

**Dr. BIJAY MIHIR KUNAR, ASSOCIATE PROFESSOR**

B.E. (Mining), M.E. (Mining, IEST), Ph.D. (Mining, IIT KGP), Member of SGAT and IEI  
Second Class Manager Certificate of Competency (Restricted), DGMS Dhanbad  
Former Scientist NIRM, Ministry of Mines, Govt of India.



Dr. B. M. Kunar has joined in the Department of Mining Engineering NITK Surathkal on 23<sup>rd</sup> September 2013. Prior to join NITK Surathkal, he worked as an **Assistant Professor in the Department of Mining Engineering Indian School of Mines (ISM), Dhanbad & Scientist at National Institute of Rock Mechanics (NIRM), Bangalore**. He joined Dungri Limestone Quarry of M/s ACC Limited in March 2003 and worked there for the period of one and half year. He obtained **Second Class Manager Certificate of Competency (Restricted)** from the Govt. of India in 2004. He completed his B.E (Mining) from Odisha School of Mining Engineering, Keonjhar (now GCE Keonjhar), M.E. (Mining) from Bengal Engineering and Science University Shibpur (now IEST Shibpur) and Ph.D. in Mining Engineering (Mine Safety) from Indian Institute of Technology Kharagpur. His area of specialization is **Mine Safety Engineering and Management, Occupational Health and Safety, Mine Surveying and Geomatics, and Rock Mechanics**. He has published more than 40 technical research papers in various reputed International Journal having high impact factor, National Journal and Seminar proceedings. He was associated with the French National Institute for Health and Medical Research (INSERM, France) on an epidemiological study to assess the relationships between job, lifestyle, age and occupational injuries of coal miners. Dr. Kunar also worked as a Research Assistant in the Department of Mining Engineering IIT Kharagpur from July 2008 to September 2008 in a Project entitled “Investigation of Ensemble Modelling of Multiple Networks Using Negative Correlation Learning for Ore body Modelling” sponsored by ISIRD. He has successfully completed two sponsored projects as an investigator. He has also received CORE RESEARCH GRANT (CRG) from DST-SERB in the year 2020. He has authored a book titled “Risk analysis of coal miners injuries: An Epidemiological Approach” by LAP Lambert Academic publishing AG & Co.KG, Germany. He is having wide experience in working funded research projects, preparation of proposals and technical reports. He is actively involved in teaching and research for more than 10 years in research lab and academic institute. While he was working as a faculty in the Department of Mining Engineering Indian School of Mines Dhanbad during the period (2009-2013) he was associated with teaching undergraduate and postgraduate students. He has guided several B.Tech and M.Tech dissertation work. Apart from teaching he was associated with different Executive Development programs (EDP), R&D (Research & Development) and consultancy projects. He was also handled different administrative responsibility such as faculty in-charge mining engineering society, faculty in-charge CLMM Lab, faculty adviser of final year students and other administrative responsibility successfully. He is a recipient of various awards, prizes and other honors for his contribution to mining engineering.

<b>Name</b> <b>Date of Birth</b>	<b>Dr. Bijay Mihir Kumar</b> <b>15<sup>th</sup> March 1976</b>
<b>Correspondence</b>	<b>DEPARTMENT OF MINING ENGINEERING NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL, MANGALORE</b> Phone No: +91 + 824 + 2473377 Fax: +91 + 824 + 2474033, 2474039 Email: <a href="mailto:bkunar@nitk.edu.in">bkunar@nitk.edu.in</a>   <a href="mailto:bkunar@gmail.com">bkunar@gmail.com</a> web: <a href="https://mining.nitk.ac.in/faculty/bijay-mihir-kumar">https://mining.nitk.ac.in/faculty/bijay-mihir-kumar</a>
<b>Marital Status</b>	<b>Married</b>
<b>Present Employment</b>	Presently working as Associate professor, Dept. of Mining Engineering, National Institute of Technology, Karnataka, Surathkal, Mangalore
<b>Research Areas</b>	Mine Safety Engineering and Management, Occupational Health and Safety, Mine Surveying and Geomatics, IT Applications in Mining, and Rock Mechanics
<b>Research Interest</b>	GIS and Remote Sensing, Safety Data Analytics.

## **Academic Performance Details**

<b>Degree/Examination</b>	<b>University/Institution</b>	<b>Year</b>	<b>Discipline</b>	<b>% of Marks</b>	<b>Division/ Class</b>
Ph.D. (Mining Engineering)	I.I.T Kharagpur	2009	Mining Engineering	-	-
M.Tech./M.E.	IEST, Shibpur. (Formerly BESU, Shibpur)	2003	Mining Engineering	75.78	1st
B.Tech./B.E.	GCE, Keonjhar, Odisha (Formerly OSME, Keonjhar)	2001	Mining Engineering	72.69	1st
H.S. or Equivalent (+2 Science)	S.V.M College, Jagatsinghpur C.H.S.E, Odisha	1994	+2 Science	70.55	1st
Madhyamik /Matric or Equivalent	S.K. Academy Jagatsinghpur B.O.S.E, Odisha	1992	-	72.13	1st
BSc (Physics)	S.V.M College, Jagatsinghpur Utkal, University Odisha	1997	+3 Science (PhyHons)	Completed Pedigreed Exam	-

## **Awards / Prizes/Honors Won**

- ❖ **Core Research Grant** received from DST-SERB in 2020 (PI: B.M Kumar Co- Pi Dr M. Aruna).
- ❖ **Selection Board Member UPSC and other competitive exam.**
- ❖ **BOS Member BPUT Odisha.**
- ❖ **Outstanding reviewer award from Journal of Safety Science (Elsevier Publisher).**
- ❖ **Best reviewer award from Journal of safety science (Elsevier Publisher).**
- ❖ **NIRM Silver Jubilee Medal for distinguish service as scientist to the Institute (Ministry of Mines, Govt of India)**
- ❖ **Second Class Managers' Certificate of Competency (Restricted) from Directorate General of Mines Safety, Govt. of India.**
- ❖ Recipient of the "**Hindustan Zinc Limited Prize**" by the Institution of Engineers (INDIA) for best technical research paper.
- ❖ Reviewer for DST-SERB (Govt. of India) project proposal.

