

# Curriculum Vitae



## Personal Information

**Name** : DR. JITENDRA KUMAR SINGH

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## Educational Qualifications:

Degree	Name University/ Institute	Division/ Class	Discipline/Branch
High School	BSEB, Patna	First Division	All subjects as per BSEB
Diploma	IERT, Allahabad	First Class	Electronics Engineering
B.E/B.Tech (AMIE Sec 'A' & 'B')	The Institution of Engineers (India), Kolkata	IEI, Not Awarding Class or Div.	Electronics and Communication Engineering
M.Tech	IIT(ISM) Dhanbad	First Class First <b>Gold Medalist</b>	Electronics and Communication Engineering
Ph.D	IIT(ISM) Dhanbad		Electronics Engineering

## Research/Industry Experience:

Name of Institute	Post	From	To	Roles & Responsibilities
Dynarc Systems, Pune	Service Engineer	Dec'1996	Oct'98	Design, development, installation and servicing of automatic welding machines
CSIR-Central Institute of Mining and Fuel Research, Dhanbad	Sr. Technical Officer (2) ( <i>Present post</i> )	02 Nov' 2016	Contd....	Design and development of electronic and IT products for underground coal mines and other applications (06 Patents); Design evaluation, testing and certification of intrinsically safe instruments (10 Consultancy projects as PL); Establishment of 'Electronics & IT Products Safety Testing Laboratory (EISTL) at CSIR- CIMFR, Dhanbad, etc.

### Teaching Interest

- Optical Fiber Communication
- Optoelectronics
- Intrinsic Safety
- Advanced Mobile Communication

### Supervision of Bachelor thesis

Sr. No.	Title of project report	Name of Student and Institute	Pass out Year
1.	Electromagnetic radiation and energy harvesting through RF waves	Priyajit Patra KIIT, University, Bhubneshwar	Project Year -2017 (Session: 2014-18)
2.	Energy Harvesting From Electromagnetic Radiation	Sudhansu Shekhar, DIT, University, Dehradun	Project Year -2017 (Session: 2014-18)
3.	Design of Radio Frequency Sensor for Energy Harvesting	Divyansu Shekhar BIT, Sindri	Project Year -2017 (Session: 2014-18)
4.	Design of Radio Frequency Sensor for Energy Harvesting	Vikram Modi BIT, Sindri	Project Year -2017 (Session: 2014-18)
5.	A Review of Solar Cells and its application in Cell Phone Charging	Arpita Goswami SKMU, Manipal	Project Year -2017 (Session: 2014-18)
6.	Design and Development of Renewable Hybrid Power System (Solar + Wind)	Priya Singh Choudhary & Neha Kumari, GIET Khurda, Odisha	Project Year -2018 (Session: 2015-19)
7.	Design and Development of Renewable Hybrid Power System	Sweta Mishra Bengal College of Engineering and Technology, Durgapur, WB	Project Year -2018 (Session: 2015-19)
8.	Microcontroller Based LPG Leakage Detector Using GSM Module	Suraj Kumar Sinha, Nisha Rani, Diksha Kumari Dey and Purnima Kumari Mandal; Chaibasa Engineering College, Chaibasa, Jharkhand	Project Year -2018 (Session: 2015-19)
9.	Automatic Railway Control	Manoj Mandal BIT, Sindri	Project Year -2018 (Session: 2015-19)
10.	Design and Development of Renewable Hybrid Power System (Solar + Wind + Rain)	D Monisha Naidu SRM Institute of Science and Technology, Chennai	Project Year -2018 (Session: 2015-19)

### Knowledge Dissemination

Sr. No.	Name of the Course	Organizing Department	Role	Participating Organization
1.	Executive Development Programme on "Flame proof Equipment" 27-31 March 2017	Flameproof & Equipment Safety and Human Resource Development CSIR-CIMFR, Dhanbad	Lecture & Paper on Intrinsic Safety: An Overview	ONGC Executives of Mehsana
2.	Executive Development Programme on "Flame proof Equipment" 28-01 April 2016	Flameproof & Equipment Safety and Human Resource Development, CSIR-CIMFR, Dhanbad	Lecture on Intrinsic Safety	ONGC Executives of Mehsana, Ahemdabad, Mumbai, Shiv Sagar

