

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 23rd 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.

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

Academic Performance Details

| Degree/Examination | University/Institution | Year | Discipline | % of Marks | Division/Class |
|---------------------------------|--|-------------|----------------------|--------------------------|-----------------------|
| 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

| ORGANIZATION | DESIGNATION | DURATION |
|--|---------------------|--|
| 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

| ORGANIZATION | DESIGNATION | DURATION |
|---|--------------------|---------------------------|
| 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

| ADMINISTRATIVE POST | TITLE | DURATION |
|--|---|--|
| 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) |

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|----------------------------------|--|---|
| 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 (9th 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
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
 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
 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
 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
 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

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

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.
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 33rd 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.
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 34th 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.
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.

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 2nd 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 2nd 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 (34th 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 (34th ICSMRI)”, Macmillan, New Delhi, India, pp.481-493.
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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.
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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. Kuniar & Dr. Ch. S. N. Murthy | July, 2023 |
| 2. | EXPERIMENTAL INVESTIGATION ON ASSESMENT AND PREDICTION OF TEMPERATURE DURING ROTARY DRILLING | VIJAY KUMARS | Dr. B. M. Kuniar & 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. Kuniar & 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. Kuniar | 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. Kuniar & 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 TH 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 |
|---|--|------|-----------------|---------------|

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 CastMines | 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 |

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|---|--|--------------------|---------------------------------|----------|
| 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 |