

# Curriculum Vitae

**Dr. Pankaj Charan Jena**

**Designation:** Associate Professor

**Department:** Department of Production Engineering

**Institution:** Veer Surendra Sai University of Technology, Burla

**Nationality:** Indian

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[Pankaj Charan Jena - Google Scholar](#)



**Research Areas of Interest:** Mechanics of Composite Materials, Composite fabrication Techniques, Advanced Materials Processing and characterization, Beam/Plate Theory, Dynamics, Free and Force vibration of Mechanical Systems, Crack Analysis, Condition and Health Monitoring of Beam/Plate structures, Buckling analysis, Fatigue analysis, Artificial Intelligence Techniques, (Fuzzy Logic, Neural Network), Robotics & Automatic Vehicle Dynamics, Solar Powered Vehicle.

## Academic Qualifications

Ph.D.  
in Engineering Department of Mechanical Engineering, Jadavpur University, Kolkata, India, 2016.  
Thesis: *Fault Diagnosis of Beam type Structures using Vibration Parameters and AI Techniques.*

M.TECH.  
Mechanical System Design Department of Mechanical Engineering, Indira Gandhi Institute of Technology, Saranga, Dhenkanal, Odisha, Affiliated to Biju Patnaik University of Technology, Rourkela 2010, 80%

B.TECH.  
Mechanical Engineering Department of Mechanical Engineering, Orissa Engineering College, Affiliated to Biju Patnaik University of Technology, Rourkela, 2003, 64.5%

## Teaching Experiences

Institutions	From – To	Position hold	Experiences
VSS University of Technology, Burla-768018	04.09.2017- Till date	Associate Professor	6 Years
Sri Vaishnavi College of Engineering, Srikakulam, Andhra Pradesh- 532185	19.05.2016-18.05.2017	Professor	1 Year
Orissa Engineering College, Bhubaneswar-752050	01.5.2013-18.5.2016	Associate Professor	3 years
Orissa Engineering College, Bhubaneswar-752050	01.5.2011-30.4.2013	Asst. Professor	2 years
Orissa Engineering College, Bhubaneswar-752050	01.5.2008-30.4.2011	Sr. Lecturer	3 years
Orissa Engineering College, Bhubaneswar-752050	16.12.2004-30.4.2008	Lecturer	4 years

## Courses Taught:

UG:

- Mechanical Vibration & Applications
- Robotics and Robot Applications
- Design of Machine Elements
- Design of Machine Components
- Mechanics of Materials/ Mechanics of Solids
- Engineering Mechanics
- Finite Element Methods in Manufacturing
- Mechanical Measurements and Control
- Mechatronics

PG:

- Bearings and Lubrication
- Mechanics of Composite Materials
- Mechanics of Materials
- Theory of Elasticity & Plasticity
- Finite Element Analysis in Manufacturing
- Finite Element Methods
- Robotics and Robot Applications
- Mechatronics

