



Dr. JAGANNATH DEBASIS PARHI
Ph.D. (Mechanical); M.Tech (Mechanical) ; B.Tech (Mechanical)
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 Date of Birth: 18th March 1993

CAREER OBJECTIVE	Research personnel aimed utilize a robust foundation in research, materials engineering, and advanced manufacturing technologies to innovate auxetic composite, optimize processes, and implement sustainable solutions, bridging academic excellence with transformative advancements in steelmaking.
CORE COMPETENCY	<p>Numerical Analysis Expertise: Skilled in FEM modeling and bifurcation studies.</p> <p>Composite Material Design: Proficient in optimizing composites through simulations.</p> <p>Bifurcation Analysis: Specialized in critical load and instability evaluations.</p> <p>Multiscale Modeling: Bridging micro-to-macro properties via simulations.</p> <p>R&D in Manufacturing: Integrating numerical insights into composite production.</p> <p>Failure Prediction: Expertise in mitigating buckling and delamination issues.</p>
RESEARCH INTEREST	<ul style="list-style-type: none"> • Chaotic vibration analysis auxetic(metamaterial) nanocomposite structure. • Composite structural batteries. • Fabrication, design and modelling of different type of CNTs based nanocomposite and hybrid composite • Nonlinear dynamic analysis of glass fibre-reinforced Composite structure. • Study of material damping and structural damping for several applications based on hybrid materials • Experimental vibration and damping analysis for different beam structure. • Vibration analysis of auxetic structure using AI.
PUBLICATION	<ul style="list-style-type: none"> • J. D. Parhi and T. Roy, “Chaotic vibration analysis of auxetic nanocomposite structures,” <i>JVC/Journal Vib. Control</i>, no. March, 2022, doi: 10.1177/10775463221123206. • J. D. Parhi and T. Roy “Nonlinear Dynamic Study of FG-GFRC-NPR Structures” <i>Engineering Research Express</i>, 2024, doi:10.1088/2631-8695/ad6bee. • J. D. Parhi and T. Roy “Chaotic vibration analysis of auxetic composite sandwich structure having auxetic nanocomposite core” <i>Journal of Vibration Engineering & Technologies</i>, 2024, DOI: 10.1007/s42417-024-01667-8. • Ravi Kumar, K.P., Parhi, J.D., Sahoo, A. and Mohapatra, S.S., 2024. The Identification of Critical Limits of Crown Diameter and Jet Height in Terms of Thermophysical Properties of Liquid Pool and Droplet. <i>Journal of The Institution of Engineers (India): Series E</i>, pp.1-12. • J. D. Parhi, T. Roy and S.K. Panda, “Nonlinear Dynamic and Energy Absorption Characteristics of Auxetic Graded Nanotube-Reinforced Polymeric Composite Structures” <i>International Journal of Structural Stability and Dynamics</i> (Under revision), 2025. • J. D. Parhi and T. Roy, “Nonlinear dynamic response of hybrid carbon fibre nanotube-reinforced composite structure having negative Poisson’s ratio”

