

Editorial

The study of rock engineering and underground space technology has assumed considerable importance because of its wide application in Civil Engineering and mining sector. Today the significance of rock mechanics especially in design and construction of the multipurpose water resources projects located in complex geological conditions has been realised by the field engineers and the execution of such projects has helped them in adding new knowledge in their professional lives. Thus the planning and execution of these projects require application of modern principles of rock mechanics, which warrants high quality research to facilitate flow of appropriate technology for their successful implementation under a time bound programme conforming to eco-friendly requirements.

India is gifted with a rich and ancient historical background and there are a number of places of spiritual and historical importance. Even geographically, mother nature has provided India with all its varieties, high rising mountains, deserts, rich green plains, beautiful sea beaches, rivers and dense forests. In fact India is a land of magnificent scene-scenery. In enriching the beauty of this sub-continent, the rock has played equally important role in various forms such as the caves of Elephanta, Ajanta and Ellora, the Taj, Lotus Temple of Delhi, the rock temples in South Indian States, etc. and thus, infusing life to rocks.

Fortunately lot of activities in the field of rock mechanics is also in progress all over India, mainly due to the execution of projects for irrigation, flood control, hydropower generation, building of roads in the mountainous areas, sub-surface excavations for underground railway and for mining purposes. The 260m high Tehri Dam presently under last stage of construction in the lower Himalayan region will be one of the highest earth-cum-rock fill dams in the world. The tunnels and underground power house caverns for river valley projects have been constructed in very difficult geological conditions at Beas-Sutlej Link Project, Yamuna Hydroelectric Scheme, Ramganga Dam Project, Giri Hydel Project, Loktak Project, etc. The power tunnel of Nathpa Jhakri Hydel Project being executed in highly complex geological conditions of the Himalayas will be the single longest tunnel involving over 30 km of tunnelling works which is an unprecedented feat in engineering profession. Recently the 86 MW Malana Hydel Project located in north Indian state Himachal Pradesh has been completed with all time record of two and half years.

During execution of several challenging projects, it was found that prediction of rock mass behaviour, support pressure and tunnel closure are the most difficult problems in rock engineering. However, in the recent past, good research efforts have been made in developing a realistic quantitative classification system to predict the rock mass behaviour.

The Indian Society for Rock Mechanics and Tunnelling Technology (ISRMTT), since its inception in the year 1992, has initiated R&D activities in the field of rock mechanics and tunnelling technology by way of supporting research projects at various research and

academic institutions in India, organising symposia, conferences, seminars, workshops and publication of bi-annual research digest in the form of Journal of Rock Mechanics and Tunnelling Technology (JRMTT). I am happy to inform that this year the journal is completing one decade of its successful professional service. This has been possible due to all-round support rendered by dedicated researchers, engineers, academicians, research organisations, reviewers of the papers and members of the editorial board. I, on behalf of the editorial board congratulate all those who have directly or indirectly supported the journal.

We look forward to the valuable suggestions and precious contributions from the Rock Mechanics fraternity to enable us to bring JRMTT up to their expectations.

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