## Publications (63)

### List of Key Publications in International Journals (28)

1. Sarada Prasad Parida, Saritprava Sahoo, **Pankaj Charan Jena**, Prediction of multiple transverse cracks in a composite beam using hybrid RNN-mPSO technique, Proceedings of Institute Mechanical Engineering Part C: J Mechanical Engineering Science, 2024, <https://doi.org/DOI: 10.1177/09544062241239415> **SCOPUS, SCI-IF: 2.0, ARS19.6**
2. Saritprava Sahoo, Sarada Prasad Parida, **Pankaj Charan Jena**, Dynamic response of a laminated hybrid composite cantilever beam with multiple cracks & moving mass, Structural Engineering and Mechanics: An International Journal, 87(6), 529-540, 2023, <https://doi.org/10.12989/sem.2023.87.6.529> **SCOPUS, SCI-IF: 2.2 ARS19.6**
3. Debabrata Dhupal, Debasish Panigrahi, Sweta Rout, Rajesh Kumar Bhuyan, Soumyaranjan Nayak, **Pankaj Charan Jena**, and Sudhansu Ranjan Das, Generation of Effusion Holes on Ultra-high Temperature Alloy by Micro Electro-discharge Machining Process, Surface Review and Letters, 2023, <https://doi.org/10.1142/S0218625X2450015X>, **SCOPUS, SCI-IF: 1.1, ARS6.9**
4. Saritprava Sahoo, **Pankaj Charan Jena**, Effect of lamina orientation, crack severity, and fillers on dynamic parameters of hybrid composite cantilever beam with double transverse cracks, Materialwissenschaft und Werkstofftechnik (Material Science & Engineering Technology), Vol.54(4), Pages: 737-750, DOI: 10.1002/mawe.202200205, **SCOPUS, SCI-IF: 1.034, ARS 16.1**
5. Sarada Prasad Parida, **Pankaj Charan Jena**, Dynamics of laminated-composite-plates with selective layer-wise fillering rested on elastic foundation using higher-order layer-wise theory Journal of Vibration and Control, Vol. 29(23-24) 5598–5615, 2023, <https://doi.org/10.1177/10775463221138353>, **SCOPUS, SCI-IF: 2.8, ARS19.6**
6. Sarada Prasad Parida, **Pankaj Charan Jena**, Multi-fillers GFRP laminated composite plates: Fabrication & Properties, Indian Journal of Engineering and Materials Sciences, Vol. December 2022, pp. 815-823 DOI: 10.56042/ijems.v29i6.70296 **SCOPUS, SCI-IF: 0.9, ARS12.6**
7. Sitesh Mahapatra, Anshuman Das, **Pankaj Charan Jena**, and Sudhansu Ranjan Das, Turning of hardened AISI H13 steel with recently developed S3P-ALTiSiN coated carbide tool using MWCNT mixed nanofluid under minimum quantity lubrication, Proceedings of Institute Mechanical Engineering Part C: J Mechanical Engineering Science, Vol.237 Issue 4, 843–864, 2023, <https://doi.org/10.1177/09544062221126357> **SCOPUS, SCI-IF: 2.0, ARS8.4**
8. Sarada Prasad Parida, **Pankaj Charan Jena**, Selective layer-by-layer fillering and its effect on the dynamic response of laminated composite plates using higher-order theory, Journal of Vibration and Control, Volume 29 Issue 11-12, 2473–2488, June 2023, <https://doi.org/10.1177/10775463221081180>, **SCOPUS, SCI-IF: 3.095, ARS19.6**
9. Sarada Prasad Parida, **Pankaj Charan Jena**, Free and forced vibration analysis of flyash/graphene filled laminated composite plates using higher order shear deformation theory, Proceedings of Institute Mechanical Engineering Part C: J Mechanical Engineering

