




P.E.S. College of Engineering, Mandya



Faculty Profile

General

Name	<i>Dr. Rupesh S</i>	
Designation,	<i>Assistant Professor</i>	
Department & Affiliated Institution	<i>Department of Mechanical Engineering, P.E.S College of Engineering, Mandya – 571 401</i>	
Research Area	<i>Biomass Gasification, Biofuels, Buoyancy driven flows</i>	
Contact Number	+ 91 7204810531	
Email ID	mailtorupeshs@gmail.com	

Academic Profile

Educational Qualifications

Degree	College	University	Year of Passing	% ge	Class
<i>Ph. D</i>	<i>NIT Calicut</i>	<i>NIT Calicut</i>	<i>2017</i>	<i>-</i>	<i>-</i>
<i>M.Tech</i>	<i>College of Engineering Trivandrum</i>	<i>University of Kerala</i>	<i>2010</i>	<i>8.85</i>	<i>FC</i>
<i>B. Tech</i>	<i>P. A. Aziz College of Engineering and Technology</i>	<i>University of Kerala</i>	<i>2008</i>	<i>8.23</i>	<i>FCD</i>

Research Achievements/Awards

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Professional Experience

Organization & Department	Designation	Period	Total of Experience
<i>Mar Baselios College of Engineering and Technology, Thiruvananthapuram</i>	<i>Assistant Professor</i>	<i>02-12-2010 to 12-12-2012</i>	<i>2 years</i>
<i>National Institute of Technology Calicut</i>	<i>Research Scholar</i>	<i>13-12-2012 to 31-01-2017</i>	<i>4 years</i>
<i>Mar Baselios College of Engineering and Technology, Thiruvananthapuram</i>	<i>Assistant Professor</i>	<i>02-02-2017 to 15-06-2020</i>	<i>3 years 4months</i>
<i>P.E.S College of Engineering, Mandya</i>	<i>Assistant Professor</i>	<i>17-08-2020 to Till date</i>	

Report of Work for the Academic Year: 2019-20

Academics	Description of Academic records
Teaching Records (Details of courses taught)	<i>Undergraduate: Introduction to Mechanical Engineering Sciences, Engineering Mechanics, Basic Thermodynamics, Fluid Mechanics Applied Thermodynamics, Turbomachines, Heat and Mass Transfer, Power Plant Engineering, Refrigeration and Airconditioning, Renewable Energy Technology, Propulsion Engineering.</i>

Research Guidance (Ph.D /; Students awarded & pursuing)

Degree	Awarded	Pursuing
Ph. D	-	2

Sponsored Research Projects (List of Projects taken up /completed and funds receiver & funding sources)

Project Title	Project Funded by	Grants Sanctioned	Grants Received
<i>Organic Pesticide and Mosquito Repellent from Azadirachta Indica and Simarouba</i>	<i>KSCST</i>	<i>Rs. 5000/-</i>	<i>Rs. 5000/-</i>
<i>Synthesis and Testing of Sustainable Biodiesel Through Mixed Oil Transesterification of Waste Cooking Oil, Pongamia Pinnata Oil And Ricinus Communies Oil</i>	<i>KSCST</i>	<i>Rs. 6000/-</i>	<i>Rs. 6000/-</i>

Research Publications in Refereed Journals and Conferences

No. of Publications in	National	International
Journals	-	10
Book chapter	-	1
Conferences	3	15

Other Important Responsibilities held in the College

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|---|---|
| 1. Department level Coordinator of My Gurukul College automation software (2020-2021) | 4. Project Coordinator of Biofuel Research Information and Demonstration Center (BRIDC) |
| 2. NBA Criteria coordinator | |
| 3. Department coordinator of Board of Studies (BoS) UG level (2020-2021) | |

