Brief Bio-Data

1. Full Name : Dr. G. M. Prasad

2. Date of birth : 21st September 1962

3. Current Position & Address : Chief Scientist

Mine Mechanization, Automation & Technology Development Research Group
Central Institute of Mining & Fuel Research
Barwa Road, Dhanbad - 826 015, Jharkhand, India
Email: prasadgm@cimfr.nic.in; prasadgm@yahoo.com
Ext. 4243 (O); 9430149978(M).

4. Educational Qualifications:

Degree	Year of Passing	University/ Institute	Subject	Div./Class/Grade / Scholarship
Ph. D.	1997	IIT (ISM), Dhanbad	Applied Physics	-
M.Sc.	1985	Ranchi University, Ranchi	Physics with Electronics Specialization.	1st Class
B.Sc.	1982	Ranchi University, Ranchi	Phy.(Hons), Chem., Math.	1st Class

5. Work Experience:

Sl.No.	Designation	From	To	Institute/Company	Nature of work
1.	Lecturer in Physics	17-08-1985	05-05-1987	Mahuda Mahavidyalaya, Mahuda, Dhanbad	Teaching UG students
2.	Jr. Research Fellow	06-05-1987	05-05-1989	CSIR-CIMFR Dhanbad	R&D Work
3.	Sr. Research Fellow	06-05-1989	29-10-1989	-do-	-do-
4.	Junior Scientist	30-10-1989	29-10-1994	-do-	-do-
5.	Scientist	30-10-1994	29-10-1999	-do-	-do-
6.	Senior Scientist	30-10-1999	29-10-2004	-do-	-do-
7.	Principal Scientist	30-10-2004	29-10-2009	-do-	-do-
8.	Senior Principal Scientist	30-10-2009	29-10-2017	-do-	-do-
9.	Chief Scientist	30-10-2017	continuing	-do-	-do-

6. Work Area(s)/Specialization: Electronics, studies of electronic properties of semiconducting materials, fiber optic Communication, development of instrumentation/technology for mine safety and testing & certification of electronics & IT products related to safety.

7. Major contributions (Max. 100 words):

I have worked in the field of communication, sensing and monitoring technologies, safe use of electrical and electronic equipment in mines, monitoring and upgradation of various testing, analysis and calibration related activities of the Institute. As a project leader/coordinator, I have completed successfully various S&T National Mission R&D projects, sponsored by different ministries of Govt. of India. The technologies developed under these projects have been filed for patent and few of them have been transferred for commercialization. I have

published more than 70 research papers in different national, international journals, seminars & symposia and guided two students for his Ph.D. degree from IIT(ISM), Dhanbad.

8. No. of Research Publications:

(a) Papers in Journals : 34
(i) International Journals : 22
(ii) National Journals : 12
(b) In conference proceedings : 38
(c) Invited lectures delivered : 01
(d) List of best 05 publications :

1. Application for gas monitoring sensors in underground coal mines and hazardous areas.
   A.Kumar, T.M.G. Kingson, R.P. Verma, A. Kumar, R. Mondal, S. Dutta, S.K. Chaulya and **G.M. Prasad**.
   International Journal of Computer Technology and Electronic Engineering (IJCTEE), **3**, No. 3, **2013**, p.9-23.
2. Elastic properties of elemental, binary and ternary semiconductor materials.
   V. Kumar, J.K. Singh and **G.M. Prasad**.
   Indian Journal of Pure & Applied Physics, 53, **July, 2015**, p. 429-435.
3. Coal production and transportation monitoring system for opencast mines.
   S.K. Chaulya, **G.M. Prasad**, S. Ansari, R. Kumar and D. Kumar.
   Journal of Mines, Metals & Fuels, 64, No.9**, Sept., 2016,** p. 437-445.
4. Laboratory investigation on underground coal gasification technique with real-time analysis.
   R. Mandal, T. Maity, S.K. Chaulya, and **G.M. Prasad.**
   Fuel, 275, April, 2020, 117865, DOI: https://doi.org/10.1016/j.fuel.2020.117865.
5. Fugitive dust emission control study for a developed smart dry fog system.
   S.K. Chaulya, A. Chowdhury, S. Kumar, R.S. Singh, S.K. Singh, R.K. Singh, **G.M. Prasad**, S.K. Mandal and G. Banerjee.
   Journal of Environmental Management, 285, May, 2021, 112116.
   DOI: https://doi.org/10.1016/j.jenvman.2021.112116.