### International / National SCI Journals

1. 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.
2. Development of dust ignition protected electrically powered forklift truck for combustible dust environment; R K Vishwakarma, A K Singh, B Ahirwal, Arvind Kumar, Navin Kumar and **J K Singh**, *Int. J. Oil, Gas and Coal Technology*, Vol. 20, No. 1, 2019. pp. 113-126.
3. 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).
4. Elastic properties of elemental, binary and ternary semiconductor materials; V Kumar, **J K Singh** and G M Prasad; *Indian Journal of Pure and Applied Physics*; Volume 53, 2015, pp. 429-435.
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.
6. Fabrication of High Brightness Blue LED; **J K Singh**, B R Singh, Kuldip Singh and V Kumar; *International Journal of Applied Engineering Research*; ISSN 0973-4562, Volume 5, Number 2, 2010, pp. 247-252.
7. Mathematical Model for Calculating Ionicity of Binary Semiconductors; **J K Singh** and V Kumar; *International Journal of Material Sciences*; ISSN 0973-4589 Volume 5, Number 1, 2010, pp.59-65.

### International Conferences

1. Modeling and Assessment of Radio Frequency Radiation Hazards in the Safe use of Commercial Electric Detonators; J K Singh, Gautam Banerjee, S K Chaulya & G M Prasad, *International Conference on Environmental challenges and Opportunities*, February 20-22, 2019 (ENCO-2019), Vigyan Bhawan, New Delhi.
2. Safety Aspects, Selection & Use of Equipment for Material Handling in Mining & Process Industries – from Conveying to Cranes (Accepted), R.K. Vishwakarma, B. Ahirwal, **J K Singh**, Arvind Kumar, A.K. Singh, G. Banerjee, NxGnMiFu, 15-17 Feb 2017, New Delhi.
3. Design of intrinsically safe circuit for use in hazardous areas; **J K Singh**, A K Singh, G M Prasad, R K Vishwakarma and B Ahirwal; *International seminar on “Recent Trends on Design, Development, Testing and Certification of Ex-equipment for Explosive Atmosphere; Kolkata; 7-9 November 2014.*
4. Testing and certification of flameproof/explosion proof equipment for use hazardous areas; H K Mondal, Arvind Kumar, Navin Kumar, **J K Singh**, B Ahirwal, R K Vishwakarma and A K Singh; *International*

seminar on “ Recent Trends on Design, Development, Testing and Certification of Ex-equipment for Explosive Atmosphere; Kolkata; 7-9 November 2014.

5. An overview of comparison between the zones and division system; Navin Kumar, H K Mondal, Arvind Kumar, **J K Singh**, B Ahirwal, R K Vishwakarma and A K Singh; International seminar on “ Recent Trends on Design, Development, Testing and Certification of Ex-equipment for Explosive Atmosphere; Kolkata; 7-9 November 2014.

### **National Seminars/Conferences**

1. Bulk modulus and Micro-Hardness of Ternary Semiconductors; V Kumar, **J K Singh**, G M Prasad and A Sinha; “Frontier in Electronics, Communication and Information Technology” FECIT-2011; Department of Electronics Engineering, ISMU, Dhanabd; 03-04 November’2011.
2. Bulk Modulus of  $A^I B^{III} C_2^{VI}$  and  $A^{II} B^{IV} C_2^V$  Chalcopyrite Semiconductors; V Kumar, **J K Singh**, G M Prasad and Vijeta Jha; National Seminar on “Nano-materials and Their Applications (NANOMAT-2011)”; Department of Physics, ISMU, Dhanbad; 10-11 February, 2010.
3. Mathematical Model for Calculating Refractive Index of Binary Semiconductors; **J K Singh**, V Kumar ; National seminar on “frontier in electronics and communication” Department of Electronics and Instrumentation, ISMU, Dhanbad; 13-15 October 2008
4. Relationship between bond length and ionicity; **J K Singh**, V Kumar; National Seminar on “Recent advances in material sciences” Department of Physics, ISMU, Dhanbad; 15-17 February 2008.
5. An Opto-electronic Approach for Energy Saving; **J K Singh**, A K Bandopadhyay, Kuldeep Singh and V Kumar; National Seminar on Advancement In Electronics and Communication Technology, Scope College of Engineering and Technology, Bhopal; 2-3 December 2007.

