

# RESUME



1. **Name:** Dr. Rajan Kumar

2. **Department:** Mechanical Engineering

3. **Email id:** rkumar.me@bitsindri.ac.in/replyrajan@gmail.com

4. **Phone Number:** +91 9431576131

5. **Office Address:** Associate Professor, Deptt. Of Mechanical Engg., BIT Sindri

6. **Qualification:**

S. No	Degree(UG, PG, PhD)	Specialization	Institute/University
1	B.E( Mechanical Engg.)	Mechanical Engg.	Nagpur University
2	M.E( Mechanical Engg.)	Heat Power	BIT Mesra, Ranchi
3	Ph.D (Mechanical)	Renewable Energy, Alternative Fuel	VBU Hazaribag

7. **Area of Specialization:** Renewable Energy, Alternative Fuel, Automobile Engg.

## 8. Subjects Taught:

Automobile Engg, I. C. Engine, Thermodynamics, Engg. Mechanics, Graphics etc.

## 9. Professional Experience:

### Teaching Experience:

Sl. No.	Position held	Name of Organization	from	to
1	Associate Professor	BIT Sindri	18.02.2021	Till Date
2	Assistant Professor	BIT Sindri	07.09.2006	17.02.2021

## 10. Publications and Citations

### 1) International Journal:

Sl. No.	Title of the paper	Name of the journal in which publication has been made	Vol/No.	Publication Year	Pages
1	"An Experimental Assessment of Waste Transformer Oil and Palm Oil Biodiesel Blended with Diesel Fuel on A Single Cylinder Direct in Diesel Engine"	International journal on Advanced Science Engineering Information Technology SCOPUS	Vol.14, No. 1	2024	246-258
2	"Synthesis and gas chromatography based characterisation of biodiesel prepared from waste soybean oil "	Eurasian Chemical Communication SCOPUS	Vol.5 (2023),	2023	1000-1012

3	"An exhaustive experimental evaluation on the effects of using Jatropha biodiesel as an admixture in a DI diesel engine powered by waste plastic fuel "	International Journal of Sustainable Energy (Taylor and Francis), SCI	Vol.42, No. 1	2023	503-526
4	"A review of the potential use of Biodiesel from Sesame oil"	Neuroquantology SCOPUS	Vol.20, No. 09	2022	3989-3997
5	" An experimental assessment of using waste plastic fuel as an additive in a DI diesel engine running on Jatropha biodiesel blends"	Proc IMechE Part C: J Mechanical Engineering Science, SCI	Vol. 237, No. 11	2022	2647-2662
6	"Effects of Hexane Addition in Waste Plastic Fuel- Biodiesel-Diesel Blends on the Performance and Emission Characteristics of DI Diesel Engine"	Automotive Experiences, SCOPUS	Vol. 5, No. 3	2022	416-432
7	"Synthesis and characterization of biofuel using waste cooking oil obtained by the college canteen" accepted	International Journal on Engineering Applications (IREA)	Vol.10, No. 6	2022	460-469

	and will be published in “)” (2023), SCOPUS.	SCOPUS			
8	“Waste cooking oil Biodiesel and its Blends as an alternative fuel for CI Engine”	International Journal of Research in Engineering application & Management (IJREAM), UGC journal	Vol.- 5, Issue 7,	2019	97-100,
9	“Waste Transformer oil as an alternative fuel for CI Engines: A Review”	International Journal of Research in Engineering and Advanced Technology, UGC journal	Vol.- 6, Issue 2	2018	138-142
10	“FTIR spectroscopy Investigation of waste transformer oil as an alternative fuel for CI Engine”	International Journal of Advanced Scientific Research in Engineering and Management (IJASRM), UGC journal	Vol.- 3-, Issue 9,	2018	195-198
11	“Environmental aspect of Kerosene blended waste plastic oil when	STAR Research Journal, UGC Journal	Vol.- 5, Issue 11(1)	2017	1-5

	fuelled in diesel engine"				
12	"Fourier transform infrared spectrophotometry studies of jatropa biodiesel and its blends for engine performance"	International Journal of Mechanical Engineering and Technology	Vol.- 7, Issue 5	2016	330-336
13	"Experimental comparison of performance characteristics of a single cylinder diesel engine fueled with jatropa biodiesel-diesel and kerosene oil-jatropa biodiesel-diesel blends",	International Journal of Mechanical Engineering and Technology	Vol.- 7, Issue 5,	2016	321-329
14	"Experimental evaluation of waste plastic oil and its blends on a Single Cylinder Diesel Engine"	Journal of Mechanical Science and Technology (JMST), (Springer)	Vol.-30, No.-10	Oct. 2016.	4781-4789
15	"Experimental comparison of Performance evaluation and	International Journal of Mechanical Engineering	Vol.- 6, Issue 11	2015	183-194

