

## BRIEF BIODATA

1. Name : **RAKESH KUMAR SINGH**  
2. Date of birth : 20<sup>th</sup> January 1975  
3. Current Position and Address : Senior Technical Officer (1)  
Rock Excavation Engineering Division  
CSIR-CIMFR, Dhanbad  
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4. Educational Qualifications :

Sl. No.	Degree/Certificate	Year of Passing	University/Institute	Subjects
I	M. Sc. (Disaster Mitigation)	2011	Sikkim Manipal University, Gangtok, Sikkim	Disaster planning, control and mitigation
II	B. Sc.	2007	Indira Gandhi National Open University, New Delhi	Physics, Chemistry, Math and English
III	Diploma in Mining & Mine Surveying	1996	Board of Technical Education, Mumbai	Mining, Surveying

5. Work Experience :

Sl. No.	Designation	Institution/Company	From	To	Nature of Work
I	Junior Technical Assistant	CSIR-CIMFR (erstwhile CMRI)	1999	2004	R&D assistance in the field of Rock Blasting in mining, civil construction & hydroelectric projects and Projects of strategic sectors in different parts of the country.
II	Senior Technical Assistant	CSIR-CIMFR (erstwhile CMRI)	2004	2009	
III	Technical Officer	CSIR-CIMFR	2009	2012	
IV	Senior Technical Officer (1)	CSIR-CIMFR	2012	Till Date	

6. Work Area(s)/specialization : Controlled Blasting in Mines, Quarries, Road Construction, Civil Construction & Hydroelectric Projects, Projects of Strategic sectors and Demolition Blasting

7. Major Contributions :

- I. Controlled blasting for widening of roads in the strategically important border areas in different parts of country.
- II. Controlled demolition of cofferdams by blasting at Teesta Low Dam Hydroelectric Project, Stages-III & IV of NHPC Ltd, Darjeeling, West Bengal.
- III. Controlled demolition of seven Rail-Over-Bridges (ROBs) of Eastern Railways between Pirpainti and Bhagalpur in Bihar within limited time duration.
- IV. Support to the Team Members of the CSIR-CIMFR Group which received CSIR Technology Award 2011 for Highwall Mining and its first time implementation in the country.
- V. Team Member of 5 S&T Projects and more than 225 Consultancy & Sponsored Projects of the REE Division of CSIR-CIMFR, Dhanbad.

8. No. of Research Publications : 60
- Papers in Journals : 32
  - Papers in Conference proceedings : 28
  - Invited Lectures : -

- Books/Chapters authored/edited : -
  - List of best 05 Publications :
- (i) Rakesh Kumar Singh, Chhangte Sawmliana and Panchanan Hembram. Time-constrained demolition of a concrete cofferdam using controlled blasting. *Innovative Infrastructure Solutions*, 6, 20 (2021).
  - (ii) Rakesh Kumar Singh, Chhangte Sawmliana and Panchanan Hembram. Damage threat to sensitive structures of a thermal power plant from hard rock blasting operations in track hopper area: A case study. *International Journal of Protective Structures*, Sage Publications, UK, vol. 11(1) 3–22, 2020.
  - (iii) R. K. Singh, C. Sawmliana and P. Pal Roy. Environmental impact of blast-emitted noise and air overpressure: prediction and control measures. *CIM Bulletin, Canada*, Vol. 2, No. 3, May 2007.
  - (iv) Rakesh K. Singh, Chhangte Sawmliana and Pijush Pal Roy. Blast-induced ground vibration damage assessment for foundation work at a thermal power project in India. *Noise & Vibration Worldwide*, June 2012, Vol. 43 (6), pp. 28-36.
  - (v) Rakesh K. Singh, Chhangte Sawmliana, Pijush Pal Roy and Rahul Dasgupta. Environmental impact of detonation of explosives in seismic survey operations. *Noise & Vibration Worldwide*, April 2007, Vol. 38 (4), pp. 19-26.
9. List of 5 Major Contract R&D Projects :
- (i) Safe dismantling of unstable rock boulder using controlled blasting located at Brahmayoni Hill, Shahmir Takiya, Gaya, Bihar
  - (ii) Advice for controlled demolition of seven arch-bridges (ROB) at different locations between Pirpainti and Bhagalpur section of Eastern Railways
  - (iii) Design of controlled blasting pattern for safe demolition of concrete coffer wall at Teesta Low Dam Project, Stage-III & IV of NHPC Limited, Darjeeling District, West Bengal
  - (iv) Study and advice for optimisation of blast design parameters for flattening of southern portion of Ulwe Hill and as a part of the land development works for construction of Navi Mumbai International Airport (NMIA)
  - (v) Investigation for trial blasts for establishing optimum blast design parameters and monitoring of ground vibration, noise/air overpressure, flyrock generated due to blasting for site levelling of 2 x 660 MW STPP Khargone Project of NTPC, Madhya Pradesh
10. (a) Name of Patents/Copyrights applied/granted/commercialized : Nil  
 (b) Technologies/Products/knowhow/Services developed : Nil
11. Honours/Awards/Recognitions/Fellowships/Scholarships/Professional Memberships received :
- Letters of appreciation from ADG BRO, Govt. of Bihar, various Mining Industries, Govt. of Mizoram, Eastern Railways, CSIR etc.
12. Societal Contributions :The various controlled blasting works for widening of roads in hilly terrain and demolition of old and dangerous ROBs of Eastern Railways for enhancement of existing single track into electrified double track benefitted the society in getting the new opportunities by the development work done after creation of new infrastructure in the area which was stopped due to different safety and technical reasons. The safe dismantling of unstable large-sized rocky boulder on the hill slope in the densely populated area in Gaya, Bihar saved the lives and properties of a large number of persons residing on the foothill and slope of the Brahmayoni hill. The controlled blasting for land development work for construction of a new international airport in Navi Mumbai will benefit a large number of people as the existing Mumbai Airport has become highly congested for start of new air services within the country and other parts of the world.