Brief Bio-data

1. Name: **Dr. Sudhir Krishna Bharati**
2. Date of Birth: 28/05/1970
3. Current Position and Address (Include Email ID and Contact Number):
   Senior Principal Scientist, CSIR-CIMFR, Digwadih Campus,
   dr_sk_bharati@yahoo.com., 9431187740 (M) 0326-2388324(O).
4. **Educational qualifications:** (Graduation and above)

Sl. No.	Degree	Year of Passing	University/Institute	Subject
1	B.Sc.	1993	Milind Science College, Aurangabad. (M.S)	Botany, Chemistry, Zoology
2	M.Sc.	1995	Dr. BAM University, Aurangabad. (M.S)	Environmental Sciences
3	Ph.D.	1998	Dr. BAM University, Aurangabad. (M.S)	Environmental Sciences

5. Work experience:

Designation	Institute/company	From	To	Nature of Work
Scientist B	CSIR-CFRI	03.05.1999	02.05.2002	Scientific
Scientist C	CSIR-CFRI	03.05.2002	02.05.2006	Scientific
Senior Scientist	CSIR-CIMFR	03.05.2006	02.05.2011	Scientific
Principal Scientist	CSIR-CIMFR	03.05.2011	02.05.2019	Scientific/Admin
Sr. Principal Scientist	CSIR-CIMFR	03.05.2019	Till Date	Scientific/Admin

6. Work Area(s)/ Specialization:

Environmental Sciences, Biopollution and Human health, Aerobiology.

7. Major contributions: (Max. 100 words):

Bio-pollution studies: Airborne biopollutents studies in relation with human health hazards were carried out for the very first time in the various parts of Jharkhand state. Biopollution studies carried out in and around various coalbased industrial areas revels spectrum of biological particulates responsible for causing allergic disorders in sensitive individuals. Prepared Pollination, Fungal, Algae and dust mite calendars for Dhanbad, Ranchi, Jamshedpur, Hazaribagh and Bokaro district.

8. No. of Research Publications:

- Papers in Journals : 11
- In conference proceedings : 48
- Invited lectures delivered : 08
- **List of best 05 publications:**

1. Mass Balance of Heavy Metal of fly ash in soil and crops (2018) *R.C Tripathi, S.K.Jha, S.K.Bharati and N.K.Srivastava* J. Hazardus Toxic Radioactive Waste. ASCE-Vol.22(4) 04018032(1-6).

2. Studies on House Dust Mites in Different Environs of Jharia Coalfields Dhanbad, Jharkhand (2012). *Rumi Ranjan, S. K. Bharati, Shilpa Kaur and Shailendra Kumar Sinha,* J. The Ecoscan, Special Volume 1: pp-143- 146.

3. Madhu Jha, Sanjoy Misra and S.K.Bharati. (2010) *A report on Seasonal variation in SPM, SOx and NOx in Jharia coalfields..* J. The Ecoscan, 4(4), 2010 pp-281-284.

4. Faunal Diversity of House Dust Mites in Grocery shop in coal mining area of Dhanbad, India, Manju Kumari Saw, Sudhir Krishna Bharati, and Shailendra Kumar SinhaJ. Exp. Zool. India Volume 21 No.2, pp1261-1266, 2018.

5. Species composition and prevalence of dust mites in flour mill of Dhanbad district, Jharkhand, Manju Kumari Saw, Sudhir Krishna Bharati, and Shailendra Kumar Sinha, J. Environment and Bio Sciences, Volume 32(2):309- 312, 2018.

- **Books/Chapters authored/edited**: 4

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

1. **GAP- S&T grant** of Department of Coal, Govt. of India (project code SSRC EE-29) 2003-2007. Studies on the impact of atmospheric biotic/abiotic particulates on the environment of Jharia coalfields and their abatement strategies.

2. **CSIR Task Force** Project on Pollution Monitoring Mitigation Systems and Devices Programme: Development of state-of-art sensors for pollution and receptor monitoring, Pollutant specific bio-aerosol sensors for open cast coalmines and thermal power plant environments. *(Activity-1.6)*

3. CSIR Task Force Project on Pollution Monitoring Mitigation Systems and Devices Programme: Development of state-of-art sensors for pollution and receptor monitoring: Insect as Pollutant-specific bio-sensors for coal mining & processing industries (Washaries, coke oven plants) and Thermal power plants. *(Activity-1.5)*

4. **CSIR Network Project:** Environmental Contaminants–New Screening Technologies and Effect on Human Health (NWP-17) *(Activity 2)*
Study on atmospheric bio-pollution and its impact on human health in and around coalfield and coalbased industrial areas of Ranchi, Dhanbad, Bokaro, Hazaribagh and Jamshedpur cities of Jharkhand.