	Emission characteristics of a Single cylinder diesel engine Fueled with jatropa biodiesel-diesel and waste plastic oil-diesel”	and Technology			
16	“Performance and emission study of Waste plastic oil and diesel blend in D.I. Single Cylinder diesel engine”,	International Journal of Mechanical Engineering and Technology (IGMET)	Vol-5, Issue 4	2014	90-95
17	“Performance and emissions study of Jatropa Biodiesel and its blends on C.I. Engine”	International Journal of Mechanical Engineering and Technology (IGMET)	Vol.-4, Issue 3	2013	85-93
18	“Characterization and effect of using waste polyethylene oil and diesel fuel blends in Compression Ignition engine”	Journal of Biofuels, Print Journal DOI-10.598/J.0976	Vol-3, No.- 2	2012	79-87

5	"Biodiesel Performance and Emission Study Using nano sized Particles as Additive: A Review"	<i>Full Paper Accepted in 4th International Conference on Recent Innovations in Science &amp; Technology (RIST), (2022), SCOPUS.</i>			
---	---	--	--	--	--

### **III) National Conference:**

<b>Sl. No.</b>	<b>Title of the paper</b>	<b>Name of the journal in which publication has been made</b>	<b>Vol/No.</b>	<b>Publication Year</b>	<b>Pages</b>
1	"Opportunities and Challenges in using Renewal Energy Sources-In Indian Scenario"	<i>National Conference on Advances in Environment Friendly Technology &amp; their Management, Ranchi</i>	ISBN: 978-93-5268-009-2	2017	
2	"Need of Smart Cities for urban Development in India" National Seminar on smart city and its effect on environment and urban ecosystem	Cambridge Institute of Technology, Ranchi (Jharkhand)	ISSN: 0973-7057	2016	
3	"Waste plastic oil as	" National Seminar on	ISBN: 978-93-	2016	

	an alternative fuel for diesel engine	<i>Environmental Issues: Protection, Conservation and Management (EIPCM)</i> . BIT Sindri, Dhanbad	85777-28-8		
4	“Feasibility of waste plastic oil as an alternative fuel for C.I. Engine”	<i>All India Seminar on “Recent Advancement in Manufacturing and its Management”</i> Organised by Institutions of Engineers at BIT Sindri,		2014	
5	“Experimental Investigation on the Performance and Emissions Characteristics of a Jatropha Oil on C.I. Engine”	<i>Energy and Environment for Sustainability (EES)</i> , BIT Sindri, Dhanbad	ISBN: 978-93-82880-18-9	2013	120-123
6	“Potential of Jatropha Oil as an alternative fuel for C.I. Engine”	National Seminar on “ <i>Indian Nuclear Power Programme: Challenges and Opportunities</i> ” BIT Sindri, Dhanbad		2012	
7	“Performance of Non-Edible Karanja oil on C.I. Engine”	National Seminar on “ <i>Indian Nuclear Power Programme: Challenges and Opportunities</i> ” BIT Sindri, Dhanbad		2012	

**IV). Total number of citations: 82**



## 11. Symposium/ Workshop/Seminar/ Attended

Sl. No.	Title of Symposium/ Workshop/Seminar/ Short – term Courses	Date	Organizing Institute
1	Successfully passed and completed NPTEL Course on “ Applied Thermodynamics for Engineers”	Jul-Oct 2021 (12 weeks)	IIT Guwahati
2	Successfully passed and completed NPTEL Course on “Analytical Chemistry”	Jul-Oct 2021 (12 weeks)	IIT Kharagpur
3	Successfully passed and completed ATAL Course on “ Alternative Fuels”	From 12.06.2021 to 16.06.2021	AICTE
4	Successfully passed and completed ATAL Course on “ Redemption from plastic pollution: Indian Railways”	From 05.07.2021 to 09.07.2021	AICTE (National Rail and Transportation Institute)
5	Successfully passed and completed NPTEL SWYAM Course on “ Digital Transformation in Teaching Learning Process”	From 06.04.2020 to 22.04.2020 (3 weeks)	IIT Bombay
6	Recent Advances in Manufacturing	From 27.11.18 to 01.12.18	BIT Sindri
7	Summer Training Programme on “Active Learning”	from 18.6.18 to 22.6.18	IIT Gandhinagar
8	ANN and Deep Learning	from 11.6.18 to 15.6.18	BIT Sindri
9	ICT Skills for Teachers	from 19.06.17 to 24.06.17	BIT Sindri
10	Digital Transformation in Teaching Learning Process	From 6-4-2020 to 22-4-2020	IIT Bombay
11	Green Energy Technologies for Sustainable Development	From 11-06-2020 to 20-06-2020	NIT Kurukshetra