- ❖ Awarded **SRF Fellowship** from MHRD Govt. of India to carry out Ph.D. at IIT Kharagpur.
- ❖ Recipient of **GATE Scholarship**, NRTS and National Merit Scholarships.

### **Teaching and Research Experience**

<b>ORGANIZATION</b>	<b>DESIGNATION</b>	<b>DURATION</b>
NITK Surathkal	Associate Professor	09.10.2023 to till date (with AGP-9500/-)
NITK Surathkal	Assistant Professor	23.09.2013 to 08.10.2023 (with AGP-8000/-)
ISM Dhanbad	Assistant Professor	From 22.06.2010 – 13.09.2013 (With AGP-8000/-)
ISM Dhanbad	Assistant Professor	15.06.2009 -22.06.2010 (With AGP-7000/-)
National Institute of Rock Mechanics (NIRM), Under Ministry of Mines Govt. of India	Scientist-I	27/10/2008 to 03/06/2009 (With AGP-5400/-)
IIT Kharagpur	Research Assistant	July 2008 to September 2008 (With award of fellowship)

### **Working and Training Experience**

<b>ORGANIZATION</b>	<b>DESIGNATION</b>	<b>DURATION</b>
Dungri Limestone Quarry of Baragarh Cement LTD (A subsidiary of M/S Associate Cement Company Limited)	Mining Engineer	March 2003-June 2004
Central Mining Research Institute Dhanbad (A Unit of Council of Scientific and Industrial Research, India).	Project Trainee	September'02 – January'03
Joda East Iron Mines of M/S Tisco Ltd.	Trainee	One month
Deulibera Colliery of M.C.L (A Subsidiary of Coal India Ltd)	Trainee	One month
Gurpahar Mines of M/S B.S.L Co. Ltd	Trainee	One month

### **Academic Administrative Responsibility**

<b>ADMINISTRATIVE POST</b>	<b>TITLE</b>	<b>DURATION</b>
Faculty Advisor/Fist Year/Second Year/Fourth Year	First Year Faculty Advisor Second Year Faculty Advisor	July 2021-Continuing June 2020 - May 2021 2018 – 2020 (For 2 Years)
Secretary DUGC/DPGC/DRPC	DUGC DPGC DRPC	2018 – 2020 (For 2 Years) June 2020 - May 2021 2015-2017 (For 2 Years) April 2023-Continuing
Faculty-In-Charge Mine Surveying Lab//Mine Planning and Design Lab	LAB In-charge	July 2021-Continuing 2019 – 2021 (For Two Years) <u>Mine Planning and Design Lab</u> 2019 – 2020 (For 1 year)
Faculty-In-Charge Rock Mechanics Lab	Lab In-charge	2015-2017 (For 2 Years)

Institute Level Committee Member	Rajbhasha Adhikari	July 2021-Continuing 2018 – 2021 (For Three Years)
Institute Level Committee Member	Library Advisory Committee	2015 – Till Date
Institute Level Committee Member	Web Content Management	July 2021-Continuing 2019 – 2021 (For 2 Years)
Institute Level Committee Member	Faculty-In-Charge Career Advance Cell/Startup cell	July 2021-Continuing <u>Startup Cell</u> 2018 – 2019 (For 1 Year)
Institute Level Committee Member	Mining Engineering NIRF Coordinator/NBA Coordinator	2018 – 2019 (For NIRF Coordinator) <u>For NBA</u> July 2021-Continuing 2019 – 2021 (For 2 Years)

### **Peer Reviewer of Referred Journals**

- Reviewer of Journal of Safety Science (Elsevier)
- Reviewer Journal of Global Public Health (Taylor & Francis)
- Arabian Journal of Geosciences (Springer Nature)
- Journal of Geological Society of India (Springer Nature)
- Sadhana-Academy proceedings (Springer Nature)

### **Member of Professional Bodies**

- Life member of Society of Geoscientists and Allied Technologists (MSGAT)
- Life member Institute of Engineers India (IEI)

### **Organizing Seminar/Symposium/Workshop**

- “SAFETY DATA ANALYTICS APPLICATIONS IN MINING AND OTHER CORE INDUSTRIES”, Sponsored by Department of Science and Technology (DST), Science & Engineering Research Board (SERB), Govt. of India under Accelerate Vigyan Scheme (KARYASHALA: High End Workshop) with financial support of Rs. 5 lakhs for conducting Research Internship from 6th March to 12th March, 2024.
- One Day Lecture Series on "Role of Rock Engineering in Nation Building" by NIRM, Bengaluru & NITK, Surathkal on 06.03.2023.
- Two days workshop on "Industrial Safety and Health" sponsored by DST-SERB from 19-20th October, 2022
- Five days "GIAN" course on "*Computer Application and Data analysis in Mining and other Core Industries*" during March 12-16, 2018.
- Two days' workshop on "Recent Trends in Environment, Health, and Safety Management in Mining and other Core Industries" during January 27-28, 2017.
- Technical Committee member of 34th International conference of safety in mines research institutes (34th ICSMRI) held in the year 2011 at IIT Kharagpur.
- Organizing and Technical Committee member of the international mine ventilation congress held in the year 2009 (9<sup>th</sup> IMVC) at ISM Dhanbad.