Researcher IDs

ORCID:0000-0002-6460-8299

Scopus Author ID: 57189614083

Web of Science Researcher ID: ACL-2847-2022

Vidwan-ID: 219099

LIST OF PUBLICATION

Journals

1. Christy Thomas Sani, **Rupesh S**, Chris Ben Xavier & Rag R L (2023) Analysis of methanol recovery using component specific reaction kinetics in biodiesel synthesis, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, 45:2, 5608-5620, DOI: 10.1080/15567036.2023.2209033
2. **S Rupesh**, C Muraleedharan, P Arun, (2021) Influence of Residence Time on Syngas Composition in CaO Enhanced Air–Steam Gasification of Biomass, Environment, Development and Sustainability, Springer, 24, pp. 8363–8377. <https://doi.org/10.1007/s10668-021-01787-1>
3. **Rupesh S** & Gokul Krishnan S (2021) Analysis of sorbent enhanced steam assisted air gasification using biomass specific pyrolysis correlations, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, Taylor and Francis, DOI: 10.1080/15567036.2021.1920646
4. Adarsh R Nair, Raveesh G, **Rupesh S** (2020). Orifice enabled flow stabilization of natural circulation loop at lower inclinations, Kerntechnik 85 (3), 140-146. doi.org/10.3139/124.190088
5. **S. Rupesh**, C. Muraleedharan, P. Arun, (2016). ASPEN Plus Modelling of Air-Steam Gasification of Biomass with Sorbent Enabled CO₂ Capture, Resource-Efficient Technologies, Elsevier, 2 (2) 94-103. doi.org/10.1016/j.reffit.2016.07.002
6. **S. Rupesh**, C. Muraleedharan, and P. Arun, (2016). Energy and Exergy Analysis of Syngas Production from Different Biomasses Through Air-Steam Gasification, Frontiers in Energy, Springer doi.org/10.1007/s11708-016-0439-1

7. P M Suhaile, **S Rupesh**, C Muraleedharan, P Arun, (2015). Numerical Analysis on the Dynamic Behaviour of Fluidized Bed Reactor, *Applied Mechanics and Materials* 813, 718-722. doi.org/10.4028/www.scientific.net/AMM.813-814.718
8. **S. Rupesh**, C. Muraleedharan, P. Arun, (2015). A Comparative Study on Gaseous Fuel Generation Capability of Biomass Materials by Thermo-chemical Gasification Using Stoichiometric Quasi-steady-state Model, *International Journal of Energy and Environmental Engineering*, Springer, 6. 375-384. doi.org/10.1007/s40095-015-0182-0
9. **S. Rupesh**, C. Muraleedharan, P. Arun, (2014). Analysis of Hydrogen Generation from Coconut Shell Using Thermodynamic Equilibrium Model Considering Char and Tar, *International Scholarly Research Notices*, Hindawi, 2014 1-9. doi.org/10.1155/2014/654946
10. I. Thankachan, **S. Rupesh**, C. Muraleedharan, (2014). CFD Modelling of Biomass Gasification in Fluidized-Bed Reactor using Eulerian-Eulerian Approach, *Applied Mechanics and Materials* 592 1903-1908. doi.org/10.4028/www.scientific.net/AMM.592-594.1903

Book Chapter

1. Published book chapter entitled 'Recent Advances in Direct Catalytic Thermochemical Gasification of Biomass to Biofuels (Chapter 9) in the book 'Thermochemical and Catalytic Conversion Technologies for Future Biorefineries' published by Springer on 2nd September 2022.

Conferences

1. **S. Rupesh**, Chris Ben Xavier, and Christy Thomas Sani, Effect of Operating Parameters on Biodiesel Yield from Transesterification of Cotton Seed Oil. In: Doolla, S., Rather, Z.H., Ramadesigan, V. (eds) *Advances in Clean Energy and Sustainability*. ICAER 2022. Green Energy and Technology. Springer, Singapore. https://doi.org/10.1007/978-981-99-2279-6_41
2. Darshan Babu K S, G. Adarsh, Karan K, Shylesh Kumar P B, **Rupesh S**, Remya Jayachandran, A Novel scheme for IoT based Real Time Monitoring of Biodiesel Quality", *International Conference on Recent Trends in Electronics and Communication (ICRTEC)*, February 2023
3. Rag R L, **Rupesh S**, Comparative Performance Evaluation of Wirebonded Micro Heat Pipes with Acetone and Water as Working fluid, 2022 *International Conference on Innovations in Science and Technology for Sustainable Development (ICISTSD)*, Kollam, India, 2022, pp. 371-374, doi: 10.1109/ICISTSD55159.2022.10010562.
4. Jobin Varghese, **S Rupesh**, Jithu Augustine, Adithya Nair and Prajith, (2021) Design and analysis of a solar drier with a parabolic shaped dish type collector for drying peanut, *IOP Conference Series: Materials Science and Engineering*, Vol. 1132, pp. 012046. 10.1088/1757-899X/1132/1/012046
5. Adarsh R Nair, **Rupesh S**, Raveesh G, Abhijith Nair A S, (2019). Influence of Bidirectional Inclination on The Stability of Single-Phase Natural Circulation Loop, *AIP Conference Proceedings* 2134, 030006-13. doi.org/10.1063/1.5120204.
6. M G Reshma, Alen V, **Rupesh S**, (2019). A Comprehensive Review on Parametric Analysis of Single-Phase Natural Circulation Loop, *Proceedings of National Conference on Advances in Energy Efficient Technologies (NCAEET-2019)*, 15-19. ISBN: 978-81-940546-1-0
7. Akash K Agrawal, **Rupesh S**, Muraleedharan C, Arun P, (2016). Equilibrium Modelling of Biomass Air-Steam Gasification with Char Reaction Kinetics in ASPEN Plus, *Proceedings of 2nd International Conference on Thermal, Energy and Environment (INCOTEE 2016)*, Kalasalingam University, 1-5.

