

Brief Bio-data

1. Name: DR SUDIP MAITY

2. Date of Birth: 1st August 1968

3. Current Position and Address (Include Email ID and Contact Number)

Current Position: Chief Scientist

Address:

Central Institute of Mining and Fuel Research (Digwadih)

P.O: FRI, Dhanbad – 828 108, Jharkhand, India

Ph. No. (0326) 2388234 (O)

FAX: +91-326-2381113

E-mail: sudipmaity@cimfr.nic.in, sudip_maity@yahoo.com

4. Educational qualifications: (Graduation and above)

Sl. No	Degree/ Certificate	Year	University	Subjects
1	Ph.D*	1998	Allahabad University	High P-T Mineral Phase Transitions
2	M.Sc	1991	Jadavpur University	Applied Geology
3	B.Sc (Hons)	1989	Jadavpur University	Geology (H), Mathematics, Chemistry

* **Title:** Experimental study of system Forsterite-Albite-Diopside with or without anorthite at variable pressures and temperatures and its significance

Supervisor: Prof Alok K Gupta, FNA, FNASc, FASc.

5. Work experience:

Designation	Institute/Company	From	To	Nature of Work
Chief Scientist	Central Institute of Mining and Fuel Research, Dhanbad	27/10/2021	Continuing	Scientific research & Head Research Group
Senior Principal Scientist	Central Institute of Mining and Fuel Research, Dhanbad	27/10/2015	26/10/2021	Scientific research & Head Research Group
Principal Scientist	Central Institute of Mining and Fuel Research, Dhanbad	27/10/2010	26/10/2015	Scientific research and Head of Section
Senior Scientist	Central Institute of Mining and Fuel Research, Dhanbad	27/10/2007	26/10/2010	Scientific research
Scientist - C	Central Fuel Research Institute, Dhanbad	27/10/2003	26/10/2007	Scientific research
Scientist - B	Central Fuel Research Institute, Dhanbad	27/10/1998	26/10/2003	Scientific research
RA – (CSIR)	Allahabad University	01/10/1997	30/09/1998	PDF

JRF & SRF (CSIR, NET)	Allahabad University	01/08/1992	31/07/1997	Doctoral Research
--------------------------	----------------------	------------	------------	----------------------

6. Work Area(s)/ Specialization:

Coal – to – Liquid (CTL) Technology; Heterogeneous Catalysis; Coal Molecular Structure, Rare Earth Elements in Coal Fly Ash (CFA); Non-thermal Plasma Reformation for Hydrogen; X-ray Powder Diffraction

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

- i. Developed indigenous catalyst and CTL Process in Pilot Scale. This unique national facility can be used by other researchers.
- ii. Developed a Multi Fuel non-thermal plasma reformer for production of hydrogen enriched syngas from renewable sources. Outcome of this work targets for on-board application hydrogen driven vehicles.
- iii. Introduced wide angle XRD studies for micro structural analyses of Indian Coal and as a result, a few fundamental research publications were widely cited by young Indian researchers who started working in the same line following these studies.
- iv. Introduced application of powder XRD for quantification of minerals in Indian coals which facilitates estimation of minerals without ashing.

8. No. of Research Publications: As on 20th June, 2024

- Papers in SCI Journals: 64 (Citations: 2830; h-index: 26; i10-index: 44)
- In conference proceedings: 24
- Invited lectures delivered: 3
- List of best 05 publications: (* Corresponding Author)
 - i. Akshay Kumar Singh Choudhary, Santosh Kumar, **Sudip Maity***; A study on speciation and enrichment of rare earth elements (REE) by sequential extraction from a potential coal fly ash resource and its role in REE extractability; Hydrometallurgy (2024), 224, 106256. **IF: 4.7**
 - ii. Raj Vardhan Sharma, Akshay K Singh Choudhary, Ashis K Adak, **Sudip Maity***; An investigation on demineralization induced modifications in the macromolecular structure and its influence on the thermal behavior of coking and non-coking coal; J. Mol. Struct. (2023), 1274, 134520. **IF: 3.841, Citations: 5**
 - iii. **Sudip Maity***, Akshay K Singh Choudhary, Santosh Kumar and Pavan K Gupta; Partitioning of Rare Earth Elements (REEs) from coal to coal fly ash in different Thermal Power Stations (TPSs) of India; J. Geol. Soc. India; April (98), 2022, 460 – 466. **IF: 1.459; Citations: 10**
 - iv. **Sudip Maity***, Olusola O. James, Biswajit Chowdhury, Aline Auroux; Effect of copper on calcium-modified alumina supported cobalt catalysts towards Fischer–Tropsch synthesis; Curr. Sci, 2014, 106 (11), 1538 – 1547. **IF: 1.0; Citation: 8**
 - v. **Sudip Maity*** and Pinaki Mukherjee; X-ray structural parameters of some Indian coals; Curr. Sci.; 2006, 91 (3), 337 – 340. **IF: 1.0; Citation: 57**
- Book Chapters: 2

