# ROCK SCIENCE AND ROCK ENGINEERING LABORATORY

# Dr. Prasnna Jain

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## **RESEARCH THEME:**

Evaluation of Engineering Geological and Geotechnical Properties for the Performance of a Tunnel Boring Machine in Deccan Traps Rocks – a Case Study from Mumbai, India

# POSITION OF RESPONSIBILITY

- > Joined National Institute of Rock Mechanics as a Scientist-B in July, 2009.
- Worked as a Geologist (Mar, 2008-June, 2009) with Hindustan Construction Company Ltd. Mumbai.
- ▶ Junior Research Fellow at ISMU, Dhanbad (2007-2008).

## **COMPUTER SKILL**

- Microsoft office
- Auto CAD

## WORK EXPERIENCE

Experience in excavation by Surface Miner, tunnelling by TBM, geological mapping, geotechnical investigation, drill core logging and 3-D mapping of shafts and tunnels. DPR stage engineering geological investigation of MGPSS hydroelectric project, construction stage engineering geological investigations of Rajasthan Atomic Power Project Units 7&8 and strategic storage of crude oil cavern project at Padur.

## **PUBLICATIONS**

### **International Journal (1)**

**Prasnna Jain**, A.K. Naithani and T.N. Singh, 2014: Performance characteristics of tunnel boring machine in basalt and pyroclastic rocks of Deccan traps – A case study. Journal of Rock Mechanics and Geotechnical Engineering, Vol. 6 (1), pp 36–47.

### **Indian Journal (2)**

- A.K. Naithani, L.G. Singh, Prasnna Jain, Devendra Singh, Rabi Bhusan and P.C. Nawani, 2011: Engineering geological evaluation of the underground water conducting system of Malshej Ghat PSS Project, Maharashtra, India. Journal of Engineering Geology, Vol. 37, Nos 1-4, pp 189 - 198.
- **Prasnna Jain**, A.K. Naithani and T.N. Singh, 2011: Application of tunnel boring machine for the construction of Maroshi Ruparel College tunnel, Mumbai, India. Journal of Engineering Geology, Vol. 37, Nos 1-4, pp 151-159.

#### **International Conferences/Symposium (5)**

- A. K. Naithani, L.G. Singh, D.S. Rawat and Prasnna Jain (2014) Engineering geological assessment of the north wall of surge pool and rock ledge between surge pool and pump house of mahatma gandhi kalwakurthi lift irrigation scheme-ii (5x30 mw), mahaboobnagar District, telangana state, india. International Symposium "ROCK INDIA 2014 Present Technology and Future Challenges and Workshop on "Open Pit Mining", New Delhi, India. Pp 103-112.
- **Prasnna Jain**, A.K. Naithani and T.N. Singh (2011), Application of Tunnel Boring Machine for the construction of Maroshi - Ruparel College Tunnel, Mumbai, International Conference on Underground Space Technology and the 8th Asian Regional Conference of IAEG, 17-19 January, Org. by NIRM, ISEG and IAEG, Bangalore.
- A.K. Naithani, L.G. Singh, Prasnna Jain, Devendra Singh, Rabi Bhusan and P.C. Nawani (2011), Engineering Geological Evaluation of the Water Conducting System of Malsjej Ghat PSS Project, Maharashtra, International Conference on Underground Space Technology and the 8th Asian Regional Conference of IAEG, 17-19 January, Org. by NIRM,ISEG and IAEG, Bangalore.
- V.M.S.R.Murthy, Dheeraj Kumar, Prasnna Jain and Ashis Kumar Dash (2009), Development of a cuttability index of surface miner for performance prediction in different geomining conditions, International Symposium on Rock Mechanics and Geo-environment in Mining and Allied Industries (RGMA-09), 12-14 February, Org. by IT-BHU, Varanasi, pp.156-171.
- Prasnna Jain, Pushpendra Meena and V. M. S. R. Murthy, (2007), Mass Production of Coal Using Continuous Surface Miner – An Eco-frindly Technology of Future, 1st International Conference on Managing The Social and Environmental Consequences of Coal mining In India, November 19 – 21, pp 681 – 690, (New Delhi).

#### **National Conferences (4)**

- P.Meena, Manish Kumar, Prasnna Jain and V.M.S.R.Murthy (2008), Performance analysis of surface miner in Indian coal mines- A case study, Conference on EmergingTrends in Mining and Allied Industries, NIT, Rourkela, February, pp57-65.
- D.S. Rawat, A.K. Naithani, L.G. Singh, **Prasnna Jain** and G. Srinivasa Rao, 2014: Construction stage engineering geological assessment of a lift irrigation tunnel a case study. Proc. of the National Seminar on Innovative Practices in Rock Mechanics, (Sripad R. Naik, A.K. Naithani and V.R. Balasubramaniam eds.), Publ. by NIRM, pp 60-64.
- Manoj Kumar, Prasnna Jain, L.G. Singh and A.K. Naithani, 2014: Rock support assessment for unit-1 of unlined underground strategic crude oil storage cavern project, Padur, India. Proc. of the National Seminar on Innovative Practices in Rock Mechanics, (Sripad R. Naik, A.K. Naithani and V.R. Balasubramaniam eds.), Publ. by NIRM, pp 94-102.
- Prasnna Jain, Manoj Kumar, A.K. Naithani and D.S. Rawat, 2014: Hydro-confinement systems of underground unlined rock caverns for strategic storage of crude oil – A case study. Proc. of the National Seminar on Innovative Practices in Rock Mechanics, (Sripad R. Naik, A.K. Naithani and V.R. Balasubramaniam eds.), Publ. by NIRM, pp 290-297.