8. A.R. Ajith, **S. Rupesh**, C. Muraleedharan, P. Arun, (2016). CFD analysis on the effect of tar cracking in fluidised bed air-steam gasification of biomass, International Conference on Systems, Energy and Environment (ICSEE 2016), GEC Kannur, 119 -127.
9. **Rupesh S**, Ajith A. R, C. Muraleedharan, P. Arun, (2015). Modelling and simulation of bubbling fluidised bed reactor: effect of different drag models on bed pressure drop, Global Energy Technology Summit (NTPC), GETS 2015 ID # 300.
10. **Rupesh S**, C Muraleedharan, Arun P, (2015). Modeling and Simulation of Air-Steam Gasification of Biomass Using CO₂ Sorbent, Proceedings of 24th National Conference on I.C. Engines and Combustion, UPSE, Dehradun, 185-187.
11. **Ojus Mohan**, Rupesh S, C. Muraleedharan, P. Arun, (2015). Design of Fluidized Bed Reactor for Conversion of Biomass Energy in to Concentrated Gaseous Fuel, IEEE Xplore, 10.1109/SPICES.2015.7091422
12. Anoop P, **Rupesh S**, C. Muraleedharan, P. Arun, (2015). Energy and Exergy Analysis of Thermo-Chemical Gasification of Sawdust Using Thermodynamic Equilibrium Model, IEEE Xplore, 10.1109/SPICES.2015.7091505
13. Ojus Mohan, **Rupesh S**, C. Muraleedharan, P. Arun, (2015). Steady State Model for Fluidized Bed Biomass Gasification, International Conference on New Frontiers in Chemical, Energy and Environmental Engineering (INCEEE 2015), NIT Warangal, 1-4.
14. Arun K Mohandas, **Rupesh S**, C Muraleedharan, P. Arun, (2015). Modelling and simulation of air-steam gasification of rice husk using Aspen Plus, International Conference on Advances in Energy Research (ICAER 2015), IIT Bombay, 493-497.
15. Anil M, **Rupesh S**, Muraleedharan C, Arun P. (2015). Performance Evaluation of Fluidised Bed Biomass Gasifier Using CFD, International Conference on Advances in Energy Research, (ICAER 2015), IIT Bombay, 424-430.
16. **S. Rupesh**, C. Muraleedharan, P. Arun, (2014). Thermodynamic equilibrium model for biomass gasification with tar and char conversion, Int. Conference on Recycling and Reuse of Materials (ICRM 2014), International and Interuniversity Center for Nanoscience and Nanotechnology (IIUCNN), Mahatma Gandhi University,13-17.
17. U. K. Sajith, **S. Rupesh**, C. Muraleedharan, P. Arun, (2014). Characterisation of Biomass for Gasification, Proceedings of National conference on Latest Trends in Mechanical Engineering, (ICLTME 2014). GEC Palakkad, 273-275.
18. **Rupesh S**, K. Krishnakumar, (2010). Performance Evaluation of Minichannel Heat Exchangers for different cross-sectional geometries, Proceedings of International Conference on Technological Trends, (ICTT 2010), CET, 848-852.

Invited Talks

1. Resource person for three-day workshop on qualitative research methods – A guidance for research career, NIE Mysore, 2021
2. Resource Person for AICTE Training and Learning (ATAL) Academy Online Elementary FDP on "Diagnostic Maintenance of Mechanical Systems", P. E. S. College of Engineering, Mandya, 10th November 2021.

3. Resource Person for "A Hands-On Virtual Workshop on Mendeley Desktop", one-day virtual workshop organized by Department of Mechanical Engineering Eranad Knowledge City Technical Campus on 15th December 2021.
4. Resource Person for Hand-on Training on "Mendeley Desktop" organized by SCMS School of Engineering and Technology, 18th March 2022.

Review Expertise

Journals

Served as reviewer for peer reviewed International Journals like 'International Journal of Energy Research' (**Wiley**), 'Energy conversion and Management (**Elsevier**), 'Sustainable Energy Technologies and Assessments'(**Elsevier**), 'International Journal of Hydrogen Energy (**Elsevier**), Energy Nexus (**Elsevier**), Chemosphere (**Elsevier**) 'Waste and Biomass Valorization (**Springer**).

Conferences

- Reviewer of the First International Conference on Innovations in Mechanical Sciences, 2021.
- Reviewer of the Virtual International Conference on Advanced Technologies and Research in Mechanical Engineering (VICATRME'20) during 26th to 28th October 2020.