Curriculum Vitae

Dr. FALGUNI SARKAR
Assistant professor
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SHORT BIOSKETCH:

Dr. Falguni Sarkar is presently working in National Institute of Technology. Rourkela (NIT Rourkela) as Assistant professor at Department of Mining engineering**.** He was former Head of the 'Internal Safety Organization' and 'Strata Control Cell' for all Underground Hard Rock Mines and Open Pit Mines being operated by Uranium Corporation of India Ltd. (UCIL). His professional experiences are focused on **Underground Hard Rock Mine** Planning, designing, Scheduling and execution, Miner's Safety and health, Mine ventilation, underground water management, Monitoring environmental impact in uranium mine and underground mine communication. He has been awarded PhD. by Indian Institute of Technology (Indian School of Mines), Dhanbad, India, in October, 2017. His research is concentrated on ***"An Investigation of Multivariate Statistical Models to Estimate the Risk and Risk Perception of Mine Workers in Underground Hard Rock Mines",*** which includes Mine Safety management, Risk Assessment of different mine hazards, Behavioral Safety and Injury Epidemiology. He is a lead auditor for IS18001:2007(OHSMS) and internal auditor for ISO 14001:2004(EMS). He has knowledge in statistical modeling Computer-Aided Mine Design and its applications.

EDUCATION:

- **2017, PhD. (Mine safety), awarded by Indian Institute of Technology (Indian School of Mines), Dhanbad,** for intensive research on **"**An investigation of multivariate statistical models to estimate the risk and risk perception of mine workers in underground hard rock mines",
- **2008,** obtained **First class Manager's certificate of competency** from Board of Mining & Exams, DGMS (Director General of Mine Safety, India)
- **2005, B.E (Mining),** from Bengal engineering and Science University, Shibpur (presently IIEST, Shibpur) WB, India with First Class.
- Obtained lead auditor's certificate for IS18001:2007(OHSAS) in 2011 from BIS (Bureau of Indian Standards).
- Diploma in Environmental Management from NILEM

PROFESSIONAL EXPERIENCE:

- **June2020 to till date:** Assistant professor at Department of Mining engineering in National Institute of Technology. Rourkela (NIT Rourkela), Odisha, India.
- **January, 2017 till to June2020:**

  Head of Internal Safety Organization and Strata Control Cell **for all UCIL Mines:** Involved in Underground Hard Rock Mine planning & Designing, compliance of regulatory aspects imposed by DGMS (Director General of Mine Safety, India), compliance of AERB (Atomic Energy Regulatory Board, India) norms, monitoring mine safety and occupational health related issues and taking care of ISO 14001, ISO 9001 & IS18001 (OHSAS) related activities.
- **August 2012 – December 2016**

  UCILNarwapahar Mine, Superintendent (Mines)& Safety Officer: Involved in Underground Hard Rock Mine planning & Designing, operation scheduling and execution, compliance of regulatory aspects imposed by DGMS and AERB, taking care of ISO 14001, ISO 9001 & IS 18001 related activities.
- **October 2009 – August 2012**

  UCIL, Jaduguda Mine, Additional Superintendent (Mines), in charge production: Involved in underground Mine planning & Designing, Mine ventilation circuit establishment, man and machine allocation, operation scheduling and execution, ensuring safety.
- **August 2006 – September 2009**

  UCIL, Narwapahar Mine, Mining Engineer: In charge of Mine development section: Involved in Trackless underground hard rock Mine planning & Designing, Mine ventilation circuit establishment, man and machine allocation, operation scheduling and execution, ensuring safety,
- **June 2005 – July 2006**

  HINDALCO, Aditya Birla Group, Mining Engineer(Binine mining of Bauxite ore, **Open cast** Mine Planning and Designing).