### **Books Authored**

Bhattacharjee A, **Kumar, B.M.** 2010 “Risk analysis of coal miners injuries: An Epidemiological Approach” LAP Lambert Academic Publishing AG & Co. KG, Germany, ISBN: 978-3-8383-4263-4.

## **Personal Details**

Father's Name: Late Sri. Jogendranath Kunar

Passport number: G1145913

## **Permanent Address:**

Dr. Bijay Mihir Kunar

C/o: Late Sri. Jogendranath Kunar

At: Jogadhari (Near District Circuit House) Po/Dist.:

Jagatsinghpur, Odisha, Pin-754103

## **DECLARATION:**

I hereby affirm that the information furnished in this resume is true and correct.

Date: 13 DEC 2024

Place: NITK Surathkal

**(Bijay Mihir Kunar)**

Publication List  
**JOURNALS**

Google Scholar		
h-index	9	9
i10-index	9	9

**Scopus ID (Author ID: 16425697000) h-index: 9**

1. Kar, M. B., Aruna, M., & Kunar, B. M. (2023). Structural equation modelling of work-related musculoskeletal disorders among dumper operators. *Scientific Reports*, 13(1), 14055. <https://doi.org/10.1038/s41598-023-40507-9>
2. Kar, M. B., Aruna, M., & Kunar, B. M. (2023). Risk factors associated with work-related musculoskeletal disorders among dumper operators: A machine learning approach. *Clinical Epidemiology and Global Health*, 24, 101438. <https://doi.org/10.1016/j.cegh.2023.101438>
3. Kar, M. B., Aruna, M., & Kunar, B. M. (2023). Fuzzy Logic-Based Rapid Upper Limb Assessment: A Novel Approach to Evaluate the Postural Risk of Dumper Operators. *Journal of The Institution of Engineers (India): Series C*, 104(5), 1047-1055. <https://doi.org/10.1007/s40032-023-00986-1>
4. Shankar, V. K., Lakshmikanthan, A., Selvan, C. P., Girish, B. M., Kunar, B. M., de Jesus Agustin Flores Cuautle, J., ... & Malik, V. (2023). Prediction of transient temperature at bit-rock interface using numerical modelling approach and optimization. *International Journal on Interactive Design and Manufacturing (IJIDeM)*, 1-13. <https://doi.org/10.1007/s12008-023-01543-x>
5. Kumar, B. S., Kunar, B. M., & Murthy, C. S. An adaptive modeling for bifacial solar module leveled cost and performance analysis for mining application. *Progress in Photovoltaics: Research and Applications*. <https://doi.org/10.1002/pip.3746>
6. Sahas, Kunar, B.M. and Chandar, K.R. (2023) 'An overview of the applications of soft computing methods for predicting the physico-mechanical properties of rocks from indirect methods', *Int. J. Mining and Mineral Engineering*. DOI: [10.1504/IJMME.2023.133651](https://doi.org/10.1504/IJMME.2023.133651)
7. Bekalkar M., Kunar, B.M, Aruna, M., (2021). Postural Analysis of Dumper Operators and Construction Workers- A Case Study. *Journal of Mines Metals and Fuels*, 69(6), 180- 185. <https://doi.org/10.18311/jmmf/2021/28525>
8. Kumar B S., **Kunar, B. M.**, & Murthy, Ch. S. N. (2022). Application of Bifacial Solar power for Mining Operations – A review. *Journal of Mines, Metals and Fuels*, 70(12A): 1-150. <https://doi.org/10.18311/jmmf/2022/29942>.
9. Khale, B. R., **Kunar, B. M.**, & Murthy, C. S. (2021). A Comparative Study and Regression Analysis on Physico-Thermal Properties using Pongamia Pinnata-Waste Cooking Oil Methyl Ester Mixture. **Energy Sources, Part A: Recovery, Utilization, and Environmental Effects**, 1-12. <https://doi.org/10.1080/15567036.2021.1918289>
10. Vijay Kumar. S., **Kunar, B. M.**, Murthy Ch. S. N. (2019), “ANN model for prediction of bit-rock interface temperature during rotary drilling of limestone using embedded thermocouple technique” **Journal of Thermal Analysis and calorimetry**, <https://doi.org/10.1007/s10973-019-08646-2>.
11. Shankar, V. K., Kunar, B. M., Murthy, C. S., & Ramesh, M. R. (2020). Measurement of bit-rock interface temperature and wear rate of the tungsten carbide drill bit during rotary drilling. *Friction*, 8(6), 1073-1082.
12. Vijay Kumar. S., **Kunar, B. M.**, Murthy Ch. S. N. (2018), “Experimental investigation and statistical analysis of operational parameters on temperature rise in rock drilling” *International Journal of Heat and Technology*, Vol.36 (4), pp. 1174-1180. [https://www.researchgate.net/publication/330158994\\_Experimental\\_investigation\\_and\\_statistical\\_analysis\\_of\\_operational\\_parameters\\_on\\_temperature\\_rise\\_in\\_rock\\_drilling](https://www.researchgate.net/publication/330158994_Experimental_investigation_and_statistical_analysis_of_operational_parameters_on_temperature_rise_in_rock_drilling)
13. Vijay Kumar S, Ch. S. N. Murthy, **Kunar B.M.** , (2018) “Effect of thermal response on physical

