



DAY TWO

November 7, 2023 | Tuesday

09:30-10:00 hrs Registration

Technical Sessions I & II • 10:00-11:30 hrs

TS-I • Venue: Hall A

Chairpersons : **Shri I D Narayan**, CMD, MECL
Shri S N Kapri, D(T), (OP), SECL

EXPLORATION, ESTIMATION, GEOSTATISTICS AND HYDROGEOLOGY

- **Prof Bhabesh C Sarkar**, IIT (ISM) Dhanbad, Geostatistics in Exploration and Mining
- **Prof Mrinal Kanti Mukherjee**, IIT (ISM) Dhanbad, Prediction of water inflow in a proposed underground coal mine of the Rajgamar Dipside (South of Phulakdih Nala) in Chattisgarh, India
- **Anand S. Sharma**, CSIR-CIMFR, Dhanbad, Reserve estimation through the conventional method and computer-aided software: A comparative case study
- **Krishna Dinda**, Dept. of Mining Engineering, IIT Kharagpur, - Development of non-stationary V-transformed copula model for recoverable reserve estimation
- **Shri Sam Mitra**, Ex. V.P., Tata International Ltd., Ex. Executive-in-Charge, Chrome and Titania projects, Tata Steel Ltd., - Lithium: The changing landscape of production and economics
- **Shri Nihar Ranjan Sahu**, IIT Kharagpur, - Design of operators' cabins for mineral processing plants using specially fabricated acoustic material with simple expansion chamber structure



TS-II • Venue: Hall B

Chairpersons : **Dr P S Mishra**, CMD, SECL
Shri Achyut Ghatak, DT(RD&T), CMPDI

AI/ML APPLICATIONS AND SMART MINING

- **Dr Siddhartha Agarwal**, IIT (ISM), Dhanbad, Machine learning based prediction of spontaneous combustion susceptibility of coal using its intrinsic properties: a safe smart and sustainable mining of coal approach
- **Surendra Kumar Dogra**, NIT, Rourkela Odisha, Machine Learning Applications: Coal Fire Prediction Using Graham's Ratio
- **Dr Shankhajit Mitra**, CSIR-CIMFR Dhanbad, An approach to implementation of IOT enabled Smart environmental monitoring and strata monitoring system for underground coal mines
- **Dr S K Chaulya**, CSIR-CIMFR, Dhanbad, Virtual fencing system for periphery surveillance
- **Mr Michalis Katapotis**, Metallurgist, Senior Digital Mine Expert, Am TÜV 1, 45307 Essen, Germany : A Framework for Digital Transformation in the Mining and Metals Industry
- **Sudhir Kumar Singh**, Dept. of Mining Engineering, Indian IIT Kharagpur, Interpretable predictions: Machine Learning approaches to understand slope stability in the presence of joint networks

11:30-12:00 hrs Tea / Coffee Break



Technical Sessions III & IV • 12:00 hrs-13:30 hrs

TS-III • Venue: Hall A

Chairpersons : **Shri Manoj Kumar**, CMD, WCL
Shri Uday A Kaole, D(T) OP, BCCL

MINE PLANNING AND PRODUCTION

- **Dr Arka Jyoti Das**, CSIR - Central Institute of Mining and Fuel Research (CIMFR), Dhanbad - Design of extraction methodology for highwall mining under multi-seams conditions - A case study
- **Shri Satya Prakash Sahu**, Mananadi Coalfields Limited, Sambalpur, Dump slope stability rating and risk assessment in opencast coal mines: a case study
- **Shri Anup Tiwari**, Dep. of Mining Engineering, IIT Kharagpur, Understanding run out behavior of overburden dump: insights for buffer zone design in open pit coal mines
- **Dr Prabhat Kumar Mandal**, CSIR-CIMFR, Dhanbad, -Bridging efficiency and safety: a case study of extraction of thick coal seam having low incubation period using continuous miner
- **Mithilesh Kumar Mishra**, ICFAI University Jharkhand, Ranchi- Performance of mechanised depillaring operations with SDL and continuous miner technology - a comparative study



TS-IV • Venue: Hall B

Chairpersons : **Shri Bholu Singh**, CMD, NCL
Shri Anil Kr Singh, DT(OP), WCL

AI/ML APPLICATIONS, DIGITAL AND SMART MINING

- **Mr Toby Cressman**, Lead Product Manager, R&P Automation and Data Solutions, Joy Global Underground Mining LLC 120 Liberty St. Franklin, PA 16323, USA
- **Shri Badal Manna**, HoD (OC)/General Manager (Mining) & I D Narayan, Regional Director, Central Mine Planning & Design Institute Ltd, RI-V, Bilaspur: Application of artificial intelligence to create virtual copy of physical mine to enhance productivity, safety and profitability
- **Shri Sujit Kumar**, Senior Manager (Drilling & Blasting), Office of Quarry-AB, West Bokaro Divison, Tata Steel Limited, West Bokaro Divison, Improving productivity and utilization of HEMM in opencast mines via digital analysis
- **Dr R N Patra**, Chief Manager (E&T) Coal India Ltd., Risk to resilience in cyber security on the way of digital transformation in mining industry – key approaches
- **Shri Amit Sharma**, Dept. of Mining Engineering, Indian IIT Kharagpur- 721302, Machine learning techniques for predicting health risk of mining vehicle operators subjected to whole-body vibration