(e) Books/Chapters authored/edited: Coauthored one book:
Title of the book: "*Sensing and Monitoring Technologies for mines and hazardous areas."*
Authors: S.K. Chaulya & **G.M. Prasad**.
Publisher: Elsevier. NY, USA, 2016.

9. List of 5 Major Contract R&D Projects:

1. Development of Landslide monitoring and alerting system for North eastern regions of India using wireless sensor network. Project No.: GAP/81/ME/MCIT/2009-10.
Sponsored by Ministry of Electronics & Information Technology (MeitY), New Delhi.
2. Development of feasibility assessment model for adaptation of underground coal gasification technology in the North-East Region of India.
Project No.: GAP/93/ME/MCIT/2012-13.
Sponsored by Ministry of Electronics & Information Technology (MeitY), New Delhi.
3. Development of tracking system for controlling illegal mining and coal transportation in North-East coalfields, Assam.
Project No.: GAP/99/ME/MCIT/2013-2014.
Sponsored by Ministry of Electronics & Information Technology (MeitY), New Delhi.
4. Development of digital mine using Internet of Things.
Project No. GAP/108/ME/MCIT/2017-18.
Sponsored by Ministry of Electronics & Information Technology (MeitY), New Delhi.
5. Development of vision enhancement system for foggy weather
Project No. GAP/114/ME/MCIT/2018-19.
Sponsored by Ministry of Electronics & Information Technology (MeitY), New Delhi.

10. (a) Name of Patients/Copyrights applied/ granted/commercialized:

Patients filed:

1. Landslide detection and alerting system using wireless sensor network,0165NF2012, 2444/DEL/2013, dated 19.8.2013.
2. Integrated Strata, Gas and Environment Monitoring System for Underground Mines, 2477DEL2015, dated 12.08.2015 (108 NF 2015).
3. Mine transport surveillance system, 2107/DEL/2015, dated 13.07.2015) (106 NF 2015).
4. Local methane detector,17 NF 2016. Application no 0017NF2016 (201611011071) complete specification has been filed in patent office dated 06.03.2017. Docket no. 14445, CBR No 9071. 201611011071 dated 06.03.2017.
5. Vision Improvement Device for Harsh Atmosphere Caused by Temperature Attenuation (VIDHATA), 0174NF2017; (201811808681dated: 8.03.2018)
6. Digital mine using Internet of Things, 0002NF2020 dated 07.01.2020, Application No: 2020110292344, dated 10.07.2020.
7. Portable weather and environmental monitoring system, 0006NF2020, dated 09.01.2020, Application no.: 2020011037361dated 30.08.2020.

Copyrights applied:

1. Landslide Monitoring and Prediction Software, 008CR2013, 07.02.2013; L-54265/2013, dated 23.09.2013.
2. Digital Mine (DM) Software; (007CR2020, 20.10.2020), No. SW-13978/2020, dated 10.11.2020.
3. Mine Environment Monitoring and Prediction (MEMP) Software; (008CR2020, 20.10.2020), dated 14.10.2020
4. Integrated Rural Facilitation Software (Gramin Mitra); (052CR2020, 26.10.2020), No. SW-13961/2020, dated 09.12.2020
5. Gramin E-Bazar Software (047CR2020), Date of Filing: 03.12.2020, Copyright Application No. 20007/2020-CO/SW, dated 01.12.2020

(b) No. of Technologies/Products/Knowhow/Services developed/transferred:

(i) Developed: 07
(ii) Licensed: 01
(iii) Commercialized: 03

11. Honours/Awards/Recognitions Fellowships/Scholarships/Professional Memberships received:

(a) Honours/Awards received:

Received Merit Certificate for 'CSIR Technology Award 2018' at Vigyan Bhawan, New Delhi, for implementing our own developed technology 'Mine transport Surveillance System' in Indian Mines.

(b) Details of Professional memberships:

Sl.No.	Name of Society/Institution	Class of Membership
1.	Indian Science Congress Association (ISCA)	Life Member
2.	The Institution of Electronics and Telecommunication Engineers (IETE)	Fellow (Life Member)
3.	The Mining, Geological and Metallurgical Institute of India (MGMI)	Life Member

12. Societal Contributions: One project from MeitY, GoI, has been undertaken by us on "Setting up of Information and Facilitation Centre for Empowering Living of Scheduled Caste in Jharkhand State" for social upliftment of the SC community by providing them training on IT tools, for selling their village products through e-commerce portal & app "Gramin E-Bazar", skill acquisition and knowledge for their livelihood, preservation & promotion of local culture, health & nutrition advice for women through VC and soil & drinking water analysis facilities for farmers.