



1. **Name:** Arvind Kumar
 2. **Date of Birth:** 12/09/1973
 3. **Current position and Address:** Technical Officer
 (with E-mail & Phone) Explosive & Explosion Laboratory,
 Rock Excavation Engineering Group
 CSIR-Central Institute of Mining and Fuel Research, Dhanbad
 E-mail: akumar@cimfr.nic.in/arvindcmri@yahoo.com,
 Phone: +91326 229 6040(O) EPABX Extn.: 4286/4225 (O),
 94711 06807 (M)

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

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

5. **Work experience:**

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

6. **Area of specialization:** Design evaluation of equipment and systems for classified hazardous (explosive gas and dust atmospheres) locations.

7. **Honors/Award received:** Nil

8. **Fellowships/Scholarships:** Nil

9. **No. of Research Publications:** :38
 ❖ **Papers in journals** :09
 ❖ **In conference proceedings** :29
 ❖ **Invited lecture** :0
 ❖ **List of best five publication**

1. Vishwakarma, R.K., Singh, A.K., Ahirwal, B., **Kumar Arvind**, Kumar Navin, (2010). *Explosion Pressure Development and Temperature Rise Classification of Low Rating Flameproof Electric Motors*, International Journal of Petroleum Science & Technology, Vol. 4, Number 1-2, 1-7.

2. Singh A K, Vishwakarma, 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, Number of pages 6; References 7

3. Kumar, S., Bandopadhyay, L. K., **Kumar, A.**, and Narayan, A., (2003) *Improvised Wireless Communication System For Underground Coal Mines Utilizing Active Antenna* MineTech, Vol.24, No. 1, P. 38 – 41.

4. **Kumar, Arvind**, Chaulya, S.K., Kumar, S., and Bandopadhyay, L. K., (2003) *Trapped Miners Detection, Location and Communication System*, MineTech, Vol.24, No. 6, P. 1 –13.

5. Mishra, R.K., Kumar, **Arvind**, **Kumar, N.**, Singh, A.K., and Singh, V.K., (2005) *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. (I F: 0.385).

10. Number of Books authored/edited: Nil

11. (a) No. of Patents granted/applied for: 03

- ❖ A multichannel intrinsically safe environmental monitoring system for underground mines. (CSIR reference NF/418/02, Application no.149DEL2003, dt. 19th feb. 2003).
- ❖ A device for clamping armoured cable in the cable gland (Patent Appl. no. 614/DEL/2009, DOP: 14/01/2011)
- ❖ Purging or Ventilation System and Control unit or apparatus for Increased safety and Non-sparking motors for explosive gas and dust atmospheres. (Patent Appl. No. 865/DEL/2011, DOP: 22/11/2013)

(b) Technologies developed, Licensed and /or commercialized: 04

- ❖ 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.
- ❖ Software copyright: Data acquisition software (DAS) CIMFR ref no. K/copywright/I/2002/1306, dt. 19th dec. 2002

12. Foreign visits: Nil

13. Details of Professional memberships: Nil

14. Major Contributions: (Max. 150 words)

Worked on design transformation of ,

- ❖ A microprocessor based multi-channel intrinsically safe real-time environmental monitoring system[Patent No. 149DEL2003, transfer of technology (ToT) to M/s Jagdamba Co., Dhanbad]
- ❖ 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.
- ❖ Received training for ISO/IEC 17025. Involved in getting laboratory accreditation from NABL for testing and certification of Ex equipment as per IS/IEC standards of FLP Lab of our institute.

15. Technologies and products/Services:

i) **Developed:** 04

ii) **Licensed:** 02

iii) **Commercialized:** 01

A microprocessor based multi-channel intrinsically safe real-time environmental monitoring system[Patent No. 149DEL2003, transfer of technology (ToT) to M/s Jagdamba Co., Dhanbad]

16. Designs and Prototype developed: 02

17. Honours and awards won for technology contributions or sociological impact of R&D: Nil