

## Brief Bio-Data

**1. Name:** DR. JITENDRA KUMAR SINGH

**2. Date of Birth:** 02.10.1973

**3. Current Position and Address (Include Email ID and Contact Number)**

Sr. Technical Officer (2)  
Room No. 103, B Singh Advanced Mining Research Centre,  
CSIR- Central Institute of Mining & Fuel Research,  
Barwa Road, Dhanbad-826 001 (Jharkhand)  
Email: drjksingh@cimfr.nic.in  
Mobile: 9430136304

**4. Educational qualifications: (Graduation and above)**

Sl. No.	Degree	Year of Passing	University/Institute	Subject
1.	Ph.D	2016	IIT(ISM) Dhanbad	Electronics Engineering
2.	M.Tech	2008	IIT(ISM) Dhanbad	ECE
3.	B.E/B.Tech (AMIE Sec 'A' & 'B')	2005	The Institution of Engineers (India), Kolkata	ECE

**5. Work experience:**

Designation	Institute/company	From	To	Nature of Work
Joined as TA At present working as Sr. Technical Officer (2)	CSIR-Central Institute of Mining and Fuel Research, Dhanbad	02 November 1998	Continued	R&D work and related support

**6. Work Area/Specialization:** Intrinsic Safety /Opto-electronic Materials/Elec. & Comm. Engg.

**7. Major contributions: (Max. 100 words):** Design evaluation, testing and certification of intrinsically safe instruments; Product development, Patent; NABL accreditation; Research paper publication; R&D projects, Digital mine using IoT, EISTL lab establishment, Study of perovskite and chalcopyrite materials for solar cell applications; Consultancy projects; Supervision of B.Tech/ M.Tech project trainees, etc.

**8. No. of Research Publications:** 20

- **Papers in Journals:** 09
- **In conference proceedings:** 10
- **Invited lectures delivered:** 01
- **List of best 05 publications:** Listed below

1. Refractive index of different perovskite materials; **J. K. Singh**, S. K. Mandal and G. Banerjee, *Journals of Materials Research*, Vol. 36, No. 9, 2021, pp. 1773-1793.
2. An empirical modeling and evaluation approach for the safe use of industrial electric detonators in the hazards of radio frequency radiation; **J. K. Singh**, S. K. Mandal and G. Banerjee, *Journal of Scientific and Industrial Research*, Vol. 80, No. 1, 2021, pp. 27-33.
3. Modeling of design parameters of intrinsically safe instruments for the safety of oil, gas and coal industries; **J. K. Singh**, G Banerjee, A K Singh and R K Vishwakarma,

*International Journal of Oil, Gas and Coal Technology*, Vol. 22, No. 3, 2019, pp. 417-431.

4. Electronic, elastic and optical properties of divalent ( $R^{+2}X$ ) and trivalent ( $R^{+3}X$ ) rare earth monochalcogenides; V Kumar, S Chandra and **J K Singh**, *Indian J Phys*, Volume 91, Number 8, August 2017, pp. 875-881. (DOI 10.1007/s12648-017-0983-5).
5. Model for Calculating Refractive Index of Different Materials; V Kumar and **J K Singh**; *Indian Journal of Pure and Applied Physics*; Volume 48, August 2010, pp. 571-574.

#### **Books/Chapters authored/edited:**

1. Estimation of Electronic and Optical Properties of Chalcopyrite Semiconductors Using Machine Learning, S. K.Tripathy, J. K. Singh, G.M. Prasad F. A. Talukdar, *Springer Nature*, 2021

#### **9. List of 5 Major Contract R&D Projects:**

1. Development of Safety Testing Laboratory for Electronics & IT Products, Ministry of Communication and IT, DeitY, Electronics Niketan, 6 CGO Complex, New Delhi-110003; Team Member.
2. Development of Digital Mine using Internet of Things (IoT), Ministry of Communication and IT, DeitY, Electronics Niketan, 6 CGO Complex, New Delhi-110003; Team Member.
3. High Pressure Phase Transitions, Electronic, Elastic and Optical Properties of Selected Defect Chalcopyrite Semiconductors for Optoelectronic Application, Council of Scientific & Industrial Research, Ministry of Science & Technology, Government of India; Co-PI

#### **10. (a) Name of Patents/Copyrights applied /granted/commercialized:**

1. Intrinsically Safe Digital Fuel Meter, **Singh J K**, Chaulya S K, Banerjee G, Singh P K, Prasad G M, Chowdhury A, Kumar N and Kumar V, Ref. No. No.IPR/CIMFR/ PATENT/ July/01/18,Dated 20.07.2018.
2. Biometric Exploder; Chaulya S K, Roy S K, Roy P P, Singh P K, Banerjee G, **Singh J K**, Kumar N, Kumar V, Chatterjee D, Gosh T N, Ref. No. IPR/CIMFR/NA(7)/11(1)/17, Dated 24 Nov, 2017.
3. Intelligent Dust separation System for Mining Applications; Chaulya S K, Singh T B, Banerjee G, Singh P K, Kumar N, Kumar V, **Singh J K**, Gosh T N, Mondal R, Chatterjee D, Ref No. IPR/CIMFR/NA(5)/10(1)/17, Dated 12 Oct, 2017.
4. Automatic Head Lamp Dimming Device, Chaulya S K, Banerjee G, Singh P K, Prasad G M, Chatterjee D, Kumar N, Kumar V, **Singh J K**, Saurav K, Ref. No. IPR/ CIMFR/ PATENT/MARCH/01/18, Dated 27.03.2018.
5. Real Time Ground Safety Analysis System for Mines, Kumar R, Kumbhkar D, Mandal S K, **Singh J K**, Oraon S and Banerjee G, Ref. No. IPR/CIMFR/PATENT/June/02/18, Dated 19.06.2018.
6. Digital Mine using Internet of Things, Chaulya S K, Prasad G M, Mandal S K, Banerjee G, Singh P K, Chowdhury A, Priety, Kumar N, Kumar V, **Singh J K**, Pandit D, Mitra M, Mishra S S, Kumari K, Mishra R, Saurav K, Dey P, Md. Nadeem, Saw G. Ref. No. IPR/ CIMFR/PATENT/November/19(2), Dated 06.11.2019.

#### **(b) Technologies/Products /knowhow/Services developed: 01**

#### **11. Honors/Awards/Recognition/Fellowship/Scholar/Professional Membership received:**

- |  |                     |         |
|--|---------------------|---------|
| 1. GOLD MEDALIST (M.Tech)                      | IIT (ISM), Dhanbad, | 2008-09 |
| 2. Dr. S Bagchi Award (best Technical Officer) | CSIR-CIMFR, Dhanbad | 2017-18 |
| 3. The Institution of Engineers (India)        | A 540735-5          | 2005-06 |

#### **12. Societal Contributions:** contributed in food distribution during lockdown period 2020-21