13:30-14:30 hrs Lunch Break



Technical Sessions V & VI • 14:30-16:00 hrs

TS-V • Venue: Conference Hall A

Chairpersons : **Shri Aravind Mishra**, Director, CIMFR
Shri Jitendra Malik, DT (PP), NCL

EXPLOSIVE AND BLASTING

- **Dr Pijush Pal Roy**, Gammon Engineers & Contractors Pvt. Ltd. & Formerly with CSIR-CIMFR, Dhanbad, Strategic planning & guidelines to control dust and post-detonation fumes arising due to blasting in opencast coal mines
- **Shri Narayan K Bhagat**, CSIR-CIMFR, Dhanbad, India, The Influential role of confinement, charge factor and segmentation of explosive Charge in ablasting round: A Perspective for the blasting-induced ground vibration compliance
- **Shri Vivek K Himanshu**, CSIR-CIMFR, Dhanbad, Innovative blast design for reduction of boulder generation in opencast excavations
- **Shri Ranjit K Paswan**, CSIR-CIMFR, Dhanbad, Evaluation and quantification of textural properties of a rock and its impact on blast induced ground vibrations
- **Shri Aditya Rana**, CSIR-CIMFR Dhanbad, Controlled blasting within danger zone of 500 m from dwelling vis-à-vis production enhancement-problems and challenges
- **Ms Monika Tewari**, Dept. of Mining Engineering, IIT Kharagpur, A comprehensive analysis of the in-plane and out-of-plane response of a masonry wall under blast loading conditions in the vicinity of coal mines



TS-VI • Venue: Hall B

Chairpersons : **Shri Prasanna Kumar Mottupalli**
CMD, NLC
Shri B Sairam, Dir(T) (PP), CCL

MINE HEALTH AND SAFETY

- **Shri Amit Kumar**, CSIR-CIMFR, Dhanbad, Reliable intrinsically safe circuit design specifications for oil fields and coal mines
- **Dr Peeyush Kumar**, General Manager (Mining) & OSD, CCT, Ministry of Coal, Government of India, Socio-Psychological approach for Sustainability in Coal Sector in India
- **Prof Indrajit Roy**, Adjunct Professor, Birsa Institute of Technology, Sindri, Ranchi, Optimum combination of safe and economical internal dump profile of dragline mines
- **Mr Biswajit Dutta**, Eastman Crusher Co. Pvt Ltd., Kolkata, The case for ISO 23875:2021 w/ amendment 1: 2022 as a path to HEMM protection from reparable crystalline silica
- **Shri Bishwajit Modak**, Technical Officer, CSIR-Central Institute of Mining & Fuel Research, Barwa Road, Dhanbad - 826015, Safety in underground mines using flameproof light fitting
- **Dr Sayan Ghosh**, Manager (Geophysics) CMPDI RI-V Bilaspur, Near surface geophysical investigations for mapping the subsurface features responsible for the cracks developed in the view point patch, Dipka OC mine SECL

16:00-16:30 hrs Tea / Coffee Break



Technical Sessions VII & VIII • 16:30-18:00 hrs

TS-VII • Venue: Hall A

Chairpersons : **Shri Ajit Kumar Saxena**, CMD, MOIL
Shri Niladri Roy, Director (Operation), ECL

SUSTAINABLE MINING AND MINE ENVIRONMENT

- **Shri Binay Dayal**, Adjunct Professor Mining Engineering IIT/ISM Dhanbad and Former Director (Technical),CIL, Key Thrust areas for Sustainable Coal Mining.
- **Ms Daria Goncharova**, Global Sustainability Lead Germany, Essen, AM TUV, Principles of sustainable development of mining
- **Shri Mihir Choudhury**, Formerly with DGMS, Dhanbad, Sustainability of underground coal mining in India vis-a-vis coal mines Regulations, 2017
- **Shri Rahul Kumar**, Mining Engineering, IIT Kharagpur, Environmental and social impact assessment of an Indian Iron Ore mine using Folchi mathematical model
- **Dr Manoj Kumar**, Sr Mgr (M), Env Dept., BCCL, Critical Elements of Forestry Clearance: EESO model the solution
- **Mr Piyush Srivastava**, Chief, Natural Resources Division, Using digital means for mine monitoring, improving productivity and sustainability
- **Ms Preeti Kumari**, Birsa Institute of Technology, Sindri, Adoption of best mining practices with the help of software application: a review



TS-VIII • Venue: Hall B

Chairpersons : **Shri Samiran Dutta**, CMD, BCCL
Shri N V K Srinivas, D(T), SCCL

BACK FILLING & WASTE MANAGEMENT

- **Shri Vivek Kumar Kashi**, ICFAI University Jharkhand, Ranchi, Utilization of fly-ash in the backfilling of void in underground mines
- **Shri Santosh Kumar Behera**, CSIR-CIMFR Dhanbad, Underground mine backfilling transition in Sukinda, Odisha: Present and future
- **Shri Pavan Kumar Gupta**, CSIR-CIMFR, Digwadih Campus, Dhanbad, Syngas cleaning technologies in gasification process for downstream applications
- **Ms Puja Dokania**, NIT Rourkela, Odisha, Microbial and biosorbent-mediated hexavalent chromium removal from the tailing waters released from chromite mines
- **Shri Anshuman Agarwal**, Minimac Systems Pvt. Ltd. Pune, Maharashtra, Enabling net zero industrial targets through decarbonizing lubricant life-cycle

19:00-22:00 hrs **Cultural Programme & Dinner**
Venue: Taj Taal Kutir Royal Pavilions and Lawns