- properties during drilling operations-A case study”, *Materials Today*, Vol. 5 (2) 2018, pp. 7404-7409.  
<https://www.sciencedirect.com/science/article/pii/S2214785317326810>
14. Reddy K.Sandip., **Kunar, B. M.**, Murthy Ch. S. N, (2017) “Impact of various factor on roof stability in underground coal mines”, *International Journal of Earth Science and Engineering*, Vol. 10(3), pp.626-632.  
[https://www.researchgate.net/publication/318989677\\_Impact\\_of\\_Various\\_Factors\\_on\\_Roof\\_Stability\\_in\\_Underground\\_Coal\\_Mines](https://www.researchgate.net/publication/318989677_Impact_of_Various_Factors_on_Roof_Stability_in_Underground_Coal_Mines)
  15. Bhattacharjee, A., **Kunar, B.M.** (2016),” Miners’ return to work following injuries in coal mines, *Medycyna Pracy*, Vol. 67 (6),2016, pp. 729-742. <http://medpr.imp.lodz.pl/Miners-return-to-work-following-injuries-in-coal-mines.64056,0,2.html>
  16. **Kunar B.M.**, Bhattacharjee A., Samanta B.,Mitra A.(2014). “Relationships of Individual andworkrelated factors with obstructive type lung function disorder of underground coal miners-A Spirometry study” *Journal of Geology and Mining Research* 2014, Vol.6(5), pp.57-63.  
<https://academicjournals.org/journal/JGMR/article-abstract/99251CC47354>
  17. Bhattacharjee A., **Kunar B.M.**, Baumann Michele, Chau N, Lorhandicap group (2013). “The role of occupational activities and work environment in occupational injury and interplay of personal factors in various age groups among Indian and French coal miners” *International Journal of Occupational Medicine and Environmental Health* 2013; Vol. 26(6), pp.1-20.  
<http://ijomeh.eu/The-role-of-occupational-activities-and-work-environment-in-occupational-injury-and-interplay-of-personal-factors-in-various-age-groups-among-indian-and-french-coalminers,2139,0,2.html>
  18. Bhattacharjee A. **Kunar B.M.** (2011).“Epidemiology: A tool for risk analysis of mine injuries” *Transactions of the Society of Mining, Metallurgy, and Engineering (SME)* USA, 2011, Vol. 328, pp. 490-500.  
[https://www.researchgate.net/publication/236949456\\_Epidemiology\\_a\\_tool\\_for\\_risk\\_analysis\\_of\\_mine\\_injuries](https://www.researchgate.net/publication/236949456_Epidemiology_a_tool_for_risk_analysis_of_mine_injuries)
  19. **Kunar B.M.**, Bhattacharjee A., Chau N. (2010). “A matched case-control study of occupational injury in underground coalmine workers” *The Journal of the South African Institute of Mining and Metallurgy (SAIMM Journal)*, Vol. 110, pp. 1-9.  
[http://www.scielo.org/za/scielo.php?script=sci\\_abstract&pid=S222562532010000100004&lng=es&nrm=iso](http://www.scielo.org/za/scielo.php?script=sci_abstract&pid=S222562532010000100004&lng=es&nrm=iso)
  20. Chau N.,Bhattacharjee A.,**Kunar B.M.**, Lorhandicap group (2009).“Relationship between job, lifestyle, age and occupational injuries” *Occupational Medicine*, London, 2009, Vol. 59, pp.114 -119.  
<https://www.ncbi.nlm.nih.gov/pubmed/19233831>
  21. **Kunar, B.M.**, Bhattacharjee, A., Chau N. (2008).“Relationships of job hazards, lack of knowledge, alcohol use, health status and risk taking behaviour to work injuries of underground coal miners: A case-control study in India” “ *Journal of Occupational Health, Japan*” 2008, Vol. 50 (3), pp.236-244.<https://www.ncbi.nlm.nih.gov/pubmed/18431033>
  22. **Kunar, B.M.**, Bhattacharjee, A (2006)“Study of some occupational and individual factors in coal miners injuries” *Journal of Mines, Metals and Fuels*, 2006, Vol. 54, No.12. pp. 356-360.  
[https://www.researchgate.net/publication/286863087\\_Study\\_of\\_Some\\_Occupational\\_and\\_Individual\\_Factors\\_in\\_Coal\\_miners\\_Injuries](https://www.researchgate.net/publication/286863087_Study_of_Some_Occupational_and_Individual_Factors_in_Coal_miners_Injuries)
  23. **Kunar B.M.**, Maiti J., Mandal P.K. (2007)“Numerical modeling – A Prerequisite for Support Design in Mines” “*Journal of Mine Tech*”, January-March, 2007, Vol. 28 (1), pp. 19-28.  
[https://www.researchgate.net/publication/286924093\\_Numerical\\_Modeling\\_Based\\_Study\\_In\\_Bord\\_and\\_Pillar\\_Working-A\\_Prerequisite\\_for\\_Support\\_Design\\_in\\_Mines](https://www.researchgate.net/publication/286924093_Numerical_Modeling_Based_Study_In_Bord_and_Pillar_Working-A_Prerequisite_for_Support_Design_in_Mines)

