Publications:

1. A. Anand, S. Gautam, L. Chand Ram, A characteristic-based decision tree approach for sustainable energy applications of biomass residues from two major classes, Fuel. 339 (2023) 127483. https://doi.org/10.1016/J.FUEL.2023.127483 .

2. A. Anand, A. Kachhap, S. Gautam, Synergistic effect of coal and biomass gasification and organo-inorganic elemental impact on gasification performance and product gas, Energy. 282 (2023) 128662. https://doi.org/10.1016/j.energy.2023.128662.

3. A. Anand, S. Gautam, L.C. Ram, Feedstock and pyrolysis conditions affect suitability of biochar for various sustainable energy and environmental applications, J. Anal. Appl. Pyrolysis. 170 (2023) 105881. https://doi.org/10.1016/J.JAAP.2023.105881 .

4. A. Anand, S. Gautam, K. Kundu, L.C. Ram, Bio-coke: A sustainable solution to Indian metallurgical coal crisis, J. Anal. Appl. Pyrolysis. 171 (2023) 105977. https://doi.org/10.1016/j.jaap.2023.105977 .

5. A. Mishra, S. Gautam, T. Sharma, Gasification kinetic studies of low volatile weakly caking coal, Int. J. Coal Sci. Technol. 4 (2023). https://doi.org/10.1007/s40789-023-00587-4 .

6. M. Chattopadhyay, A. Anand, S. Gautam, A comparative evaluation of co-gasification of blends of low grade and washed coals with high- rank coal in a fixed bed reactor, Int. J. Coal Prep. Util. 00 (2023) 1–18. https://doi.org/10.1080/19392699.2023.2234291 .

7. D.K. Paswan, A. Anand, B.K. Nandi, S. Gautam, Drying Characteristics and Kinetics Behavior of Indian Coal Slurries Using Natural Draft Tray Dryer, Int. J. Coal Prep. Util. (2022) https://Doi.Org/10.1080/19392699.2022.2111557 .

8. D. Das, A. Anand, S. Gautam, Effect of rice husk volatiles in iron ore reduction and its kinetic study, Energy Sources, Part A Recover. Util. Environ. Eff. 44 (2022) 6321–6333. https://doi.org/10.1080/15567036.2022.2098417 .

9. D. Das, A. Anand, S. Gautam, V.K. Rajak, Assessment of Utilization Potential of Biomass Volatiles and Biochar as a Reducing Agent for Iron Ore Pellets, J. Env. Tech. (2022) 1–26. https://doi.org/10.1080/09593330.2022.2102936 .

10. B.K. Prajapati, A. Anand, S. Gautam, P. Singh, Production of hydrogen- and methane-rich gas by stepped pyrolysis of biomass and its utilization in IC engines, Clean Technol. Environ. Policy. 1 (2022) 1–14. https://doi.org/10.1007/S10098-021-02249-Y .

11. Z. Rahimi, A. Anand, S. Gautam, An overview on thermochemical conversion and potential evaluation of biofuels derived from agricultural wastes, Energy Nexus. 7 (2022) 100125. https://doi.org/10.1016/J.NEXUS.2022.100125.

12. S. Suman, S. Gautam, Physicochemical Performance of Wood Chips Char and Wheat Husk Char for Utilisation as an Alternate Source of Energy, Int. J. Recent Technol. Eng. (2020) 2277–3878. https://doi.org/10.35940/ijrte.C6119.018520.

13. A. Mishra, S. Gautam, T. Sharma, Gasification of Jhama Coal using Statistical Design ofExperiment, Trans. Indian Inst. Met. 72 (2019) 523–531. https://doi.org/10.1007/s12666-018-1504-8.

14. A. Mishra, S. Gautam, T. Sharma, Effect of operating parameters on coal gasification, Int. J. Coal Sci. Technol. 5 (2018) 113–125. https://doi.org/10.1007/s40789-018-0196-3.

15. S. Suman, D.S. Panwar, S. Gautam, Surface morphology properties of biochars obtained from different biomass waste, Energy Sources, Part A Recover. Util. Environ. Eff. 39 (2017) 1007–1012. https://doi.org/10.1080/15567036.2017.1283553.

16. S. Suman, S. Gautam, Biochar Derived from Agricultural Waste Biomass Act as a Clean and Alternative Energy Source of Fossil Fuel Inputs, in: Energy Syst. Environ., InTech, 2018. https://doi.org/10.5772/intechopen.73833.

17. S. Gautam, Effect of washing and stamping on coke making of a low-grade Indian coal: correlation between various properties, Ironmaking and Steelmaking. 44 (2017) 505–512. https://doi.org/10.1080/03019233.2016.1217115.

