

Brief Bio-data

1. Name: Dr. Sujan Saha

2. Date of Birth: 09.02.1976

3. Current Position and Address : Principal Scientist, Gasification and Catalysis Research Group & IPR Cell, CIMFR (DC), PO-FRI, Digwadih, Dhanbad-828108, Jharkhand, India, Phone no: 03262388389/ Mob no: 9471191168/8789698110 (Include Email ID and Contact Number) E-mail: sujansaha@cimfr.nic.in

4. Educational Qualifications (Graduation and above)

Sl.No.	Degree	Year of Passing	University/Institute	Subject
1	B.Sc (Chemistry Hons)	1997	University of North Bengal	Chemistry (Hons), Phys, Maths.
2	M.Sc	2000	University of North Bengal	Chemistry (Spcl. Org. Chem)
3	Ph.D	2013	IIT (ISM), Dhanbad	Mineral Engineering. (Topic on coal gasification)

5. Work experience:

Designation	Institute/ company	From	To	Nature of work (R&D)
Scientist B [Group IV(1)]	CSIR-CIMFR, Dhanbad	16.08.2001	15.08.2005	R&D on surface characterization of coal, coal/biomass analysis, instrumental analysis and result interpretation
Scientist C [Group IV(2)]	CSIR-CIMFR, Dhanbad	16.08.2005	15.08.2010	R&D on Coal/biomass gasification, feed characterization, instrumental analysis and result interpretation
Senior Scientist	CSIR-CIMFR, Dhanbad	16.08.2010	15.08.2015	R&D on Coal/biomass gasification, feed characterization, instrumental analysis and result interpretation
Principal Scientist	CSIR-CIMFR, Dhanbad	16.08.2015	Continuing	R&D on Coal/biomass/petcoke gasification, feed characterization, instrumental analysis and result interpretation, IP management

6. Work Area(s)/Specialization: Energy: Resource and Technology, Coal/biomass/petcoke gasification, Surface characterization of solids, Patent & Copyright drafting, filling and maintenance. IP Profile management of the institute.

7. Major contributions: (Max. 100 words)

- Introduction of a new and economic methodology for the determination of true density of coal.
- Data base and knowledge base generation on gasification reactivity and kinetics of high ash Indian coal, biomass, petcoke and their blends.
- Gasification potential mapping of Indian coal resource, utilization strategy and selection of suitable gasification technology
- Development of Thermogravimetric Reactor (TGR) to study weight changes of any kind of solid and process thereof
- IP portfolio management of the institute.

8. No. of Research Publications:

- Papers in Journals: 22
- In conference proceedings: 17
- Invited lectures delivered:
- List of best 05 publications:
- Density measurements of coal samples by different probe gases and their interrelation. Fuel, 86, 2007, 1594–1600.
- Comparison of CO₂ Gasification Reactivity and Kinetics: Petcoke, Biomass and High Ash Coal. Biomass conversion and Biorefinery (2020), <https://doi.org/10.1007/s13399-020-00882-z>
- High ash char gasification in Thermo-Gravimetric Analyzer and Prediction of Gasification Performance Parameters using Computational Intelligence Formalisms. Chemical engineering Communications, 203, 2016, 1029-1044.
- Gasification Reactivity of High Ash Indian Coals in Varying Concentrations of CO₂. International Journal of Oil, Gas and Coal Technology 18, 2018,163-186.
- Studies on CO₂ gasification reactivities of high ash Indian coals. International Journal of Emerging technology and Advanced Engineering, 3, 2013, 29-33.
- Books/Chapters authored/edited: 02

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

- Gasification Potential Mapping of Indian Coals and Utilization Strategy (under the aegis of NITI Aayog, GoI)
- Catalytic Petcoke Gasification (CSIR FBR Project)
- Development of Oxygen Enriched Air Blown Pressurized Fluidized Bed Gasifier (Under the aegis of NITI Aayog, GoI)
- Clean Coal Technology: Gasification Study in PFBG and TGA systems (CSIR Network Project under 11th FYP)
- Clean Coal technology: Co-gasification of coal with biomass (CSIR Network Project under 12th FYP)

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

Patents: Granted in India:1, Filed in India:3 i) System and process for conversion of heavy oil into lighter fractions (Patent no. 334687), ii) Pressurized Fluidized Bed Gasification Pilot Scale Test Facility with the provision of external heating to test the high ash coals, biomass, rejects and their blends (Application No. 201811014119), iii) Development of Thermogravimetric Reactor (TGR) to study weight changes and process thereof (Application No. 202111001133), iv) A Novel Process for the determination of equilibrated moisture in coal (Application No. 202011045585)

Copyrights: Registered: 3; i) Coal Characterization Matrix to evaluate Gasification Potentiality, ii) Selection Matrix: Physico-chemical properties of Solid Fuels vis-a-vis Suitable Type of Gasifier, iii) High Ash Indian Coals: Gasification Strategy.

(b) Technologies/Products/Knowhow/Services developed: 3

11. Honours/Awards/Recognitions/Fellowships/Scholarships/Professional memberships received: Memberships of Indian Institute of Mineral Engineers, Indian Thermal Analysis Society, Mining Engineers' Association.

12. Societal Contributions: Training program on Gasification to M.Sc/B.Tech/M.Tech Students.