24. Maiti, J., Mandal, P.K., Singh, R., **Kuniar B.M. (2006)** "Impact of Stress Redistribution on Stability of Workings during Depillaring" *Journal of the Institution of Engineers (India)*, Mining Engineering Division, 2006, Vol. 87, PP. 10-22. [https://www.researchgate.net/publication/283724079\\_Impact\\_of\\_stress\\_redistribution\\_on\\_stability\\_of\\_workings\\_during\\_depillaring](https://www.researchgate.net/publication/283724079_Impact_of_stress_redistribution_on_stability_of_workings_during_depillaring)

### **Springer Book Series**

1. Vijay Kumar S, **B. M. Kuniar**, Ch. S. N. Murthy, "Temperature measurement during rotary drilling of rocks- A statistical approach", Learning and Analytics in intelligent systems. Volume 2, pp 303-308 (**SCOPUS**). <https://www.springer.com/gp/book/9783030243135#>
2. Tejaswaran K. M, Ch. S. N. Murthy, **B. M. Kuniar** "Numerical Investigation on Factors Affecting the Behaviors of Roof Bolts for Continuous Miner Working", Learning and Analytics in intelligent systems. Volume-2, pp 383-389 (**SCOPUS**). <https://www.springer.com/gp/book/9783030243135#>

### **Book Chapters**

1. Bhattacharjee, A., Kuniar, B. M., & Chau, N. (2007, September). Contribution of physical hazards and health-related factors in occupational injuries of underground coal miners: A matched case-control study. In Proceedings of the 32nd International Conference of Safety in Mines Research Institutes (SIMRI), Beijing, China, September (pp. 28-29). Available at: [https://www.researchgate.net/publication/258628420\\_Contributions\\_of\\_physical\\_hazards\\_and\\_health-related\\_factors\\_in\\_occupational\\_injuries\\_of\\_coal\\_miners\\_A\\_matched\\_case-control\\_study](https://www.researchgate.net/publication/258628420_Contributions_of_physical_hazards_and_health-related_factors_in_occupational_injuries_of_coal_miners_A_matched_case-control_study).
2. Bhattacharjee, Ashis & Kuniar, Bijay & Chau, Narkasen. (2009). Role of working condition, behavioral, lifestyle and health related factors in underground coal miners injuries: A case-control study. In Proceedings of 33<sup>rd</sup> international conference of safety in mines research institute. Wisla, Poland, September 15-18, 2009. Available at: [https://www.researchgate.net/publication/258628351\\_Role\\_of\\_working\\_condition\\_behavioural\\_lifestyle\\_and\\_health\\_related\\_factors\\_in\\_underground\\_coal\\_miners\\_injuries\\_A\\_case-control\\_study](https://www.researchgate.net/publication/258628351_Role_of_working_condition_behavioural_lifestyle_and_health_related_factors_in_underground_coal_miners_injuries_A_case-control_study).
3. Bhattacharjee A, Kuniar B.M & Baumann, M & Chau, N. (2012). Associations between occupational factors and occupational injury and the interplay of personal factors in Indian and French coal miners (Book of proceedings, complete paper). In Proceedings of the 34<sup>th</sup> International Conference of Safety in Mines Research Institutes, 7-10 December, 2011. Available at: [https://www.researchgate.net/publication/258447416\\_Associations\\_between\\_occupational\\_factors\\_and\\_occupational\\_injury\\_and\\_the\\_interplay\\_of\\_personal\\_factors\\_in\\_Indian\\_and\\_French\\_coal\\_miners\\_Book\\_of\\_proceedings\\_complete\\_paper](https://www.researchgate.net/publication/258447416_Associations_between_occupational_factors_and_occupational_injury_and_the_interplay_of_personal_factors_in_Indian_and_French_coal_miners_Book_of_proceedings_complete_paper).
4. Kuniar B.M, Bhattacharjee, A, Samanta, B & Shahid M. (2011). Relationships of Some Individual and Work-Related Factors to Lung Function Disorder of Underground Coal Miners – A Spirometry Study. In proceedings of Conference: 34th International Conference of Safety in Mines Research Institutes At: New Delhi, India Volume: 34. Available at: [https://www.researchgate.net/publication/286877317\\_Relationships\\_of\\_Some\\_Individual\\_and\\_Work\\_Related\\_Factors\\_to\\_Lung\\_Function\\_Disorder\\_of\\_Underground\\_Coal\\_Miners\\_-\\_A\\_Spirometry\\_Study](https://www.researchgate.net/publication/286877317_Relationships_of_Some_Individual_and_Work_Related_Factors_to_Lung_Function_Disorder_of_Underground_Coal_Miners_-_A_Spirometry_Study).

### **Conferences/Seminar/Symposia/workshop**

1. Bekalkar M., **Kuniar, B.M**, Aruna, M., (2023). An Ergonomic Study of Dumper Operators Working in Indian Surface Mines Using Static Biomechanics Approach. Proceedings of Geomintech Symposium on New Equipment New Technology Management and safety in Mines and Mineral Based Industries.
2. Balaji Rao K, **Kuniar B.M**, Ch. S. N. Murthy (2022) "A Comparative Assessment and Statistical analysis of Ethanol and Acetone Emulsification in Methyl Esters of Pongamia Pinnata Blends" Proceedings of the International Conference on Advances in Energy, Environment for Sustainable Development, 7th to 8th January 2022.



