

Brief Bio-data

1. Name: DR. SANTI GOPAL SAHU
2. Date of Birth: 19.12.1974
3. Current Position and Address: Principal Scientist, Combustion Section, CSIR-CIMFR, Digwadih Campus, P.O. FRI, Dhanbad-828108, Jharkhand, INDIA, E-mail: sgsahu@cimfr.nic.in , santi_cfri@yahoo.co.in , Phone no: 0326-2388268/269 (O), 9471191156 (M).

4. Educational qualifications: (Graduation and above)

Sl. No.	Degree	Year of Passing	University/Institute	Subject
1.	B.Sc, Chemistry (H)	1997	Vidyasagar University	Chemistry (H), Phys(P), Math (P)
2.	M.Sc, Chemistry	1999	Vidyasagar University	Chemistry (Organic Special)
3.	Ph.D (Engg.)	2013	Jadavpur University	Combustion of coal and biomass blends

5. Work experience:

Designation	Institute/company	From	To	Nature of Work
Sct. B	CSIR-CFRI	22.08.2001	21.08.2006	R&D
Sct. C	CSIR-CIMFR	22.08.2006	21.08.2011	R&D
Sr. Sct	CSIR-CIMFR	22.08.2011	21.08.2015	R&D
Pr. Sct	CSIR-CIMFR	22.08.2015	Till date	R&D

6. Work Area(s)/ Specialization: Coal Combustion, Clean Coal Technology

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

Combustion studies of coal and their blends with the help of Thermogravimetric Analyzer (TGA), Drop Tube Furnace (DTF) and Fuel Evaluation Test Facility (FETF).

Contributed to basic studies and correlations were attempted to find out role of different traditional parameters of coal with combustion behaviour.

Co-combustion studies of coal biomass blends and oxy-fuel combustion studies of coal.

Plant level GHG emission estimates for thermal power plant and integrated steel plant.

Preparation of National GHG inventory for energy and manufacturing industries.

Setting up modalities for normative requirement of coal for different Industries.

Studies on combustion behaviour of non coking coals and their selected blends to assess their suitability for pulverized coal Injection (PCI) in blast furnace using TGA and DTF.

Studies on utilisation potential of Spent Pot Lining (SPL) of smelter as a co-fuel at captive power unit.

Development of Equivalency Chart between Useful Heat Value (UHV) and Gross Calorific Value (GCV).

Pilot study for migration from UHV to GCV based gradation system.

Quality Monitoring of coal and Iron ore.

8. No. of Research Publications:

- Papers in Journals: 17
- In conference proceedings: 15
- Invited lectures delivered: 1
- List of best 05 publications

i) S.G. Sahu, P. Sarkar, N. Chakraborty, A.K. Adak. Thermogravimetric assessment of combustion characteristics of blends of a coal with different biomass chars, Fuel Processing Technology 91 (2010) 369–378.

ii) S. G. Sahu*, N. Chakraborty, P. Sarkar, Coal–biomass co-combustion: An overview, Renewable and Sustainable Energy Reviews 39 (2014) 575–586.

iii) P. Sarkar, S. G. Sahu*, A. Mukherjee, M. Kumar, A. K. Adak, N. Chakraborty, S. Biswas, Co-combustion studies for potential application of sawdust or its low temperature char as co-fuel with coal, Applied Thermal Engineering 63 (2014) 616-623.

iv) S. G. Sahu*, A. Mukherjee, M. Kumar, A. K. Adak, P. Sarkar, S. Biswas, H. P. Tiwari, A. Das, P. K. Banerjee, Evaluation of combustion behaviour of coal blends for use in pulverized coal injection (PCI), Applied Thermal Engineering 73 (2014) 1012-1019

v) P. Sarkar, S.G. Sahu, S. Bhattachary, A. Mukherjee, M. Kumar, A.K. Adak, Revision of country specific NCVs and CEFs for all coal categories in Indian context and its impact on estimation of CO₂ emission from coal combustion activities, FUEL, 236 (2019) 461–467.

- Books/Chapters authored/edited: 03

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

i) Clean Coal Technology Programme of CSIR- Oxy Fuel Combustion and Co-combustion of coal and biomass ii) Investigations on the combustion behavior of coal blends of different types and origin to assess their suitability for pulverized coal injection in Blast Furnace iii) Combustion study of coal blends iv) Pilot study for migration from UHV to GCV based gradation system v) Evaluation of combustion behaviour of coal at different ash levels

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

i) System and process for conversion of heavy oil into lighter fractions, Patent no. 334687

ii) Flexible cold model set up for developing chemical looping combustion system, 0116NF2017

iii) A process for increasing carbon dioxide concentration in flue gas, 0241NF2014

iv) A process of optimization of oxygen concentration in blast air and particle size distribution of fuel for injection in blast furnace to improve combustion of fuel, 1465/KOL/2013

v) Device for feeding pulverized coal to furnace, United States Patent. 6928936, WO 2005/064238 A1

vi) Cooling system of flue gas coming out of a pulverized coal fired furnace, WO 2006/070392 A1

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

11. Honors/Awards/Recognitions/Fellowships/Scholarships/Professional Memberships received: Life member Indian Thermal Analysis Society

12. Societal Contributions: Faculty training and motivation & adoption of school.