

Dr. BIJAY MIHIR KUNAR (Ph.D, IIT Kharagpur)

I. Areas of work

- Injury epidemiology
- Numerical modeling
- Rock mechanics
- Mines safety

Areas of Interest

- Mines Survey and Geomatics
- Statistical Data analysis
- Ergonomics

II. CONTACT INFORMATION AND RESPONSIBILITIES:

A. Permanent Address:

Dr. Bijay Mihir Kunar
C/o-Mr.Jogendranath Kunar
At-Jogadhari (Near District Circuit House)
Po/Dist-Jagatsinghpur, Orissa, Pin-754103
Phone 06724-220883

B. Present Address:

Dr.Bijay Mihir Kunar
Department of Mining Engineering
Indian School of Mines, Dhanbad
Jharkhand-826004
E-Mail:bijaykunar@yahoo.com
: bkunar@gmail.com

C. Responsibilities:

Teaching: Mine Surveying, Applied Rock Mechanics, and Geomechanics

Administrative: In charge Centre of Longwall Mine Mechanisation

III. EDUCATION:

Ph. D. (Engineering), Mining Engineering, Indian Institute of Technology, Kharagpur, India.

Duration: July 2004 -July 2008

Thesis: Impact of Occupational hazards and Individual Characteristics to Underground Coal miners' Injuries- Matched Analysis in a Case-Control Study.

Master of Engineering, Mining Engineering, Bengal Engineering and Science University, Shibpur, Howrah, India

Duration: August 2001 - March 2003

Thesis: Impact of Stress redistribution on Stability of the Working during Depillaring of a Bord and Pillar Working- A Numerical Modeling based Study

Bachelor of Engineering, Mining Engineering, Orissa School of Mining Engineering, Keonjhar, India (A Constituent College of BPUT, Orissa)

Duration: July 1997-June 2001

Thesis: Planning and design of rope haulage system in underground coal mines

IV. AWARDS/HONOURS:

Name of the Award/Prize	Year of Award	Awarded By	Purpose
Hindustan Zinc Limited prize	2007	Institute of Engineers (India).	For outstanding paper
MHRD Senior Research Fellow (SRF) Fellowship	2004	Ministry of Human Resource and Development, India	For PhD Research work at IIT Kharagpur
Second Class Mines Manager Certificate of Competency	2004	Directorate General of Mines Safety, Govt. of India	To work as a statutory mining engineer.
GATE scholarship	2001	Ministry of Human Resource and Development, India	For master degree research work.

V. WORKING EXPERIENCE:

V.A. Teaching Experience

ORGANISATION	DURATION		Subject	DESIGNATION
	FROM	TO		
ICFAI flexible learning centre Kharagpur	1 st October 2006	30 th July 2007	Quantitative methods	Visiting faculty

V.B. Industry Experience

ORGANISATION	DURATION		TOTAL EXPERIENCE (IN MTHS)	DESIGNATION
	FROM	TO		
Dungri Limestone Quarry of Baragarh Cement LTD (A subsidiary of M/S Associate Cement Company Limited)	3 rd march 2003	2 nd April 2004	12	Mining Engineer

VI. RESEARCH EXPERIENCE

VI.A. Scientist, Numerical Modeling Department, National Institute of Rock Mechanics (NIRM), from October 2008 to June 2009.

Responsibility included: Carrying out research work for research and development projects, consultancy and testing services in the areas of rock engineering and rock mechanics.

Brief Job Description

Design of underground structures, Stability analysis of underground cavern, Carrying out the geotechnical instrumentation and monitoring, Data analysis and report writing for U/G structures, tunnels, slopes and mines, Statistical analysis of instrumentation data, Numerical Modelling using FLAC, and UDEC software.

VI. B. Research scholar, Department of Mining Engineering **I.I.T Kharagpur** from July 2004 to July 2008.

Responsibility included: *Assisting in the preparation of proposals and technical reports for funded research projects, conducting independent research for my PhD research projects.*

Brief Job Description:

My Research topic includes the following "Applications of multivariate statistical models for the assessment of the various risk factors responsible for work injuries of underground coal miners' in a retrospective case-control study". I have associated with two sponsored projects in the Department of Mining Engineering, IIT Kharagpur. Both of them successfully completed during the due course of time. I have very good knowledge in computer programming including software packages namely LISREL, SPSS, SYSTAT, and STATA. I am having sound knowledge in various bio-statistical tools and risk analysis procedures and their applications in the field of health and safety research. I have also published some peer reviewed technical papers which are the outcomes of my research work.

VI. C. (Sponsored and consultancy project work):

- An Epidemiological Study of Working Environment and Individual Characteristics on Coal Miners' Injuries" Dept. of Mining Engineering, IIT Kharagpur. (Completed on 31st July 2007)
Sponsored: M.H.R.D (Ministry of Human Resources Development), Government of India
Role: Assisting in data collection, statistical analysis, and project report writing.
Status of the project: Completed on 31st July 2004.

VI. D. Research Experience (Master degree Project Work)

September'02 – January'03: Worked as a project trainee to carry out master degree project work on the topic "Numerical Modeling Based Study of Impact of stress redistribution on stability of working during depillaring" at the **Central Mining Research Institute Dhanbad** (An Unit of Council of Scientific and Industrial Research, India).

Exposure to various numerical modelling techniques such as

- Finite Element Method (FEM) application in measuring stress redistribution in development and depillared area of an underground working
- Distinct Element Method (DEM) application in numerical modelling
- Measurement of different types of induced stress in the development and depillaring areas of the underground working

VII. PROFICIENCY ON SOFTWARE AND STATISTICAL TOOLS:

VII.A. Proficiency on Statistical Tools :

- Analysis of Variance (ANOVA)
- Probability distributions
- Contingency table (2 by 2, r by c and multiple 2 by 2)
- Simple Linear Regression and Linear Multiple Regression
- Bivariate and Multivariate Logistic Regression
- Multivariate Conditional Logistic Regression
- Cox's regression analysis
- Structural Equation Modeling

VII. B. Software Proficiency:

- **Software Packages** : Stata, SPSS 13, Minitab, LISREL 8.54, AutoCAD, FLAC-2D, and UDEC
- Statistical Data Analysis (SPSS, Stata ,Minitab)

- Structural Equation Modeling (LISREL) – LISREL is an advanced tool for modeling different business processes, accident causation models and finding the cause and effect relationship between the latent and observed variables.
- Numerical Modeling- FLAC-2D and UDEC

IX. PERSONAL DETAILS

Father's Name: Mr. Jogendranath Kunar

Marital Status: Married

Passport number: G1145913

Religion: Hindu

Height 173 cm

Weight 80 Kg

Sex Male

Marital status Married

Nationality Indian

Blood Group B+ve

HOBBIES

- Making friends, Reading magazines, Traveling

LANGUAGES

- Fluent in **English, Hindi, Oriya**

DECLARATION:

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

Date: 11th June 2009

Place: Dhanbad

(Bijay Mihir Kunar)