

1. Name: **Dr. Bhagirath Ahirwal**

2. Date of Birth: January, 1975

3. Current Position and Address:
(with E-mail & Phone no.)

Principal Scientist
Material Testing Laboratory
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4. Educational qualifications: (Graduation and above)

Degree	Year of passing	College/University	Subject
B. E.	1996	Indira Gandhi Govt. Engineering College, Sagar (M.P.)	Electrical Engineering
PhD.	2014	IIT- ISM, Dhanbad	Electrical Engineering*

*Title of Thesis: **Some studies on safety aspects of high tension increased safety squirrel cage induction motor for hazardous area**

5. Work experience

Designation	Institution/company	From	To	Nature of work
Electrical Engineer	Indian Rare Earths Ltd., Under Deptt. of Atomic Energy, Govt. of India	29/09/1997	20/03/2002	Worked as a Electrical Engineer.
Scientist-B	CSIR- Central Institute of Mining and Fuel Research, Dhanbad (CSIR-CIMFR)	21/03/2002	21/03/2006	-R & D on Ex equipment -Design evaluation and testing & certification of Ex equipment
Scientist-C	CSIR- Central Institute of Mining and Fuel Research, Dhanbad (CSIR-CIMFR)	21/03/2006	21/03/2010	-R & D on Ex equipment -Design evaluation and testing & certification of Ex equipment
Sr. Scientist	CSIR- Central Institute of Mining and Fuel Research, Dhanbad (CSIR-CIMFR)	21/03/2010	20/3/2014	-R & D on Ex equipment -Design evaluation and testing & certification of Ex equipment
Principal Scientist	CSIR- Central Institute of Mining and Fuel Research, Dhanbad (CSIR-CIMFR)	21/03/2014	Till date	- R & D on Ex equipment - Design evaluation and testing & certification of Ex equipment - Testing & certification of mining wire rope and other mechanical components.

6. Area of specialization:

- Design assessment of Intrinsic Safety and Flameproof Equipment
- Assessment of Exe/Exd/Exp/Exn Motors for hazardous area
- Testing and Certification of all type Ex electrical and electronic equipment as per National and International Standards.

7. Honors/Awards received:

1. **National Mining Engineering Design Award -2015** conferred by IEI (India).
2. **Excellence in Leadership Award-2016** conferred by The International Society of Automation (ISA) Asia Pacific Dist. 14 (India, Japan and Singapore) for outstanding contribution in electronic equipment for hazardous area.

8. Fellowships/Scholarships:

Nil

9. No. of Research Publications:

- Papers in journals: **25**
- In conference proceedings: **55**
- Invited/key-note addresses: **One**
- List of best 05 publications:

- [1] **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", *Elsevier-International Journal of Electrical Power and Energy Systems*, USA, Vol. 41, pp. 120–123, 2012.
- [2] **Bhagirath Ahirwal** & Prof. Tarun Kumar Chatterjee, "Design, ignition risk assessment and testing of increased safety HT induction motor for explosive atmospheres", *IET Electric Power Applications*, UK, Vol. 7, Issue 5, pp. 1-8, May 2013.
- [3] **Bhagirath Ahirwal**, A. K. Singh, R. K. Vishwakarma, Amalendu Sinha, "Increased Safety Protection and Energy Conservation for Motors installed in Zones 1 & 2 Hazardous Areas using Variable Speed Drives (VSDs)", *International Journal of COMADEM*, UK, Vol. 12, No.3, pp. 15-23, July 2009.
- [4] **Bhagirath Ahirwal** & Tarun Kumar Chatterjee, "Design, Testing Analysis of High Tension Increased Safety Motor for Hazardous areas", *TELKOMNIKA Indonesian Journal of Electrical Engineering* , Vol 15, No 2, August, 2015.
- [5] **Bhagirath Ahirwal** and Prof. Tarun Kumar Chatterjee, "Effect of rotor winding mass on the temperature rise and performance of increased safety HT induction motor for hazardous area", *Majlesi Journal of Mechatronics Systems*, Iran, Vol 2, No.2, pp. 37-47, June, 2013.

10. Number of Books/proceedings authored/edited: Two

Sl No.	Editors	Title	Publisher, ISBN and Year
1.	A. K. Singh, R. K. Vishwakarma and Bhagirath Ahirwal	Design, Development, Testing and Certification of Ex-equipment	Flame & Explosion Lab., CSIR-CIMFR, ISBN:978-81-8465-126-3 Year :2009 © 2009, Copyright Reserved
2.	A. K. Singh, R. K. Vishwakarma and Bhagirath Ahirwal	Recent Trends in Design, Development, Testing and Certification of Ex-equipment	Flame & Explosion Lab., CSIR-CIMFR, ISBN:978-93-5196-303-5 Year: 2014 © 2014, Copyright Reserved

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

1.	Title of the patent	A device for clamping armoured cable in the Cable Gland
	Inventors	Vishwakarma R.K., Singh A. K., Ahirwal Bhagirath, Sinha Amalendu
	International classification	B21B36/00
	Patent application No.	614/DEL/2009A
2.	Title of the patent	Purging or Ventilation System and Control unit or apparatus for Increased safety and Non-sparking motors for explosive gas and dust atmospheres
	Inventors	Vishwakarma R.K., Singh A. K., Ahirwal Bhagirath, Sinha Amalendu
	International classification	H02K
	Patent application No.	865/DEL/2011A

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

12. Foreign visits:

Dubai, China, Spain and USA.

13. Details of Professional memberships:

- (i) Member of International Association of Engineers.
- (ii) Member of ET22 Sectional Committee of Bureau of Indian Standard, New Delhi.
- (iii) Member of International Society of Automation.
- (iv) A. Member of the Institution of Engineers (India).

14 . Major contributions: (Max. 150 words)

Completed numbers of projects related Ex equipment for assessment and advice on design and development of explosionproof (Ex) electrical and electronic equipment for BHEL, ECIL, ONGC, Oil India, Cairn Energy etc. Assessed and certified Ex electrical and electronic equipment used in hazardous areas of coal mines, oil mines, petrochemical & refineries, defence etc. as per National and International standards. Delivered many lectures on FLP, intrinsic safety and increased safety protection to ONGC and Coal India executives. Technical suggestion have been given to BIS, DGMS, PESO on flameproof equipment time to time.

15. Technologies and Products/ Services

- (i) Developed:
- (ii) Licensed:
- (iii) Commercialized:

16. Designs and Prototype Developed:

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

1. National Mining Engineering Design Award -2015
2. Excellence in Leadership Award-2016

(Dr. Bhagirath Ahirwal)
Signature