10. Saritprava Sahoo, **Pankaj Charan Jena**, Preparation and Characterization of Hybrid Laminated Composite Beams, *Advances in Materials and Processing Technologies*, Vol. 8(2), 899-912, 2021, DOI:10.1080/2374068X.2021.1953924 **SCOPUS, ESCI, ARS9.1**
11. Sarada Prasad Parida, **Pankaj Charan Jena**, S.R.Das, D.Dhupal, R.R.Dash, Comparative Stress analysis of different suitable Biomaterials for Artificial Hip Joint and Femur Bone using Finite Element Simulation, *Advances in Materials and Processing Technologies*, Vol. 8(3), 2021, DOI:10.1080/2374068X.2021.1949541 **SCOPUS, ESCI ARS9.1**
12. Subhadip Pradhan, Sudhansu Ranjan Das, **Pankaj Charan Jena**, Debabrata Dhupal, Investigations on Surface Integrity in Hard Turning of Functionally Graded Specimen under Nano Fluid Assisted Minimum Quantity Lubrication, *Advances in Materials and Processing Technologies*, VOL. 8, NO. S3, 1714–1729, 2022, DOI:10.1080/2374068X.2021.1948706 **SCOPUS, ESCI ARS9.1**
13. Saurav Kumar Bhatt, **Pankaj Charan Jena**, Anish Pandey, Dayal R. Parhi, Design and Analysis of a Novel Concept-Based Six-Wheels Rocker-Bogie Robot, *Journal of Huazhong University of Science and Technology*, Vol.50(4), 1-20, 2021 **SCOPUS**
14. Subhadip Pradhan, Sudhansu Ranjan Das, Pankaj Charan Jena, Debabrata Dhupal, Machining performance evaluation under recently developed sustainable HAJM process of zirconia ceramic using hot SiC abrasives: An experimental and simulation approach, *Proceedings of Institute Mechanical Engineering Part C: J Mechanical Engineering Science* Volume 236 Issue 2, January 2022, 1009–1035, 2022, DOI: 10.1177/09544062211010199 **SCOPUS, SCI-IF: 1.762, ARS6.9**
15. Pradhan, S., Das, S.R., Nanda, B.K., **Jena, P.C.**, Dhupal, D., Experimental investigation on machining of hardstone quartz with modified AJM using hot silicon carbide abrasives, *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, Vol.42, No.11, 559, 2020, **SCIE-IF: 1.755, ARS6.9**
16. Pradhan, S., Das, S.R., Nanda, B.K., **Jena, P.C.**, Dhupal, D., Machining of Hard stone Quartz With Modified AJM Process using Hot SiC Abrasives: Analysis, Modeling, Optimization, and Cost Analysis, *Surface Review And Letters*, [Vol. 28, No. 02, 2050049 \(2021\)](#), 2050049 **SCOPUS, SCI-IF: 1.152, ARS6.9**
17. Sarada Prasad Parida, Pankaj Charan Jena\*, “Advances of Shear Deformation Theory for Analyzing the Dynamics of Laminated Composite Plates: An Overview”, **Mechanics of Composite Materials**, Vol. 56, No. 4, 455–484, 2020. **SCIE-IF: 1.333. ARS16.1**
18. Sarmila Singh, Sarada Prasad Parida, Premananda Ekka, Pankaj Charan Jena, “Characterization of Fabricated FG Pipe with Natural Fiber-Flyash-Epoxy using Centrifugal Casting”, *International Journal of Innovative Technology and Exploring Engineering*, Volume-8(11), PP., 2019, DOI: 10.35940/ijitee. J9831.0881019, **SCOPUS**.
19. Pankaj Charan Jena, Dayal R. Parhi and G. Pohit, “Dynamic Investigation of FRP Cracked Beam Using Neural Network Technique”, *Journal of Vibration Engineering & Technologies*, ISSN-2321-3558, Volume 7(6): 647–661, 2019. DOI: 10.1007/s42417-019-00158-5. **SCIE-IF: 1.889. ARS19.6**
20. Sarada Prasad Parida, Pankaj Charan Jena, “Design and Finite Element Analysis of Thick walled Laminated Composite Pressure Vessel”, *International Journal of Innovative Technology and Exploring Engineering*, Volume-8 (10), PP.4389-4394, 2019, DOI: 10.35940/ijitee. J9831.0881019, ISSN: 2278-3075. **SCOPUS**.
21. Sarada P. Parida, Pankaj Charan Jena, R. R. Dash, “Dynamic analysis of laminated composite beam using Timoshenko beam Theory”, *International Journal of Engineering and Advanced Technology*, Volume-8 Issue-6, PP.190-196, 2019, ISSN: 2249 – 8958., DOI: 10.35940/ijeat.E7159.088619. **SCOPUS**.
22. Sarada Prasad Parida, Saritprava Sahoo, Basna Bidisha Bal, Pankaj Charan Jena, “Buckling analysis of Functionally Graded Natural Fiber-Flyash-Epoxy (FGNFFE) Cylinder”, *International Journal of Engineering and Advanced Technology* ISSN: 2249 – 8958, Volume-8 (6), PP.4260-4265, 2019, DOI: 10.35940/ijeat. F9118.088619. **SCOPUS**.
23. Pranav Kumar Saraswat, Saritprava Sahoo, Sarada Prasad Parida, Pankaj Charan Jena, “Fabrication, Characterization and Drilling Operation of Natural Fiber Reinforced Hybrid Composite with Filler (Fly-Ash/Graphene)”, *International Journal of Innovative Technology and Exploring Engineering*,

ISSN: 2278-3075, Volume-8 (10), PP.1653-1659, 2019, DOI: 10.35940/ijitee. J1253.0881019, **SCOPUS**.

