



Curriculum Vitae

Name	Dr. Pradeep Sahu
Department	Fuel Mineral and Metallurgical Engineering Department
Email Id:	pradeep1.igit@gmail.com pradeepsahu@iitism.ac.in
Google scholar Id	https://scholar.google.com/citations?user=meMtvUAAAAAJ&hl=en&oi=sra
Mobile number	9337015388
Date of Joining	30/06/2025

Academic Qualifications				
Qualification	Subject	College/University	Marks Scored	Year Of Passing
Doctor of Philosophy (Ph.D.)	Chemical Engineering	Indian Institute of Technology, Guwahati	7.86 (CPI)	2023
Post Graduate Diploma in Mineral Engineering (PGDME)	Mineral Engineering	CSIR-IMMT, Bhubaneswar	83.17%	2014
Bachelor of Technology (B.Tech)	Chemical Engineering	Biju Patnaik University of Technology (BPUT)	7.62 (CGPA)	2012
12 th		Air Force School, Pathankot (C.B.S.E)	67.8%	2008
10 th		Air Force School, Pathankot (C.B.S.E)	80.2%	2006

Research Interest
Carbonization, Pyrolysis, gasification, power plant studies, kinetic analysis, Bio-char, Coal, Municipal Solid Waste, Electronic waste, Plastic waste

Ph.D. Thesis Title
Studies on co-utilization of high ash coal under CO ₂ atmosphere for thermal treatment with wastes in the context of Syngas and Electricity generation

Peer review Articles

1. Pradeep Sahu, Prabu Vairakannu, **Techno-economic analysis of co-combustion of Indian coals with municipal solid waste in subcritical and supercritical based steam turbine power generating carbon-negative systems.** *Energy*
2. Pradeep Sahu, Prabu Vairakannu, **Synergistic reaction effects with energy and exergy (2E) analysis of high-density polyethylene with high ash bituminous coal for syngas production.** *Fuel*
3. Pradeep Sahu, Prabu Vairakannu, **Techno-economic analysis on oxy-fuel based steam turbine power system using municipal solid waste and coals with ultrasonicator sulfur removal.** *Waste Disposal & Sustainable Energy*
4. Pradeep Sahu, Prabu Vairakannu, **CO₂ based co-gasification of printed circuit board with high ash coal.** *Energy*
5. Pradeep Sahu, Prabu Vairakannu, **CO₂ pyrolysis and gasification of COVID-19 based wastes (overall gown) with Indian high ash coal.** *Asia Pacific Journal of Chemical Engineering*
6. Nilesh Lokare, Pradeep Sahu, Prabu Vairakannu, **CO₂ based spouted fluidized bed gasification of kitchen waste: Experimental investigation with process modelling.** *Canadian Journal of Chemical Engineering*
7. Pradhan, Chinmaya Kumar, Pratyasha Patra, Krishna Kamini, Shilpi Das, Sarat Chandra Patra, Pradeep Sahu, and Himadri Sahu. **"Production of acid-activated biochar from Spanish cherry seeds."** *Indian Chemical Engineer*
8. Bhui, Barnali, Pradeep Sahu, and Sanjeev Yadav. **"Evaluation of Torrefied Food Waste as a Renewable Feedstock for Power Production: Techno-Economic and Environmental Insights."** *Waste and Biomass Valorization (2026): 1-17.*

Book Chapter Published

1. Pradeep Sahu, Roni Mallick and Prabu Vairakannu, “**Thermochemical treatment of wastes for power generation.**” In *Valorization of Wastes for Sustainable Development* ISBN: 978-0-323-95417-4
2. Pradeep Sahu and Barnali Bhui,” **Plastic recycling for energy production.**” In *Biodegradable Waste Processing for Sustainable Developments* eISBN: 9781003502012

Conferences Attended

1. Pradeep Sahu, Prabu Vairakannu. **Pyrolysis and Gasification of Municipal Solid Waste (MSW).** *Recycle 2018*, 22 February 2018-24 February 2018. Indian Institute of Technology, 2018
 2. Pradeep Sahu, Prabu Vairakannu. **Thermogravimetric analysis on Co-gasification of Municipal Solid Waste with Indian Coals and Pet coke.** *Advances in Chemical Engineering (ACES 2019)*, 7 March 2019-8 March 2019. Indian Institute of Science Education and Research, Bhopal, 2019
 3. Pradeep Sahu, Prabu Vairakannu. **Co-pyrolysis and co-gasification of kitchen waste with Indian coals.** *Sustainable energy and green technology SEGT 2019, Bangkok*, 11-14 December 2019.
 4. Pradeep Sahu and Prabu Vairakannu, **Thermogravimetric analysis kitchen waste under pyrolysis and gasification conditions.** *3rd Sustainable Waste Management Conference August 4-6, 2021. AIChE Conference*
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Work Experience

1. **Essar steel India limited**
Department: Process Control department
Designation: Assistant Manager
Duration: 1/7/2014-15/7/2016
 2. **Tata Consultancy Services limited (TCSL)**
Department: Computer Consultancy
Designation: Assistant Systems Engineer
Duration: 8/11/2012-1/8/2013
 3. **Parala Maharaja Engineering College**
Department: Chemical Engineering
Designation: Guest Faculty
Duration: 4/10/2023- 31/5/2025
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- 4 **Indian Institute Of Technology (Indian School of Mines)**
Department: Fuel Mineral and Metallurgical Engineering
Designation: Assistant Professor
Duration: 30/06/2025 - Continuing
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Analytical Skills

Software Known: Aspen Plus

Thermo-gravimetric analysis (TGA), gas chromatography (GC), Fourier Transform Infrared spectroscopy (FTIR), Bomb calorimeter, Field emission scanning electron microscopy (FESEM), Energy dispersive X-ray spectroscopy (EDX), X-ray diffraction (XRD)

Personal Information

Father's name Late K Krushna Chandra Sahu

Mother's name Mrs. Lakshmi Sahu

Marital Status Married

Sex Male

Nationality Indian

Blood group B +ve

Languages English, Hindi, Odia

proficiency