11	Personality Development	From 26-10-2015 to 06-11-2015 Nov. 2015	BIT Sindri, Dhanbad sponsored by ISTE
12	National Workshop on Intellectual Property Rights	On 26-10-2013	BIT Sindri, Dhanbad
13	Performance Enhanceent Skills	From 23-07-212to 3-08-2012	BIT Sindri, Dhanbad
14	Improving Teaching Competency for 21 <sup>st</sup> Century Learners	From 19-12-2011to 30-12-2011	NITTR, Kolkatta

## 12. NPTEL and ATAL Courses Attended

- ✓ Successfully completed the NPTEL Online Certification Course of 12 weeks on 'Applied Thermodynamics for Engineers' from IIT Gawahati on July-Oct 2021.
- ✓ Successfully completed the NPTEL Online Certification Course of 12 weeks on 'Analytical Chemistry' from IIT Kharagpur on July-Oct 2021.
- ✓ Successfully completed the ATAL Academy activity FDP Certification Course of 1week from 12.06.2021 to 16.06.2021 on 'Alternative Fuels' from Gyan Ganga Institute of Technology & Science, Jabalpur, Madhya Pradesh.
- ✓ Successfully completed the ATAL Academy activity FDP Certification Course of 1week from 05.07.2021 to 09.07.2021 on 'Redemption from Plastic pollution: Indian Railways' National Rail and Transportation Institute, Vadodara, Gujrat.

## 13. Administrative Position Held:

S. No.	Position Held	From (date/month/year)
1	Professor In charge of Transport Deptt. of BIT Sindri.	From 2007 to March 2019
2	Professor In charge of Society of Mechanical Engg. (SAE BITSINDRI).	From 2013 to till date
3	Start up facilitator of BIT Sindri	From Nov.2017 to till date.

	Departmental Coordinator, TPO	From 24-01-2017
4	Coding Officer of Examination Deptt. of BIT Sindri	For odd sem. 2017.
5	Member of Accounts and expenditure committee of various Clubs and Societies of BIT Sindri	From March 2017 to till date
6	Departmental NBA Coordinator(Criterion 5)	From 2021
7	Mentor for first Year Civil Engineering	From 04-01-2021
8	Departmental Coordinator, IQAC	From 07-03-2022
9	Professor In charge of Body repair shop	From 24-10-17 to 01-12-2020
10	Coordinator, for the implementation of MOU signed between BIT Sindri and Sail, RDCIS, Ranchi	From 07-01-2022 to till date
11	Professor In charge of Project Lab	From 10-09-2022 to till date
12	Member of Construction Committee	From 07-08-2010
13	Hostel Superintendent of Hostel No. 10	From 2011 to 2015
14	Apart from this I have associated with the various work like, Counseling work, Admission work, External examiner, member of anti ragging committee and any other work assigned by Director sir and HOD.	

#### 14. Award / Recognition Bestowed on Faculty (State/National/International)

- Reviewer of various international reputed journals like Energy (Elsevier Publication), International journal of of Mechanical Engineering, International journal of Exploring Emerging trends In Engineering (IJEETE) etc.
- Continuously guiding and representing the various team of SAE Chapter of BIT Sindri from 2012 to till date. Recently In 2021 in VAHAAN Hackathon, **Team VIDOJAS** and in Automotive Styling **Team TRAILBLAZERS-V** from BIT Sindri secured **first place**. The competition consisted of many stages comprising of Solution poster submission and Poster presentation.

- Received 'Best Researcher Award' in International Scientist Awards on Engineering, Science & Medicine, Pondicherry (India) organized by VDGGOOD Professional Association on Feb.-2021
- Obtained the Ellite Silver Certificate in the NPTEL course of 'Analytical Chemistry' of the period of 12 modules.
- Received 81 citations of my research publication.

## 15. Projects and Consultancy

1. Submitted the Project entitled "Design and Installation of Hybrid thermal energy storage system in the department of Mechanical Engineering at BIT Sindri" to Ministry of New and Renewable Energy (R & D Division), Government of India (RE-RTD-2022) on 06-07-2022, the current status of our Project is under review.
2. CSR Project Proposal entitled "Skill Development has been submitted to CCL, Ranchi and ACC Limited, Sindri on July 2022.

## 16. Members of Professional Bodies:

- Associate Member of Institution of Engineers: Membership No: AM097613-2
- Life Member of Indian Society of for Technical Education(ISTE): Membership No: LM 83660
- Member of Indian Society of Automobile Engineering(SAE)
- Hong Kong society of Mechanical Engineers, Membership no.-m2017070202001
- The Indian Science Congress association, Membership no.-A2643



[Dr.Rajan Kumar]