

Brief Bio-data

1. **Name:** Dr. Abhay Kumar Bharti

2. **Date of Birth:** 01-01-1990

3. **Current Position and Address:** Scientist, Mine Planning and Economics Subsidence and Surveying, CSIR-CIMFR, Dhanbad
Jharkhand-826001

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Google scholar: <https://scholar.google.com/citations?user=9SDzIUkAAAAJ&hl=en>

4. Educational qualifications:

| Sl. No. | Degree | Year of Passing | University/Institute | Subject |
|--|-----------|-----------------|----------------------|--|
| 1 | B. Sc | 2010 | Gorakhpur University | Physics, Chemistry, Math |
| 2 | M.Sc Tech | 2013 | ISM, Dhanbad | Applied Geophysics |
| 3 | P. hD | 2016 | IIT(ISM), Dhanbad | Enviornmetal and Mining Geophysics |
| Ph. D thesis title: Electrical Resistivity Tomography for Mapping of Coal Mine Voids over Parts of Jharia and Raniganj Coal fields, India | | | | |

5. Work experience:

| Designation | Institute/company | From | To | Nature of Work |
|--------------------------------------|-------------------|-----------------------------|-----------------------------|----------------|
| National Postdoctoral Fellow (N-PDF) | CSIR-CIMFR | 6 th Feb, 2017 | 5 th Feb, 2019 | Research work |
| Project Assistant Level-III | CSIR-CIMFR | 7 th June, 2019 | 12 th July, 2021 | Research work |
| Scientist | CSIR-CIMFR | 15 th July, 2021 | Till date | Research work |

6. Work Area(s)/ Specialization:

- Environmental and Mining Geophysics
- Near surface geophysical problem
- Geophysical Exploration
- Groundwater exploration

7. Major contributions:

1. Coal mine voids generated from coal fire over Patherdih Colliery, Jharia Coalfield, have been identified successfully.
2. Old mine workings, galleries / voids over East Basuria Colliery Jharia Coalfield, have been delineated successfully and correlated well with available surface plan
3. Illegal mine workings and associated subsidence near abandoned Khudia Opencast mine have been delineated successfully.
4. Magnetic method has been used for Coal fire mapping of East Basuria Colliery, Jharia coal field using Vertical Derivative Technique.
5. Groundwater exploration in hard rock terrain

8. No. of Research Publications:

- **Papers in Journals:** 11
- **In conference proceedings:** 08
- **Invited lectures delivered:**
- **List of best 05 publications**

- 1 **Bharti A K**, Prakash A, Verma A, Singh K K K Assessment of hydrological condition in strata associated with old mine working during and post monsoon using Electrical Resistivity Tomography: a case study. Bulletin of Engineering Geology and the Environment, 80, 5159–5166, 2021 (<https://doi.org/10.1007/s10064-021-02208-3>)
- 2 **Bharti A K**, Pal S K, Saurabh, Kumar S, Mondal S, Singh K K K, Singh P K Detection of old mine workings over a part of Jharia coal field, India using Electrical Resistivity Tomography. Journal of the Geological Society of India, 94, 290–296 2019
- 3 **Bharti A K**, Pal S K, Saurabh, Singh K K K, Singh P K, Prakash A and Tiwary R K, Groundwater prospecting by inversion of cumulative data of Wenner–Schlumberger and dipole–dipole arrays: a case study at Turamdih, Jharkhand, India, Journal of Earth System Science, 128:107, 2018
- 4 **Bharti A K**, Pal S K, Priyam P, Pathak V K, Kumar R, Ranjan S K, Detection of illegal mine voids using electrical resistivity tomography: the case-study of Raniganj coalfield (India), Engineering Geology, 120–132., 213, 2016
- 5 **Bharti A K**, Pal S K, Priam P, Kumar S, Shalivahan, Yadav P.K, Subsurface cavity detection over Patherdih colliery, Jharia Coalfield, India using electrical resistivity tomography, Environmental Earth Sciences, 1-17., 75(5), 2016

- **Books/Chapters authored/edited:**

9. List of 5 Major Contract R&D Projects

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

(b) Technologies/Products /knowhow/Services developed:

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

| S. No | Name of Award | Awarding Agency | Year |
|-------|---|---|------|
| 1 | PACE Travel Grant support for attending the Near Surface Geoscience Conference and Exhibition 2018, to be held in Porto, Portugal between 9-13 September | EAGE PACE and Travel Grants | 2018 |
| 2 | International Travel Support Scheme- Participating in 22 nd European Meeting of Environmental and Engineering Geophysics to be held from 4-8 September, 2016 in Barcelona, Spain | Science and Engineering Research Board (SERB) | 2016 |

12. Societal Contributions: Jigyasa, Vigyan Bharti