3. Bekalkar M. **Kunar, B.M. (2021)**, Postural analysis of road construction workers-a case study, Road Safety workshop, organized by GI Council (GENERAL INSURANCE COUNCIL) on 13.02.2021, National Insurance Building, 5th floor, J. Tata Road, Churchgate, Mumbai 400 020.
4. Ch. S. N. Murthy, **Kunar B M. (2020)** “Recent Advancements in Rock drilling for Improving Safety and Performance” international Webinar on Safe Mining and Advanced Resources Technology-2020, organized by IIT-KGP from 23rd to 16th to 18th Dec 2020.
5. Tejeswaran K M, Ch. S. N. Murthy, **Kunar B.M (2019)** presented & published a research paper “ Numerical Simulation and Evaluation of Roof Bolts in Continuous Miner Panel” in Recent Advances in Mining Technology (RAMT 2019) organized by Acharya institute of technology, Bengaluru from 23rd to 24th May 2019.
6. **Kunar B.M (2019)**: presented & published a research paper “Safety analysis of Occupational Accidents in Coal Mines- An ANOVA Approach” in Recent Advances in Mining Technology (RAMT 2019) organized by Acharya institute of technology, Bengaluru from 23rd to 24th May 2019.
7. Vijay Kumar S, **Kunar B.M**, Ch. S. N. Murthy (**2019**), presented & published a research paper “Temperature Measurement Methods During Rotary Drilling Operations - A Review” in International Conference on Recent Trends in Technology, Engineering and Applied Science (ICRTTEAS 2019), organised by Dr. T. Thimmaiah Institute of Technology, KGF from 12th to 13th April 2019.
8. Tejeswaran K M, Ch. S. N. Murthy, **Kunar B.M. (2019)** presented & published a research paper “Numerical Investigation on Grout Stress of Roof Bolts for Continuous Miner Working” in International Conference on Recent Trends in Technology, Engineering and Applied Science (ICRTTEAS 2019), organised by Dr. T. Thimmaiah Institute of Technology, KGF from 12th to 13th April 2019.
9. **Kunar B.M**, Ch. S. N. Murthy, Balaji Rao K (2019): “Comparison of the Particle Size Distribution in Marble and Granite Rock Samples Subjected to Ball Milling Process”, Smart Mining, SME Annual Conference and Expo, CMA 121st National Western Mining Conference, February 24-27, 2019, Denver, Colorado.
10. Balaji Rao K, B. M. Kunar, Ch. S. N. Murthy presented & published a research paper “A Critical Review on Different Biodiesel Blends and their Application in Underground Mining Machineries” in International Conference on Recent Trends in Technology, Engineering and Applied Science (ICRTTEAS 2019), organised by Dr. T. Thimmaiah Institute of Technology, KGF from 12th to 13th April 2019.
11. Vijay Kumar S, **B. M. Kunar**, Ch. S. N. Murthy presented & published a research paper entitled “Temperature measurement during rotary drilling of rocks- A statistical approach”, in the International Conference on Emerging Trends in Engineering (ICETE19), organised by University college of Engineering, Osmania University, from 22th to 23th March 2019.
12. Vijay Kumar S, Ch. S. N. Murthy, **B. M. Kunar**, presented & published a research paper entitled “Effect of thermal response on physical properties during drilling operations - a review”, in the International Conference on Deep Excavation, Energy Resources and Production (DEEP16), organised by Department of Mining Engineering at IIT Kharagpur, from 24th to 26th January 2017.
13. Vijay Kumar S, Ch. S. N. Murthy, **B. M. Kunar**, presented & published a research paper entitled “Effect of thermal response on physical properties during drilling operations-A case study”, International conference on emerging trends in Materials and Manufacturing Engineering (IMME-17) organised by Department of Metallurgical and Materials Engineering, National Institute of Technology, Tiruchirappalli, from 10th to 12th March 2017.
14. Vijay Kumar S, Ch. S. N. Murthy, **B. M. Kunar**, presented & published a research paper entitled “Prediction and Measurement Methods of Thermal properties in rock drilling process- A Review”, in the National Conference on Futuristic Advancements in Mechanical Engineering (FAME2K16), organised by Department of Mechanical Engineering

at College of Engineering, Thallasery, Kerala, from 8th to 9th August 2016.