5. **CSIR-Task force project:** Mission Mode Programme on Commercial Deployment of Salt and Potash Technologies to Augment National Capability.

10. (a) Name of Patents/Copyrights applied /granted/commercialized: **31 copyrights**

S. No	**Copyright title/grant no.**	**Date of filling /granted**
1	Microphotographs of Airborne Algae from Jharia Coal Fields.	26/10/2010/ 25/01/2011
2	Microphotographs of Airborne Fungal Spores from Jharia Coal Fields	26/10/2010/ 25/01/2011
3	Microphotographs of Airborne Fungal Spores from Jharia Coal Fields	26/10/2010/ 25/01/2011
4	Calendar for Airborne Fungal Spores in Jharia Coal Fields.	26/10/2010/ 25/01/2011
5	Calendar for Allergic Plant Species and their Pollination Pattern in Jharia Coal Fields.	26/10/2010/ 25/01/2011
6	Flowering allergic plants of Dhanbad district. (012CR2017)	22/08/2016/ 09/05/2017
7	Flowering climbers of Dhanbad district. (013CR2017)	22/08/2016/ 09/05/2017
8	Flowering exotic plants of Dhanbad district. (014CR2017)	22/08/2016/ 09/05/2017
9	Flowering garden of Dhanbad district. (015CR2017)	22/08/2016/ 09/05/2017
10	Flowering grasses of Dhanbad district. (016CR2017)	22/08/2016/ 09/05/2017
11	Flowering herbs of Dhanbad district. (017CR2017)	22/08/2016/ 09/05/2017
12	Flowering shrubs of Dhanbad district. (018CR2017)	22/08/2016/

		09/05/2017
13	Flowering trees of Dhanbad district. (019CR2017)	22/08/2016/ 09/05/2017
14	Calendar for airborne algae of Dhanbad city. (020CR2017)	22/08/2016/ 09/05/2017
15	Calendar for allergic plant species of Dhanbad city. (021CR2017)	22/08/2016/ 09/05/2017
16	Calendar for airborne fungal spores of Dhanbad city. (022CR2017)	22/08/2016/ 09/05/2017
17	Calendar for house dust mites for Dhanbad city. (023CR2017)	22/08/2016/ 09/05/2017
18	Calendar for pollination pattern of Dhanbad city. (024CR2017)	22/08/2016/ 09/05/2017
19	Flowering allergic plants of Bokaro district. (025CR2017)	22/08/2016/ 09/05/2017
20	Flowering climbers of Bokaro district. (026CR2017)	22/08/2016/ 09/05/2017
21	Flowering exotic plants of Bokaro district. (027CR2017)	22/08/2016/ 09/05/2017
22	Flowering garden of Bokaro district. (028CR2017)	22/08/2016/ 09/05/2017
23	Flowering grasses of Bokaro district. (029CR2017)	22/08/2016/ 09/05/2017
24	Flowering herbs of Bokaro district. (030CR2017)	22/08/2016/ 09/05/2017
25	Flowering shrubs of Bokaro district. (031CR2017)	22/08/2016/ 09/05/2017
26	Flowering trees of Bokaro district. (032CR2017)	22/08/2016/ 09/05/2017
27	Calendar for airborne algae of Bokaro city. (033CR2017)	22/08/2016/ 09/05/2017
28	Calendar for allergic plant species of Bokaro city. (034CR2017)	22/08/2016/ 09/05/2017
29	Calendar for airborne fungal spores of Bokaro city. (035CR2017)	22/08/2016/ 09/05/2017
30	Calendar for house dust mites for Bokaro city. (036CR2017)	22/08/2016/ 09/05/2017
31	Calendar for pollination pattern of Bokaro city. (037CR2017)	22/08/2016/ 09/05/2017

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

After aerobiological studies following calendars were prepared 1. Pollination calendar 2. Pollination calendar of Allergic plant species, 3. Fungal spore calendar and 4. Airborne Algae calendar of Dhanbad, Bokaro, Hazaribagh, Ranchi and Jamshedpur which will help in treatment of airborne allergies in specific areas.

11. **Honors/Awards/Recognitions/Fellowships/Scholarships/Professional Memberships received:** Honorary Fellowship of **International Society for Ecological Communication, India** (F.I.S.E.C).. Awarded with Dr. M.G. Krishna Award for the highest number of copyrights on CSIR Foundation Day 2017.Indian Aerobiology Society affiliated to International Aerobiological Society-Life Member. Vigyan Bharati, Jharkhand -Life Member.

12. **Societal Contributions**:

Airborne biological particulates are responsible for many allergic diseases in human, plants and animals. Vary scanty or no data is available for coalbelt and coal based industrial area/zones. Calendars prepared after aerobiological studies for pollen, fungal spores, algae, etc. will help in understanding concentration and

seasonal variation and possible correlation can be made for treatment of allergies in specific areas.