18. S. Suman, S. Gautam, Pyrolysis of coconut husk biomass: Analysis of its biochar properties, Energy Sources, Part A Recover. Util. Environ. Eff. 39 (2017) 761–767. https://doi.org/10.1080/15567036.2016.1263252.

19. S. Suman, S. Gautam, A comparative study between time, temperature, and fixed carbon using different biochar reductants as an alternate source of energy, Energy Sources, Part A Recover. Util. Environ. Eff. 39 (2017) 1029–1035. https://doi.org/10.1080/15567036.2017.1284959.

20. S. Suman, S. Gautam, Pyrolysis of coconut husk biomass: Analysis of its biochar properties, Energy Sources, Part A Recover. Util. Environ. Eff. 39 (2017) 761–767. https://doi.org/10.1080/15567036.2016.1263252.

21. S. Suman, S. Gautam, Effect of pyrolysis time and temperature on the characterization of biochars derived from biomass, Energy Sources, Part A Recover. Util. Environ. Eff. 39 (2017) 933–940. https://doi.org/10.1080/15567036.2016.1276650.

22. S. Suman, D.S. Panwar, S. Gautam, Surface morphology properties of biochars obtained from different biomass waste, Energy Sources, Part A Recover. Util. Environ. Eff. 39 (2017) 1007–1012. https://doi.org/10.1080/15567036.2017.1283553.

23. S. Gautam, Assessment of Low-Volatile Poor Caking Indian Coal for Coke Making, Int. J. Coal Prep. Util. 37 (2017) 33–43. https://doi.org/10.1080/19392699.2015.1123697.

24. S.K. Verma, R.E. Masto, S. Gautam, D.P. Choudhury, L.C. Ram, S.K. Maiti, Investigations on PAHs and trace elements in coal and its combustion residues from a power plant, Fuel. 162 (2015) 138–147. https://doi.org/10.1016/j.fuel.2015.09.005.

25. Sanjeev Sharma, Amrit Anand, Shalini Gautam, Effect of Low-Rank and High-Rank Coal Blend Characteristics on the Gasification Performance in Fixed Bed Reactor. ACS Omega (2024), https://doi.org/10.1021/acsomega.4c03475.

26. Amrit Anand, Dipika Das, Shalini Gautam, Production of Hythane by Stepped Pyrolysis of Biomass. *Progress in Petrochemical Science* (2023). http://dx.doi.org/10.31031/PPS.2023.05.000606.

27. Dipika Das, Amrit Anand, Shalini Gautam, A Review of Biomass Utilization as a Reducing Agent in Iron Ore Reduction. *Progress in Petrochemical Science* (2023) http://dx.doi.org/10.31031/PPS.2023.05.000609.

28. A Mishra, S. Gautam and T Sharma T., 2014, Effect of Char Structure on Coal Gasification, Journal of Basic and Applied Engineering Research, 1(1):1-3. 4.

29. A. Mishra, S. Gautam and T. Sharma, 2015, Study on coal gasification kinetics, Journal of Material Science and Mechanical Engineering, 2(4):326-328.

30. A. Mishra, S. Gautam and T. Sharma, 2016, Coal Gasification: An Advance Power Generation Technology, Advanced Research in Electrical and Electronic Engineering, 3(1):1-3.

31. A. Mishra, S. Gautam and T. Sharma, 2017, Product Gas Analysis and Effect of Partial Pressure on the Gasification Behavior of Jhama Coal, International Journal of Advance Research and Innovative Ideas in Education, 3(3): 3755-3759

International Conferences:

1. Amrit Anand, Shalini Gautam, Characterization and Thermo- gravimetric Analysis of Biomass for Potential Utilisation as an Alternate Energy Resources, ICRAE-2018, 4-6 December, ASTU, Assam, 2018
2. Amrit Anand, Shalini Gautam Biomass potential and its Utilization pattern inIndia ICRAE-2018,4-6 December, ASTU, Assam, 2018
3. Amrit Anand, Shalini GautamCharacterization of Biomass for its potential utilization as alternate source of energy, Mineral Processing Technology 2018, 10-12 October,IIT(ISM) 2018
4. Dipika Das, Anju Kachhap, Shalini Gautam, Soham Kumar Biswal &Shounak Banerjee, Effect of organic binder on fired iron ore pellet National Metallurgists'Day (NMD) and Annual Technical Meeting (ATM), Goa Nov 11-14, 2017
5. Anju Kachhap, Shalini Gautam Comparative study of Reduction Kinetics of Iron Ore Pellets using non-coking coal and wooden dustchar National Metallurgists' Day (NMD) and the 72ndAnnual Technical Meeting (ATM), Goa, Nov 11-14, 2017