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

- I. Title: A study to explore the potentiality of using Coal Fly Ash (CFA) derived from Indian Thermal Power Plants as a resource of Rare Earth Elements

- (REEs), Sponsoring Agency: SERB, Gol; Project Cost: Rs 54.54 Lakhs; Completed
- II. Title: Development of Indigenous Catalyst through Pilot scale studies of Coal-to-Liquid (CTL) conversion technology, Sponsoring Agency: Ministry of Coal, Gol; Project Cost: Rs 860.44 Lakhs; Completed
 - III. Title: A novel process for production of hydrogen from renewable and fossil fuel based liquid and gaseous hydrocarbons by non-thermal plasma reformation technique. Sponsoring Agency: Ministry of New & Renewable Energy, New Delhi; Project Cost: Rs. 74.90 Lakhs; Completed
 - IV. Title: Development of Gas to Liquid Technology for Di-methyl Ether and Middle distillate fuels by Fischer-Tropsch Synthesis. Sponsoring Agency: CSIR (Task Force); Project Cost: Rs 231.00 Lakhs; Completed
 - V. Title: X-ray Diffraction Study of Some Indian Coals to Determine Coal-Microstructure. Sponsoring Agency: SERC Fast Track Young Scientist Project, DST, New Delhi; Project Cost: Rs 9.5 Lakhs, Completed

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

- i. Catalysts for synthesis of hydrocarbons from synthesis gas, process of preparation of catalyst; PCT/IN03/00117; 2003.
- ii. A process for the preparation of a catalyst, useful for production of hydrocarbons from synthesis gas, 2314869 (Russia); 2008.
- iii. Catalysts for synthesis of hydrocarbons from synthesis gas, process of preparation of catalyst; 801106 (Korea); 2008.

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

- i. Developed indigenous catalyst and Coal – to – Liquid (CTL) Process in Pilot Scale (TRL -5).
- ii. Developed a Multi Fuel non-thermal plasma reformer for production of hydrogen enriched syngas from renewable gaseous and liquid hydrocarbons (TRL – 4).

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

- i. Received International Travel Support Grant from SERB (File No: ITS/2023/003948) titled World Recycling Convention (Recycling Week 2023), Spain (23 October, 2023 to 25 October, 2023)
- ii. Guest Editor, Minerals, IF: 2.818 (MDPI), “Recovery of Rare Earth Elements (REEs) from Coal Ash”
- iii. Received the 2nd Best Award for Paper Presentation (Coal Session) in the International Seminar: PetroCoal Congress & Expo-2011 held at New Delhi during 12th to 15th Feb, 2011.
- iv. DST International Travel Support grant (No.: SR/ITS/00807/2009-2010, Dt 11/06/2009) to visit Colorado, USA to attend Denver X-ray Conference – 2009.
- v. Received the Bilateral Exchange of Scientists Program – 2006 of Indian National Science Academy, New Delhi to visit the Institute of Coal Chemistry, Poland Academy of Sciences, Gliwice, Poland during June – August, 2006

- vi. Received Fast Track Young Scientist Project Proposal-2003. SERC, DST, Govt. of India
- vii. Awarded Research Associateship (1997 – 1998), CSIR
- viii. Received JRF (1992 – 1994, CSIR, NET) and SRF (1994 – 1997, CSIR, NET)
- ix. Life Member, Indian Crystallographic Association, Bangalore

12. Societal Contributions: As a Coordinator, AcSIR building students for the society.