

1. Name: **DR. RANJAN KUMAR**

2. Current Position and Address: **Senior Scientist**
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3. Educational qualifications: (Graduation and above)

Sl. No.	Degree/ Certificate	Year of Passing	University/ Institute	Subjects
i	Ph.D.	2009	Kyoto University, Japan	Optimum System Design
ii	M.Tech.	2002	IIT Kharagpur, India	Reliability Engineering
iii	B.Sc.(Engg.)	2000	BIT Sindri, India	Mining Engineering

4. Work experience

Designation	Institution/company	From	To	Nature of work
Scientist-B	CSIR-CIMFR	08/05/2002	08/05/2005	R&D
Scientist-C	CSIR-CIMFR	08/05/2005	08/05/2009	R&D
Senior Scientist	CSIR-CIMFR	08/05/2009	Continuing	R&D

5. Area of specialization: **Mining Science & Technology**

6. Honors/Awards received:

- **Swedish Research Agency Postdoctoral Award, 2013**
- **Deshpande Atkinson Award for 1st Rank in B.Sc. (Engineering)**

7. Fellowships/Scholarships:

- **Japanese Government Fellowship**
- **GATE Scholarship (All India Rank 6th)**

8. No. of Research Publications:

- Papers in journals: **10**
- In conference proceedings: **11**
- Invited/key-note addresses:
- List of best 05 publications:
 1. R. Kumar, S. Bechta, P. Kudinov, F. Curnier, M. Marquès, & F. Bertrand, "Dynamic Hybrid Reliability Studies Of A Decay Heat Removal System", International Journal of Reliability, Quality and Safety Engineering, Vol. 22, No. 4, pp. 1550020-17, 2015.
 2. R. Kumar and A. K. Ghosh, "The accident analysis of mobile mine machinery in Indian opencast coal mines", International Journal of Injury Control and Safety Promotion, 21(1), 54-60,2013.
 3. R. Kumar, S. Oraon, and A.K.Ghosh, "Design and implementation of cleaner mining technology in coal mines", Journal of Metal Mines and Fuels, Vol. 60 (6), pp. 115-118, June 2012.
 4. R. Kumar, K. Izui, M. Yoshimura, and S. Nishiwaki, "Multiobjective Hierarchical Genetic Algorithms for Multilevel Redundancy Allocation Optimization", Reliability Engineering & System Safety, vol. 94, no. 4, pp. 891-904, 2009.
 5. R. Kumar, K. Izui, M. Yoshimura, and S. Nishiwaki, "Multilevel Redundancy Allocation Optimization using a Hierarchical Genetic Algorithm", IEEE

Transaction on Reliability, vol. 57, no. 4, pp.650-661, 2008.

9. Number of Books authored/edited:

10. (a) No. of Patents granted/applied for:

(b) Technologies developed, Licensed and/or commercialized:

11. Foreign visits: **Japan, USA, China, South Korea, Thailand, Sweden, Poland, and France.**

12. Details of Professional memberships:

- **Life member of Institution of Engineers (India)**
- **Life member of MGMI Kolkata**

13 . Major contributions: (Max. 150 words)

- **Hard roof management using geotechnical instrumentations and induced caving in Indian coal mines,**
- **Mine Planning, Design, and Optimization**
- **Risk assessment and safety management plan in mining operations**
- **A hierarchical genetic algorithm for multilevel mine system design optimization,**
- **A dynamic safety assessment methodology for safety assessment of complex mine engineering system,**
- **High performance computing for large scale geo-technical simulation studies.**

14. Technologies and Products/ Services

(i) Developed:

- a. **Hard roof management techniques during depillaring in coal mines**
- b. **HGA for mine system optimization,**
- c. **PyCATSHOO for dynamic safety assessment of mine systems**

(ii) Licensed:

(iii) Commercialized:

15. Designs and Prototype Developed:

16. Honours and awards won for technological contributions or sociological impact of R&D:

Signature