6. Swapan Suman, Dipika Das, Shashi, Noor Beck & Shalini Gautam Characterization andUtilization of Solid Agricultural Wastes as an Alternative Energy Source international Seminar on Environment and Development in Eastern India 17-18 December, 2016
7. Mishra A., Shalini Gautam, and Sharma T., 2016, Coal Gasification: An advance power generation technology, Innovative research in mechanical engineering, automotive and aerospace technology (MEAT-2015), JNU, New Delhi.
8. Mishra A., Shalini Gautamand Sharma T., 2015, Study on Coal Gasification Kinetics, International Conference on "Innovative Trends in Mechanical, Material, Manufacturing, Automobile and Aeronautical Engineering" (ITMAAE-2015), Bapatla, Guntur(Dt.) Andhra Pradesh.
9. B S Ken, Shalini Gautam Utilization of Agricultural wastes for MetallurgicalpurposesMineral Processing Technology 12-14March, 2015
10. Mishra A., Shalini Gautamand Sharma T., 2014, Effect of Char Structure on Coal Gasification, INTERNATIONAL CONFERENCE On "Innovative Trends in Mechanical, Material, Manufacturing, Automobile, Aeronautical Engineering and Applied Physics" (ITMAEAP2014), JNU, New Delhi.
11. Mishra A., Shalini Gautamand Sharma T., 2014, Gasification of Non-Coking Coals, International Conference of Advance Research and Innovation (ICARI-2014), New Delhi.
12. Shalini Gautam, Sourav Gupta Comparative study of Reduction Kinetics of Ironore pellets using non-coking coal and low volatile caking coal Mineral Processing Technology 2014
13. Shalini Gautam, Sourav Gupta, Prabal Kumar Agarwal, Study of Reduction Kinetics of Iron Ore pellets by using Low Volatile Caking Coal, Mineral Processing Technology 2014
14. S Soren, Shalini Gautam Effect of Thermo mechanical Controlled Processing Parameters on Microstructures and Mechanical Properties of Micro alloyed Steel International Conference on Structural and Physical Properties of Solids (SPPS-2013)18-20 Nov2013, ISM, Dhanbad, PP-09
15. Deepak Singh Panwar, Suvradri Bar, Shalini Gautam Influence of binder concentration on the characteristics of coke and its micro strength National seminar on Koyla Upayog: Drishti 2025May (4-5), 2012, CIMFR(DC)
16. Amit Pandey, Shalini Gautam Potential use of Low Volatile Medium Coking Coal for Coke Making
17. National Conference cum Workshop on Geological & Technological Facets of CBM, Shale Gas, Energy Resources and CO_2 Sequestration (CSECS2010), 200-206, ISM Dhanbad
18. Shalini Gautam, V K Saxena, T Sharma, Influence of Moisture and Stamping on Coke strength, Mineral Processing Technology (MPT-2005) January 6-8, 325-332. ISM Dhanbad

Book Chapters:

1. Anand A, Gautam S; Characterization and Thermogravimetric analysis of Biomass for its potential Utilisation as an alternate energy resources; 93-108; Emerging Renewable Energy Technology; Plaban, Biswa and Dhiraj Maliyata; India; 2018. ISBN: 978-81-935731-5-0

2. Gautam S, Das D, Krishna N; Biomass and their Utilisation as Briquettes; 93-108; Emerging Renewable Energy Technology; Plaban, Biswa and Dhiraj; Maliyata; India; 2018. ISBN: 978-81-935731-5-0

3. Swapan Suman, Shalini Gautam; Biochar Derived from Agricultural Waste Biomass Act as a Clean and Alternative Energy Source of Fossil Fuel Inputs; Energy Systems and Environment, September 2018, Intech Open; Open Access Books Ch-12 , Page-(207-220) DOI:10.5772/intechopen.73833

Patents:

1. Intelligent Method and Process to Extraction of Silica from Rice Hulls (Application No: 202021055416) (Grant in process)

2. Shalini Gautam, Amrit Anand, A novel method to produce Bio-coke (submitted to IIT ISM)

3. Shalini Gautam, Amrit Anand, Development of thermochemical reactor (TCR) to analyze the reactivity, intrinsic kinetics and process thereof, and optimization of Hythane production from biomass and RDF. (In process)

4. Shalini Gautam, Amrit Anand, Dipika Das, Development of two stages reduction furnace for iron ore reduction through volatile matter and hydrogen rich syngas obtained from biomass. (In Process)