Brief Bio-data

1. Name: Kanhaiya Mishra
2. Date of Birth: 01/03/1995
3. Current Position and Address: Technical Officer, CSIR-CIMFR, Barwa Road, Dhanbad
E-mail:kmishra@cimfr.nic.in/ kanhaiya5467@gmail.com
Cell: +91- 7697757130/ 7415163351
4. Educational qualifications:

Sl. No.	Degree	Year of Passing	University/Institute	Subject
01	B.E.	2015	Govt. Engg. College, Jagdalpur	Mining Engineering
02	Ph.D.	Continuing	IIT(ISM)	Mining Engineering

5. Work experience:

Designation	Institute/company	From	To	Nature of Work
Project Assistant-II	CSIR-CIMFR Dhanbad	04/09/2015	19/08/2016	Research & Development
Junior Research Fellow	IIT(ISM) Dhanbad	22/08/2016	09/12/2017	Research & Development
Technical Officer	CSIR-CIMFR Dhanbad	21/12/2017	Continuing	Research & Development

6. Work Area(s)/ Specialization: Mine Backfilling, Mining Methods, Rock Mechanics, Application of AI in Mine Backfilling
7. Major contributions:
   - Development of paste fill technology for underground mines
   - Backfilling in Opencast mines with fly ash-OB admixture
   - Blind backfilling technique for abandoned underground coal mines
   - Utilisation of indusrial waste for backfilling in underground coal and metal mines
   - Design of barricade system and cemented rock-fill system
8. No. of Research Publications:
   - Papers in Journals: 07
   - In conference proceedings: 08
   - Invited lectures delivered: - Nil
   - List of best 05 publications:-

     (i) **Kanhaiya Mishra**, Manish Kumar, Anil Kaiwart, J. Pandey, P. K. Mishra, and R. Lolarak, 2016. Remote sensing technique for detection of zone and extent of underground coal mine fire --- a review. Geominetech: The Indian Mineral Industry Journal, 03(02), 55-59.

     (ii) Singh, P., Ghosh, C.N., Behera, S.K., **Mishra, K**., Kumar, D., Buragohain, J., Mandal, P.K., 2019. Optimisation of binder alternative for cemented paste fills in underground metal mines. Arabian Journal of Geosciences, 12, 462.

(iii) Behera, S.K., Prashant, Mishra, D.P., Ghosh, C.N., Verma, A., Mohanty, S., **Mishra, K.**, Singh, P.K., 2019. Slump test: laboratory and numerical simulation based approach for consistency of mill tailings paste. Current Science, 117(2), 235-241.

(iv) Behera, S.K., Ghosh, C.N., Mishra, D.P., Singh, P., **Mishra, K.**, Buragohain, J., Mandal, P.K., 2020a. Strength development and microstructural investigation of lead-zinc mill tailings based paste backfill with fly ash as alternative binder. Cement and Concrete Composites, 109, 103553.

(v) Behera, S.K., Ghosh, C.N., **Mishra, K.**, Mishra, D.P., Singh, P., Mandal, P.K., Buragohain, J., Sethi, M.K., 2020b. Utilisation of lead–zinc mill tailings and slag as paste backfill materials. Environmental Earth Sciences, 79, 389.

- Books/Chapters authored/edited:- Nil

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

- Development of suitable paste fill material from fly ash and its transportation system to underground coal mines for stabilisation of working as an alternative of sand stowing for increasing the percentage of extraction of coal and to ascertain its cost effectiveness with due regard to safety and environment in Sarni UG Mine, Pathakhera Area (WCL/GAP/MoC/118/2019-20), Western Coalfields Limited (WCL), 16 December, 2019 -15 December, 2021, Funded by Ministry of Coal (MoC).
- Monitoring of the Blind Backfilling system during field implementation at Talcher Colliery MCL (SSP/439/19-20).
- Binder optimization and monitoring of Backfilling operation at Mochia and Zawar mala mines (SSP/520/20-21).
- Scientific study of stowing with 100% Bottom ash at Jitpur colliery (SSP/529/20-21)
- Scientific study on suitability of crushed overburden as stowing material for underground mines (SSP/294/18-19).

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

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

- Paste fill technology with industrial waste for underground metal and coal mines
- Development of technology for backfilling in opencast mines with fly ash-OB admixture
- Design of stowing plants for different stowing materials and hydraulic gradients
- Design of blind backfilling technique for stabilization of old abandoned workings below important surface features
- Cemented rockfill and hydraulic backfill system

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

- Member, Mining Engineers Association of India (MEAI)
- Associate member, Institute of Engineers

12. Societal Contributions:

- Utilisation of different industrial waste such as mill tailings, coal ash for backfilling in mines so as to reduce their geotechnical and environmental hazards associated with the surface dumping and minimizing the operational cost of backfilling
- Blind backfilling for stabilizing the workings below highway, railway lines, residential areas etc.