	<p><i>Engineering Analysis with Boundary Elements</i> (Submitted).</p> <ul style="list-style-type: none"> • J. D. Parhi, S. Sahoo and T. Roy “On nonlinear dynamics, chaos and bifurcation of higher order FG-CNTRC structure” <i>Composite Structures</i> (submitted). • J. D. Parhi and T. Roy “Nonlinear vibration analysis of functionally graded auxetic core sandwich composite structure” <i>JVC/Journal Vib. Control</i> (submitted). • J. D. Parhi and T. Roy “Nonlinear Dynamic Analysis of Auxetic Sandwich Structure Having Auxetic Hybrid Composite Core” <i>Mechanics of advanced material and structure</i> (submitted). 	
INTERNATIONAL CONFERENCE	<ul style="list-style-type: none"> • J. D. Parhi and T. Roy, “Nonlinear dynamic analysis of auxetic gfrp composite structures” <i>28th International Congress on Sound and Vibration, Singapore</i>, ISBN 978-981-18-5070-7, ISSN 2329-3675. • J. D. Parhi, T. Roy and S. Mishra, “Chaotic Vibration of nanocomposite doubly curved shell structure” <i>International Conference on Recent Advances in Mechanical Engineering 2022</i>, ISBN: 978-93-91355-76-0. 	
PATENT	<ul style="list-style-type: none"> • Pin-on-disk tester with integrated reciprocating motion mechanism, 2025, granted (08/05/2025), application number:- 446255-001 • Multifunctional vehicle-mounted misting and spraying system, 2024, Published, application number:- 202411096231 • Method and system for reducing blind spots in vehicles windscreen during turning, 2024, Under examination, application number:- 202411096232 	
WORK EXPERIENCE	<ul style="list-style-type: none"> • Work as an Assistant Professor (Ad hoc) at National Institute of Technology (NIT), Rourkela, Odisha-769008, from 1th Jul, 2025 Cont... • Work as an Assistant Professor (Ad hoc) at Biju Patnaik University of Technology (BPUT) <i>Chhend Colony, Rourkela, Odisha-769015</i> from 17th Feb, 2025 to 30th Jun, 2025 • Work on the project “Design and Development of Multifunctional Energy Storage Composite Structures for Electric Vehicles” from 18th Dec, 2023 to 16th Mar, 2024 • Work on the project “Design and Development of Multifunctional Energy Storage Composite Structures for Electric Vehicles” from 25th July, 2024 to 20th Mar, 2025. 	
EDUCATION	National Institute of Technology, Rourkela, Odisha Doctor of Philosophy in Mechanical Engineering (Machine Design and Analysis) Thesis entitled “Nonlinear Dynamics and Energy Absorption Analyses of Auxetic Nanocomposite Structure” Graduated: 5th December 2024 with 1st class grade HONOURS	2018 - 2024
	Veer Surendra Sai University of Technology, Burla, Odisha Master of Technology in Mechanical Engineering (Machine Design and Analysis) Secured 1st class grade with HONOURS	2016 - 2018

	Government College of Engineering, Keonjhar, Odisha <i>Bachelor of Technology in Mechanical Engineering</i> <i>Secured 1st class grade</i>	2011 - 2015
	Laxminarayan Mahavidyalay, Jamsuli, Odisha <i>Orissa Higher Secondary School Certificate</i> <i>Examination Secured 1st class grade</i>	2008 - 2010
	K. C. High School, Narayanpur, BIs, Odisha, Orissa High School <i>Certificate Examination Secured 1st class grade</i>	2008
ACHIEVEMENTS	<ul style="list-style-type: none"> • MATLAB coding, Maple coding, ANSYS-APDL simulation, basics of C, C++. • Secretary of mechanical engineering association during bachelor of engineering • General Secretary of the college during bachelor of engineering. • Class representative of the class in my Master Degree. • I served as the hall's General Secretary continuing my PhD degree. 	
PERSONAL DETAILS	Fathers Name : Mr.Braja Mohan Parhi Mothers Name : Mrs.Jayanti Parhi Address :.At:-Juari, Po:-Alumeda, Via:- Haladipada, Dis:-Balasore, Pin:-756027 Strength(s): Adaptive, co-operative, strong work ethic, self-motivated, Detail oriented.	
REFEREES	Dr Tarapada Roy <i>Associate Professor</i> <i>Department of Mechanical Engineering</i> National Institute of Technology, Rourkela Odisha 769008, India +91 9438869552 tarapada@nitrkl.ac.in	Dr Soumya Sanjeeb Mohapatra <i>Assistant Professor</i> <i>Department of Chemical Engineering</i> National Institute of Technology, Rourkela Odisha 769008, India (+91) 6371546775 mohapatras@nitrkl.ac.in

I hereby claim that all the information provided in the resume are true to the best of my concern. Any false information must lead to cancellation to candidature for the post.

Place: Rourkela

Date:

Dr. JAGANNATH DEBASIS PARHI