

Brief Bio-data

1. Name: Dr. Uday Sankar Chattopadhyay

2. Date of Birth: 20/01/1965

3. Current Position and Address (Include Email ID and Contact Number): Sr. Principal Scientist udayshankar@cimfr.nic.in(official) udaycfri97@rediffmail.com (personal) 9431746760

4. Educational qualifications: (Graduation and above)

| Sl. No. | Degree | Year of Passing | University/Institute | Subject |
|---------|-----------|-----------------|----------------------|---------------------|
| 1. | M.Sc.Tech | 1990 | ISM - Dhanbad | AGL, Mle Engg, Math |
| 2. | M.Tech | 1992 | ISM - Dhanbad | P.Expl. Drilling |
| 3. | M.Tech | 1996 | ISM – Dhanbad | Mineral Engineering |
| 4. | PhD | 2019 | IIT(ISM) - Dhanbad | Mineral Engineering |

5. Work experience:

| Designation | Institute/company | From | To | Nature of Work |
|--------------------------------|-------------------|------------|---------|---|
| Scientist to Sr. Pr. Scientist | CFRI & CIMFR | 15/10/1997 | Present | R & D studies on Coal & mineral beneficiation |

6. Work Area(s)/ Specialization: Coal and Mineral Processing

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

- ❖ Detailed R&D studies on the LVC coals of Eastern and Western Sector of Jharia and Bokaro Coalfields were carried out (Laboratory/Bench Scale/Pilot Plant) and developed a conceptual flow sheet. The developed flow sheet was tested by the coals provided by CMPDI and RDCIS and clean coal in bulk quantity at different ash levels was generated and characterization tests at RDCIS, Ranchi proved that these coals are having good metallurgical properties. A patent on the process flow sheet is being filed.
- ❖ Detailed washability studies and judicious beneficiation of coal samples collected from all the major coking and non coking coal sources (BCCL, ECL, CCL, SECL, NCL, WCL and SCCL) and developed various correlations for understanding the cleaning potentialities of the coals and development of conceptual flowsheet for different end users..
- ❖ Beneficiation of coking coal fines, development of continuous bench scale advanced Flotation Cells, Installation of Coloumn Flotation Cell.

8. No. of Research Publications:

- Papers in Journals: > 20
- In conference proceedings: >50
- Invited lectures delivered: About 15 to 20 lectures delivered in various forums

- List of best 07 publications:
 - “Beneficiation of high-ash, Indian non-coking coal by dry jigging” Minerals & Metallurgical Processing Vol. 28, No. 1 Feb’2011
 - “Effect of Washing High-Ash Indian Non coking Coals on Combustion” International Journal of Coal Preparation and Utilization, Vol.32:69–79, 2012
 - “Cleaning Potentialities of Some Thermal Coals of Odisha on Its Burning Behavior” International Journal of Engineering Research and Science & Technology ISSN: 2319-5991 Vol. 2, No. 2, May 2013, 77-84
 - “Application of Response Surface Methodology in Effective Recovery of Settling Pond Coal Fines by Froth Flotation” International Journal of Coal Preparation and Utilization, Vol.35:206–215, 2015
 - “Investigation on the Combustion behavior of Coal at various level of washing in TGA and Drop Tube Furnace” *Trans of the Indian Ceramic Society*ISSN 0371-750X, 2019
 - Preparation and Certification of Indian Reference Material of Bituminous Coal” *MAPAN-Journal of Metrology Society of India*, 2020.
 - “Utilization of High Ash, Low Volatile Coking Coals of Jharia Coalfield, India for Coke Making” *Coke and Chemistry Vol. 64, No. 1, pp. 12–17,2021*
- Books/Chapters authored/edited

9. List of 7 Major Contract R&D Projects: GAP/Sponsored Projects (2011 – Present)

- a. Alternative complimentary route of direct steel making with reference to Indian raw Materials – Ministry of Steel.
- b. Value Addition from coking coal slimes lying in waste settling ponds of washery – Coal Controller and Development Authority, Kolkata
- c. Development of Technology to produce clean coal from high ash and high sulphur Indian coal – Ministry of Steel
- d. Development of zero waste Technology for processing & Utilization of Thermal Coal (ZWT-CUP) – 12th Five Year Plan project
- e. Substitution of imported coal through beneficiation, blending and coke making from indigenous raw materials – SAIL, Chasnalla.
- f. Wet tumble test (with Steel cubes for 5 minutes) of samples collected from CV-302 conveyor of existing DMC plant – M/s Adani Enterprises
- g. Studies on the cleaning potentialities of Coal at 13 % Ash level for Steel Plant use through detailed washability investigations and technical feasibility led to development of a flow sheet. CCL, Ranchi

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

- (i) Copy right on “Bottom Pulsated Jig”
Registration No: L-88849/2020 2019-2020
- (ii) Patent on “An Improved Process of Beneficiation of Washery Grade VI Coal for Production of Upgraded Coking Coals and Power Coals” No 0137NF2020.

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

- *Development of **Certified Reference Material (CRM)** for Ash%, Moisture%, VM% and S% of coal analysis.*

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

Major Awards:

- **IIME Best Paper Award** on Coal Preparation at MPT-2007, Mumbai, February'2007.

Professional Life Membership

- Coal Preparation Society of India
- Indian Institute of Mineral Engineers
- Mining, Geological and Metallurgical Institute
- Indian Institute of Metals
- Indian Institute of Engineers

12. Societal Contributions :

- Scientific and Technical services for Quality monitoring of coking and non-coking coals
- Value addition from coal slurries lying at the settling ponds of coal washeries for reduction of environmental pollution and recovery of metallurgical cleans.
- Substitution of imported coal by indigenous raw materials helps metallurgical industries to save foreign exchange and gainful utilisation of indigenous raw materials