15. **Kuniar B.M.**, MudgalKeshav, Gupta Neel, Kumar S., (2012): "Development of a GIS based 3-dimensional spatial information system-A case study", Proceedings of the 2<sup>nd</sup> National Seminar on "Indian Conference on Mine Surveying (ICMS-2012)" hosted by Indian School of Mines, 29-30 October, 2012, Dhanbad, pp.101-109.
16. D. Kumar, V. Agarwal, **Kuniar B.M.**, (2012): "Study of opencast coal mines for land reclamation using Remote sensing and GIS technique", Proceedings of the 2<sup>nd</sup> National Seminar on "Indian Conference on Mine Surveying (ICMS-2012)" hosted by Indian School of Mines, 29-30 October, 2012, Dhanbad, pp.71-77.
17. **Kuniar, B.M.**, Bhattacharjee, A., Samanta B, Shahid M., (2011): "Relationships of some individual and work-related factors to lung function disorder of underground coal miners- A Spirometry study" In: Bhattacharjee et al, (Ed.), "Safety in Mines (34<sup>th</sup> ICSMRI)", Macmillan, New Delhi, India, pp.785-795.
18. Bhattacharjee, A.,**Kuniar, B.M.**, Baumann, M., Chau, N., Lorhandicap group (2011): "Associations between Occupational factors and occupational injury and the interplay of personal factors in India and French coal miners" In: Bhattacharjee et al, (Ed.), "Safety in Mines (34<sup>th</sup> ICSMRI)", Macmillan, New Delhi, India, pp.481-493.
19. **Kuniar, B.M.**, Kumar, P.P., (2011): "Risk assessment and safety evaluation in underground metal mines" Proceedings of the 2<sup>nd</sup> National Seminar on "Underground Metal Mining: Status and Prospects" hosted by Indian School of Mines, 13-15 October, 2011, Puri, pp.329-335.
20. **Kuniar, B.M.**, Shukla G., Bahuguna P.P (2010) "Gradual Development of Total Station into Complete Mine Surveying Instruments" Proceedings of the Tenth Geo-minetech Symposium on "New Equipment New Technology Management and Safety in Mines and Mineral Based Industries" 11-12 May, 2010, Bhubaneswar, The Indian Mining Engineering Journal, pp.136-140.
21. Bhattacharjee, A.,**Kuniar, B.M.** (2010):"Risk Analysis of Injuries of Coal Miners Using an Epidemiological Approach: A Case-Control Study" Proceedings of the 5th China International Forum on Work Safety, hosted by State Administration of Work Safety (SAWS), P. R. Chin, 1-3 September, 2010, pp.20-27.
22. Bhattacharjee A.,**Kuniar B.M.**, Chau N., (2009):"Role of working condition, behavioural, lifestyle and health related factors in underground coal miners injuries: A case-control study" Proc 33rd Int Conf on Safety in Mines Research Institutes, organized by Central Mining Research Institute, Poland on 15-18 September 2009, Poland, pp.19-27.
23. **Kuniar B.M.**, Bhattacharjee A., (2008): "Role of job hazards, overtime work, and individual habits to underground coal miners injuries-A case study" Proceedings of the National Seminar on "Environmental Management in Mining and Allied Industries (EMMA-2008)" 7-8 Nov, 2008, Varanasi, ITBHU, pp.35-38.
24. **Kuniar B.M.**, (2008): "Numerical modeling-based study on development of support plan in depillaring operation of bord and pillar working" Proceedings of the Eighth Geo-minetech Symposium on "New Equipment New Technology Management and Safety in Mines and Mineral Based Industries" 11-12 May, 2008, Bhubaneswar, The Indian Mining Engineering Journal, pp.132-135.
25. **Kuniar, B.M.**, Shahid M., Bhattacharjee, A., Samanta B (2008): "A spirometry study of lung disorder for underground coal miners" Proceedings of the Indo-Korean joint International Symposium on "Geo-Science and Technology and Utilization of Geo-Space as Solution for Energy and Environment", 12-14 February, 2008, Kharagpur, Indian Institute of Technology, pp. 70-74.
26. Bhattacharjee, A.,**Kuniar, B.M.**, Chau N (2007):"Contribution of physical hazards and health-related factors in occupational injuries of underground coal miners: A matched case-control study", Proceedings of the 32nd International Conference of Safety in Mines Research Institutes (SIMRI), Beijing, China, September 28-29, 2007, SAWS, China, pp.423-430.

27. Bhattacharjee, A.,**Kuniar, B.M (2006):**“Analysis of occupational injuries and health disorder of workers in mines: A case study”, Proceedings of the 41st Annual Safety Week Souvenir, 2006, Singareni Coal Company limited and Directorate General of Mines Safety, pp. 46-53.
28. Bhattacharjee, A.,**Kuniar, B.M. (2007):** “Application of injury epidemiology in coal mines safety” Proceedings of the Emerging trends in mineral industry, 13-15July, 2007, Mining Engineers’ Association of India, Udaipur, Rajasthan, pp. 228-233.
29. Bhattacharjee, A.,**Kuniar, B.M., Sharan, M.B (2006):** “An epidemiological study of coal miners injuries” Proceedings of the First Asian Mining Congress on “Asian Mining –towards a new resurgence, January 16-18, 2006, MGMI, Kolkata, India pp. 473-477.
30. Samanta B, Devulapally P, Bhattacharjee A,**Kuniar B.M (2008):**Work related musculo-skeletal disorder study on drilling operations in an underground coal mine through human factors approach, Proceedings of the National Seminar on “Environmental Management in Mining and Allied Industries (EMMA-2008)” 7-8 Nov, 2008, Varanasi, ITBHU, pp.40-44.

### **Research Guidance at the PhD level (Completed)**

Sl No.	PhD Thesis	Name of the Student	Name of the Guide	Year
1.	ASSESSMENT AND EVALUATION OF PONGAMIA PINNATA OIL AS AN ALTERNATIVE FUEL FOR MINE EQUIPMENT	BALAJI RAO K	Dr. B. M. Kunar & Dr. Ch. S. N. Murthy	July, 2023
2.	EXPERIMENTAL INVESTIGATION ON ASSESMENT AND PREDICTION OF TEMPERATURE DURING ROTARY DRILLING	VIJAY KUMARS	Dr. B. M. Kunar & Dr. Ch. S. N. Murthy	Sep, 2020
3.	DESIGN AND DEVELOPMENT OF A NOVEL INVERTER WITH PHOTOVOLTAIC SYSTEM FOR DRILLING OPERATIONS IN MINES	N. V. V.Pruthvi Krishna	Dr. B. M. Kunar & Dr. Ch. S. N. Murthy (Retd.)	November, 2023
4.	Predictive Assessment of Postural Risk and Biomechanical Analysis of Musculoskeletal Disorder (MSD) Related Problems of Dump Truck Operators in Indian Open Cast Metal Mines	Mohith Bekal Kar (JRF DST-SERB)	Dr. M Aruna & Dr. B. M. Kunar	November, 2024