### **Development (Patents)**

<b>Sr. No.</b>	<b>Title of the Patent</b>	<b>Inventors</b>	<b>Ref. No.</b>
1.	Biometric Exploder	Chaulya Swadesh Kumar, Roy Sanjay Kumar, Pal Roy Pijush, Singh Pradeep Kumar, Banerjee Gautam, <b>Singh Jitendra Kumar</b> , Naresh Kumar Virendra Kumar, Chatterjee Debashish, Gosh Tanmaya Nemai	IPR/CIMFR/NA(7)/11(1)/17 Dated 24 Nov, 2017
2.	Intelligent Dust separation System for Mining Applications	Chaulya Swadesh Kumar, Singh Tej Bahadur, Banerjee Gautam, Singh Pradeep Kumar, Naresh Kumar Virendra Kumar, <b>Singh Jitendra Kumar</b> , Gosh Tanmaya Nemai, Mondal Ranjeet, Chatterjee Debashish,	IPR/CIMFR/NA(5)/10(1)/17 Dated 12 Oct, 2017
3.	Automatic Head Lamp Dimming Device	Chaulya Swadesh Kumar, Banerjee Gautam, Singh Pradeep Kumar, Prasad Girendra Mohan, Chatterjee Debashish, Naresh Kumar Virendra Kumar, <b>Singh Jitendra Kumar</b> , Kunal Saurav	No.IPR/CIMFR/PATENT /MARCH/01/18 Dated 27.03.2018
4.	Real Time Ground Safety Analysis System for Mines	Ranjan Kumar, D Kumbhkar, S K Mondal, <b>Jitendra Kumar Singh</b> , Sandip Oraon and Gautam Banerjee	No.IPR/CIMFR/PATENT/ June/02/18 Dated 19.06.2018

5.	Intrinsically Safe Digital Fuel Meter	<b>Singh Jitendra Kumar</b> , Chaulya Swadesh Kumar, Banerjee Gautam, Singh Pradeep Kumar, Prasad Girendra Mohan, Abhishek Chowdhury, Naresh Kumar and Virendra Kumar	No.IPR/CIMFR/PATENT/ July/01/18 Dated 20.07.2018
6.	Digital Mine using Internet of Things	Chaulya Swadesh Kumar, Prasad Girendra Mohan, Mandal Sujit Kumar, Banerjee Gautam, Singh Pardip Kumar, Chowdhury Abhishek, Priety, Kumar Naresh, Kumar Virendra, <b>Singh Jitendra Kumar</b> , Pandit Dewangshu, Mitra Mitrabarun, Mishra Shyam Sunder, Kumari Khushbu, Mishra Richa, Saurav Kunal, Dey Prasanjit, Md. Nadeem, Saw Gopalji.	No.IPR/CIMFR/PATENT/ November/19(2) Dated 06.11.2019

### **Peer Recognition (AWARDS)**

Name of Award	Awarding Institution	Course/Session
GOLDMEDAL Dr. S Bagchi Award (For best Technical Officer)	IIT (ISM), Dhanbad CSIR-CIMFR, Dhanbad	M.Tech 2017-18

### **Contributions to the institute (Setting up of Lab and its NABL Accreditation)**

Sr. No.	Name of Laboratory	Funding agency	Status
1.	Development of "Electronics & IT Products Safety Testing Laboratory" EISTL	Ministry of Communication and IT, DeitY, Electronics Niketan, 6 CGO Complex, New Delhi-110003	Lab established NABL Assessment completed
2.	NABL accreditation of FLP Lab	CSIR - CIMFR, Dhanbad	NABL Accredited

### **Trainings/Workshops attended**

Sr. No.	Name of Workshop/Course/Training	Organization	Date of start	Date of End
1.	Safety Testing Training Course	IIT Madras, Chennai	13.03.2019	14.03.2019
2.	Workshop on Intellectual Property Rights	CSIR-CIMFR Dhanbad	10.05.2018	11.05.2018
3.	NABL Accreditation and Internal Audit course as per ISO/IEC 17025-2005	HRD CSIR-CIMFR Dhanbad	08.02.2014	11.02.2014
4.	Laboratory Quality Management System & Internal Audit course as per ISO/IEC 17025-2005	NITS-BIS Noida	12.02.2013	13.02.2013
5.	Training Program on Competency Development for Technical Officers	CSIR-HRDC Ghaziabad	20.06.2011	24.06.2011
6.	Fiber Optic Sensors & Their Industrial Applications	Indian School of Mines, Dhanbad	10.01.2011	12.01.2011
7.	PLC System Programming and Installation (G.E Fanuc)	ATI-EPI Dehradun	05.09.2005	09.09.2005
8.	Calibration and Testing of Temperature Related Instruments	IDEMI, Mumbai	18.01.2005	20.01.2005
9.	Multimedia Systems and Communication	Indian School of Mines, Dhanbad	20.12.2004	24.12.2004
10.	Microprocessor	ATI Ludhiyana	03.02.2003	14.02.2003

## ***Others***

### **MEMBER OF PROFESSIONAL BODIES**

**Name of the Body**

**from Date**

The Institution of Engineers (India)

22 March 2006

### **AREA OF INTEREST**

- Optical communication
- Optoelectronic materials & devices
- Intrinsic safety for underground coal mines and process industries.
- Solar Cells