

Brief Bio-data

1. Name: Arvind Kumar
2. Date of Birth: 12/09/1973
3. Current position and Address (Included Email ID and Contact Number):
Senior Technical Officer (1),
Rock Excavation Engineering Group,
CSIR-Central Institute of Mining and Fuel Research, Dhanbad-826001,
E-mail:akumar@cimfr.nic.in /arvindcmri@yahoo.com, 94711 06807 (M)

4. Educational Qualifications: (Graduation and above)

Sl. No.	Degree	Year of Passing	University/Institute	Subject
1.	B.Sc.	1997	B.B.R.A.B.U, Muzaffarpur	Physics
2.	M.Sc.	1999	B.B.R.A.B.U, Muzaffarpur	Electronics

5. Work experience:

Designation	Institute	From	To	Nature of Work
Scientific Assistant	CSIR-CIMFR	18/07/2002	20/07/2010	-R & D on Ex equipment
Technical Officer	CSIR-CIMFR	21/07/2010	20/07/2015	-Design evaluation and testing & certification of Ex equipment
Sr. Technical Officer	CSIR-CIMFR	21/07/2015	Till date	- Testing, evaluation and R & D work related to mining explosive and accessories

6. Work Area(s)/ Specialization: Design evaluation of equipment and systems for classified hazardous (explosive gas and dust atmospheres) locations and evaluation of R& D work related to mining explosives and accessories.
7. Major Contributions: (Max. 100 words): Worked on design transformation of ,
 - A microprocessor based multi-channel intrinsically safe real-time environmental monitoring system [Patent No. 259777, date of Grant 27/03/2014]
 - Battery Operated Forklift trucks for combustible dust atmospheres for handling PTA bags in IOCL, Panipat. This was first time development in the country confirming safety norms for combustible dust area and saving important foreign exchange.
 - Electrical machines and purged panels for applications in classified areas of petroleum industries.
 - Completed physical assessment of electrical equipment installed in hazardous areas of ONGC assets and Cairn India.
 - Experimental work on explosion parameters of flameproof enclosures and design evaluation, testing and certification of different explosion proof equipment as per IS/IEC and EN standards.
8. No. of Research Publications: :41
 - Papers in journals :12
 - In conference proceedings :29
 - Invited lecture :0
 - List of best five publication

- i. Mishra, R.K., Kumar, Arvind, Kumar, N., Singh, A.K., and Singh, V.K., Design Construction And Testing Of High Voltage (H.V) Flameproof Electric Motors For Hydrogen Explosive Atmosphere (IIC) Case Studies, Journal of JSIR, Vol. 64, PP 185-190, 2005.
- ii. Vishwakarma, R.K., Singh, A.K., Ahirwal, B., Kumar Arvind, Kumar Navin, Explosion Pressure Development and Temperature Rise Classification of Low Rating Flameproof Electric Motors, International Journal of Petroleum Science & Technology, Vol. 4, Number 1-2, P1-7, 2010.
- iii. Singh A K, Vishwakarma, R.K., Ahirwal B, Kumar N, Kumar A & Sinha A, "Heavy Machineries in Classified Zone 22 Dusty Atmosphere A Case Study" International Journal of COMADEM, Vol. 14, Number 3, July 2011,
- iv. Kumar Arvind, Singh A K, Vishwakarma, R.K., "Design Evaluation and Temperature Rise Test of Flameproof Motor" International Journal on Recent and Innovation Trends in Computing and Communication, Vol. 6, Issue 7, PP 26-32, July 2018
- v. Vishwakarma, R.K., Singh, A.K., Ahirwal, B., Kumar Arvind, Kumar Navin, Singh, J.K. Development of dust ignition protected electrically powered forklift truck for combustible dust environment, International Journal of Oil, Gas and Coal Technology, Vol. 20, Issue1, 2019.
- Books/Chapters authored/edited: Nil
- 9.** List of 5 major contract R&D projects:
 - i. Assessment and advice for suitability of Electrical equipment & Heater Treater Transformers installed at hazardous area of Eastern, Western, Southern and Central Region of ONGC as per different relevant standards.
 - ii. Assessment and advice for healthiness/suitability of electrical equipment installed at hazardous area, sponsored by Cairn Energy India Pvt. Ltd.
 - iii. Development of Battery Operated Fork Lift Truck for safe use in zone-22 combustible dust atmosphere, sponsored by Action Construction Equipment P. Ltd., Palval (HR).
 - iv. Advice on quality of permitted explosives and detonators supplied by different firms for improvement of productivity of underground coal mines of SCCL.
 - v. Evaluation of Incendivity and other relevant properties of Indra Coal P-5 explosive and advice on its suitability for use in underground coal mines, sponsored by M/s. Regenesi Industries Pvt. Ltd.
- 10.(a)** No. of Patents granted/Copyrights applied/granted/commercialized:
 - ❖ A multichannel intrinsically safe environmental monitoring system for underground mines. (0418NF2002, No. 149/DEL/2003, 19/02/2003). Patent No. 259777, date of Grant 27/03/2014. transfer of technology (ToT) to M/s Jagdamba Co., Dhanbad.
 - ❖ Software copyright: Data acquisition software (DAS) for environmental monitoring (003CR2003, 02/05/2003; SW-1555/2004, 23/03/2004) CIMFR ref no. K/copyright/I/2002/1306, dt. 19th dec. 2002.
- (b)** Technologies/Products/knowhow/Services developed:
 - ❖ A multichannel intrinsically safe environmental monitoring system for underground mines.
 - ❖ Development of battery operated Fork lift for zone 22 hazardous area.
 - ❖ Development of Diesel Engine operated Fork Lift.
- 11.** Honors/Awards/Recognitions/Fellowships/Scholarships/ Professional Memberships received: Nil
- 12.** Societal Contributions: Actively involved in the various program organized by of CSIR-CIMFR for the benefit of society like Jigyasa, IISF, etc..