### **Research Guidance at the PhD level (Ongoing)**

Sl No.	PhD Title	Name of the student	Name of the Guide
1	Prediction of rock properties using grinding characteristics of Ball Mill	Sahas V Swamy	Dr. B. M. Kunar & Dr. K. Ram Chandar

2	Performance Evaluation of a Bi-Facial Photovoltaic (PV) system Integrated with a Mineral Processing Unit	Shiva Kumar Bojja	Dr. B. M Kunar & Dr. Ch. S. N. Murthy
3.	Data Analytics in Mineral Processing	Harsha Vardhan U	Dr. B. M Kunar
4.	Beneficiation of low-grade iron ore using Magnetic Separator	Rakesh Behera	Dr. B. M Kunar

### **M.Tech. (Research) Thesis Guidance**

Sl No.	M.Tech Thesis	Name of the Student	Under Guidance	Year
1	Assessment And Prediction of Roof Fall in Underground Coal Mines	KANDI SANDEEP REDDY	Dr. B. M. Kunar & Dr.Ch. S. N. Murthy	2017
2	Numerical Simulation and Evaluation of Roof Bolts in Bord and Pillar Panel Working with Continuous Miner Technology	TEJESWARAN K. M.	Dr.Ch. S. N. Murthy & Dr. B. M. Kunar	2019
3	Role of Individual Characteristics, Health Disorder and Contractual Work in Surface Mine Workers Injuries	MANOHAR MAHANTA	Dr. B M Kunar	On-going
4	Drone Survey Applications in Mining Engineering	Prasant Kumar Sahu	Dr. B M Kunar	On-going

### **Sponsored Workshops**

Sl. No.	Title	Year	Coordinator	Amount Allotted
1	COMPUTER APPLICATION AND DATA ANALYSIS IN MINING AND OTHER CORE INDUSTRIES, 12-16 March 2018	2018	Dr. B. M. Kunar	Rs. 5.44 Lakh
2	SAFETY DATA ANALYTICS APPLICATIONS IN MINING AND OTHER CORE INDUSTRIES SPONSORED BY DST-SERB FROM 06-12 <sup>TH</sup> MARCH, 2024.	2024	Dr. B. M. Kunar	Rs. 5.00 Lakh

3	INDUSTRIAL SAFETY AND HEALTH. 17-18 OCTOBER, 2022	2022	Dr. B. M. Kunar	Rs. 0.50 Lakh
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### R&D Projects

Sl. No	Title	Year	Coordinator	Amount Allotted	Status
1.	Development of a GIS based spatial Information system for ISM campus	2010-2012	Dr. B. M. Kunar	1.0 Lakh	Completed
2.	An Epidemiological study to access individual characteristics and working environment on coalmines injuries	2004-2008	Prof. A. Bhattacharjee Prof M.B. Sharan & Dr. B. M. Kunar	13.0 Lakhs	Completed
3.	Predictive Assessment of Postural and Biomechanical Analysis of Musculo Skeletal Disorders (MSD) Related Problems of dump truck operators in Indian Open Cast Mines	2020	Dr. B. M. Kunar & Dr. M. Aruna	Rs. 18.85 Lakhs	On-Going

### MTech Thesis Guidance at ISM Dhanbad

SlNo.	M Tech Thesis	Name of the Student	Under guidance	Year
1	COMPARATIVE STUDY OF EVALUATION OF VOLUMETRIC CALCULATION OF EARTHWORK	NAVEEN SOREN	Dr.B.M.Kunar	MAY,2011
2	A STUDY ON TUNNEL BEHAVIOUR UNDER HIGH STRESS CONDITION USING NUMERICAL MODELING	ARVIND KUMAR	Dr.B.M.Kunar	MAY,2011
3	DESIGN OF SUPPORT SYSTEM OF A TUNNEL USING ROCK MASS CLASSIFICATION APPROACH	SUBODH KUMAR	Dr.B.M.Kunar	MAY,2012
4	MAPPING OF GROUNDWATER PROSPECTIVE ZONES OF DHANBAD DISTRICT USING REMOTE SENSING TECHNIQUES AND GIS	ALOK SINGH	Dr.B.M.Kunar & Dr.V.K.SINGH	MAY,2013

5	STUDY AND ANALYSIS OF OPEN PIT SLOPES OF COALMINES	UTPAL KANT	Dr.B.M.Kunar	MAY,2011
6	IDENTIFICATION AND STUDY OF LAND USE PATTERN IN JHARIA COAL FIELD REGION	MANAMOHAN ROUT	Dr.B.M.Kunar & Dr.P.P.Bahuguna	MAY,2010
7	DEVELOPMENT OF A GEOSPATIAL INFORMATION SYSTEM OF RESIDENTIAL AREA OF ISM CAMPUS DHANBAD	SATISH CHANDRA	Dr.B.M.Kunar & Dr.Dheeraj Kumar	MAY,2011
8	DEVELOPMENT OF GIS BASED SPATIAL INFORMATION SYSTEM OF ACADEMIC AND SERVICE AREA OF CAMPUS	RAJESH KUMAR SINGH	Dr.B.M.Kun & Dr.M.Shashi	MAY,2011