



1. Name :**Dr. Arvind Kumar Singh**

2. Date of Birth : 15.03.1963

3. Current Position and Address

(with E-mail & Phone no.) : Senior Principal Scientist & Head of the Section

Flameproof & Equipment Safety,

CSIR-Central Institute of Mining & Fuel Research, Barwa Road
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4. Educational qualifications: (Graduation and above):

Sl. No.	Degree/ certificate	Year of passing	University/ institute	Subjects
1	B.Sc.	1981	Gorakhpur University	Physics, chemistry, mathematics
2	M.Sc.	1983	B.H.U., Varanasi	Physics
3	Ph.D.	1989	B.H.U., Varanasi	Physics

5. Work experience :

Mine ventilation, Mine Fire and Flameproof Testing and Certification.

6. Area of specialization : Mine ventilation, Mine fire control and safety instrumentation.

7. Honours/Awards received: Nil

8. Fellowship/Scholarships: Akikrit and Merit Scholarship by Uttar Pradesh Govt.

9. No. of Research Publications:

- Papers in journals:42 nos.

- In conference proceedings :65

- Invited/key-note addresses: Nil

- List of best 05 publications:

(i) **Singh, A. K.**, Ahmad, I., Sahay, N., Verma, N. K. & Singh, V. K. “*Air leakage through underground ventilation stopping’s and in situ assessment of air leakage characteristics of remote filled cement concrete plug by tracer gas technique*”. The Journal of the South African Institute of Mining and Metallurgy Vol. 104, No. 2, 101-106, 2004, South Africa.

(ii) Ahirwal, B., **Singh A.K.**, Vishwakarma R.K., Sinha Amalend., “*Increased Safety Protection and Energy Conservation for Motors installed in Zones 1 & 2 Hazardous Areas using Variable Speed Drives (VSDs)*”, International Journal of COMADEM, Vol. 12, No. 3, 2009, United Kingdom.

(iii) 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, No. 1-2, 2010, India.

- (iv) Ahirwal, B., Vishwakarma R.K., **Singh A.K.**, Sinha Amalendu. “*Study of Minimum Overpressure Location on High Tension Purged and Pressurized Protected Ex ‘p’ Motor for Explosive Atmospheres*”. International Journal of Electrical Power and Energy Systems, Vol. 41, 2012, United Kingdom.
- (v) **Singh, A.K.**, Vishwakarma, R.K., Ahirwal, B., Kumar, N., Kumar, A. and Sinha, A. “*Heavy machineries in Classified Zone 22 Dusty Atmosphere: A Case Study*”, International Journal of COMADEM, Vol. 14, No. 3, 2011, United Kingdom.

10. Number of Books authored/edited:

- i. “**Testing & Certification of Ex Equipment**”, *Proceedings of First International Seminar, (TECEX 2003), Dhanbad, 2003.*, Singh, V.K., **Singh, A.K.**, Gupta, B.K.
- ii. “**Recent trends in design, development, testing and certification of Ex equipment**”, ISBN 978-81-8465-126-3, *Proceedings of 1st International Seminar on Explosive Atmospheres (DTEX-2009), Dhanbad, 2009*, **Singh, A.K.**, Vishwakarma, R.K., Ahirwal, B.
- iii. “**Recent Trends in Design, Development, Testing & Certification of Ex-equipment for Explosive Atmosphere**”, ISBN 978-93-5196-303-5, *Proceedings of 2nd International Seminar on Explosive Atmospheres (DTEX-2014), Kolkata, 2014*, **Singh, A.K.**, Vishwakarma, R.K., Ahirwal, B.

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

- i. **A device for clamping armoured cable in the cable gland** (January, 2009) (Application No. 0614DEL2009/IN (27/03/2009)), Vishwakarma R.K., **Singh A.K.**, Ahirwal B., Sinha Amalendu.
- ii. **Purging or Ventilation System and Control unit or apparatus for Increased safety and Non-sparking motors for explosive gas and dust atmospheres.** (March, 2010), Vishwakarma R.K., **Singh A.K.**, Ahirwal B., Sinha Amalendu.

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

- i. Development of battery operated Fork lift for zone 22 hazardous area.
- ii. Development of Diesel Engine operated Fork Lift.

12. Foreign visits :

- i. Dubai, UAE: For technical discussion of Data Acquisition System for Oil mines
- ii. China: For technical discussion and temperature assessment of FLP and Exi equipment for road header.

13. Details of Professional memberships:

Member of ET22 committee of BIS on equipment for explosive atmosphere

14. Major contributions: (Max. 150 words)

i. Chamber Method of Ventilation: A proven Technology for reducing leakage of air into goaf.

ii. Simulation of open fire in mine gallery for suppression of fire & explosion.

iii. Studies on Problems of spontaneous heating in coal pillars.

iv. Technique of tracer gas (SF₆) for air leakage.

v. Testing and Certification of Flameproof, Intrinsically safe, Increased safety, Non-sparking, Pressurised, Encapsulated and other Ex equipment for use in hazardous areas as per IS/IEC and other equivalent standards.

15. Technologies and Products/Services

(i) Developed:

a. Development of battery operated Fork lift for zone 22 hazardous area.

b. Development of Diesel Engine operated Fork Lift.

(ii) Licensed : Nil

(iii) Commercialized : Nil

16. Designs and Prototype Developed: Nil

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

Signature