Noteworthy Technical contributions during last 15 years of Industrial Tenure:

1. Completed the project on ***"Formulation of Safety Management system for UCIL Mines"*** as per the guidelines of DGMS, India ***(2019-2020).***
2. Establishment of 'Strata Control Cell' and Initiation of Rock instrumentation at various underground uranium Mines.(2019).
3. Officer In charge of project on ***"Cost Effective emergency alert System for application against incidence of fire hazards, water inrush and subsidence in underground hard rock mines: A trial project developed at Narwapahar Uranium Mine, Jharkhand India" (2018).***
4. Research conducted on **"**An investigation of multivariate statistical models to estimate the risk and risk perception of mine workers in underground hard rock mines" in association with Indian Institute of Technology (Indian School of Mines), Dhanbad and awarded PhD. in ***2017.***
5. Directed the project on***"Minimization of length of linear development by alteration of haulage ramp design at Narwapahar mines, UCIL"*** (***2015-2016).***
6. Designed and introduced "***Fully Mechanized Sump sludge cleaning system in UCIL Narwapahar Mine" (2013-2015).***
7. Studies conducted on ***"Formulation of environmental impact assessment system for the operational activities of underground hard rock mines in UCIL"(2011-2012).***
8. Designed and introduced ***"Safe disposal practice for radioactive waste rock generated from underground mine development" (2008-2010).***
9. I ntroduced ***"Inverted extended V- pattern to achieve better fragmentation in blasting of horizontal cut and fill stope" (2006-2009).***

LIST OF PUBLICATIONS

International Conferences:

1. Sarkar Falguni, Mangal, A., Paul, P. S. and Mahali, M. (2016). ***"The Influence of Leadership, Psychological Job Demands and Situation Awareness on the Willingness to Take Risk at Workplace in Hard Rock Mines – Development of A Conceptual Structural Equation Model", accepted for oral presentation in International Conference on "Deep Excavations, Energy resources & Production (DEEP16)"*** organized by Department of Mining Engineering, IIT, Kharagpur, India in January 24-26, 2017

2. Sarkar Falguni, Paul, P. S. and Mangal, A. (2016). ***"Determinants of Risk Indices in Hard Rock Mine Using Log linear Model"***, Presented (Oral) in the International Conference on Management of Ergonomic Design, Industrial Safety and Healthcare Systems (MESH-2016), organized by Department of Industrial and System Engineering, IIT, Kharagpur, IndiaDecember 20-23, 2016.

National Journals and Seminars:

3. Mangal, A., Sarkar Falguni and Paul, P. S. (2016). "***A Step toward Achieving a Zero Accident Potential in Indian Mining Industry"***, Accepted for the publication in Journal of Mines, Metals and Fuels. [Scopus Index Journal]
4. Sarkar Falguni, Paul, P. S. and Kumar P. P. (2016). ***"An Investigation of Mine Accident/Incident Data and implementation of safety management system to minimize the risk in a Trackless Underground Hard Rock Mine"***, Journal of Mines, Metals and Fuels, Vol. 64, No. 4, pp. 80-85. [Scopus Index Journal].

5. Sarkar Falguni, Babu, C. Sreedhar,Uranium Corporation of India Limited, Narwapahar Mines (2014).***"Inundation and Inrush Hazard Management of Narwapahar Mine"*** **-** 31st DAE (Directorate of Atomic Energy) Safety &Occupational Health Professionals Meet, 2014at BHAVINI, Kalpakkam, India.
6. Sarkar Falguni,Mahali M., Babu C Sreedhar (2013*).* ***"Safety Management in Mine Operation Cycle – A risk Assessment based approach"*** **–** presented on the30th DAE (Directorate of Atomic Energy) Safety & Occupational Health Professionals Meet, 2013at Bhabha Auditorium, Narwapahar, Jharkhand, India.

OTHER INFORMATION'S:

- Currently working as a co- consultant of the project titled as " Scientific study for monitoring roof behavior through UG instrumentation and monitoring goaf atmosphere proposed BG panels at K4&K5 3S&4SS-6 Panel 4S gdk.11 RG I area, SCCL.

(Name: FALGUNI SARKAR)
Signature of applicant