS 11293 and IS 4999, followed throughout the Country.

ABOUT IPS ACADEMY, INSTITUTE OF ENGINEERING & SCIENCE, INDORE

Established in 1999, IPS Academy, Institute of Engineering & Science (IPSA IES), Indore is a premier technical institution committed to excellence in engineering education, research, innovation, and professional development. The institute is UGC Autonomous, AICTE approved, affiliated with RGPV Bhopal, and holds NAAC accreditation along with NBA-accredited UG programmes. With modern infrastructure and a strong focus on experiential learning, interdisciplinary research, and industry readiness, IPSA IES continues to nurture skilled and responsible engineers.

CONTACT

For any queries, please contact:

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03 October 2026 · Premium Auditorium · IPS Academy, Institute of Engineering & Science, Indore (M.P)