24. Pankaj Charan Jena, “Mechanical Properties of Fabricated CFRP with Filler”, International Journal of Engineering and Advanced Technology ISSN: 2249–8958, Volume-8 (6), PP.1886-1892, 2019, DOI: 10.35940/ijeat. E7166.088619. **SCOPUS**.
25. S. Kayal, Rabindra Behera, Pankaj Charan Jena, “Solidifying behavior and Characterization of Al (LM6) +SICP Metal Matrix Composites”, International Journal of Engineering and Advanced Technology ISSN: 2249 – 8958, Volume-8 (6), PP.2397-2403, 2019. **DOI: 10.35940/ijeat. F8527.088619, SCOPUS**.
26. Pankaj Charan Jena, Dayal R. Parhi and G. Pohit, “Fault Measurement in Composite Structure by Fuzzy-Neuro Hybrid Technique from the Natural Frequency and Fibre Orientation”, Journal of Vibration Engineering & Technologies, Vol. 5(2), PP.124-36, 2017, DOI: 10.1007/s42417-019-00158-5, **SCIE-IF: 1.889 ARS19.6**
27. Pankaj Charan Jena, Dayal R. Parhi and G. Pohit, “Dynamic Study of Composite Cracked Beam by Changing the Angle of Bidirectional Fibres”, Iranian Journal of Science and Technology, Transactions A: Science, Vol.40(1): PP.27-37, 2016, DOI 10.1007/s40995-016-0006-yISSN 1028-6276. **SCIE-IF: 1.194 ARS16.1**
28. Pankaj Charan Jena, Dayal R. Parhi and G. Pohit, “Theoretical, Numerical (FEM) and Experimental Analysis of composite cracked beams of different boundary conditions using vibration mode shape curvatures”, International Journal of Engineering and Technology, ISSN: 0975-4024, Vol. 6 No 2, PP.509-518, 2014.**SCOPUS**

#### **List of Books/Chapters Published (13)**

1. Saritprava Sahoo, **Pankaj Charan Jena**, (2022) Damage Detection Using Recurrent Neural Network in Hybrid Composite Beam, **Springer Book Series *Advances in Modelling and Optimization of Manufacturing and Industrial Systems***. Chapter 10, DOI : 10.1007/978-981-19-6107-6
2. B. B. V. L. Deepak · D. R. K. Parhi · B. B. Biswal · **Pankaj C. Jena** (Editors) 2022 Applications of Computational Methods in Manufacturing and Product Design Select Proceedings of IPDIMS, 2021 **SCOPUS**
3. BBVL Deepak, Dayal R Parhi, Pankaj Charan Jena, (2020), **Springer Book Series-Subtitle: Innovative Product Design and Intelligent Manufacturing System**, Springer-Book Series-Lecture Notes in Mechanical Engineering, ISSN: 2195-4356, Springer Nature Singapore Pte Ltd. **SCOPUS**
4. Basna Bidisha Bal, Sarada P. Parida, Pankaj Charan Jena, (2020), Damage Assessment of Beam Structure using Dynamic Parameters, in: Springer Book Series-Subtitle: Innovative Product Design and Intelligent Manufacturing System, Springer-Book Series-Lecture Notes in Mechanical Engineering, ISSN: 2195-4356, Springer Nature Singapore Pte Ltd. **SCOPUS**.
5. Sarada P. Parida, Pankaj Charan Jena, (2020), Dynamic analysis of cracked FGM cantilever beam, Springer Book Series-Subtitle: Innovative Product Design and Intelligent Manufacturing System, Springer-Book Series-Lecture Notes in Mechanical Engineering, ISSN: 2195-4356, Springer Nature Singapore Pte Ltd. **SCOPUS**.
6. Pradipta Kumar Rout, Pankaj Charan Jena, Girija Nandan Arka, B. Surekha, (2020), Review on Magnesium Alloy Processing, Springer Book Series-Subtitle: Innovative Product Design and Intelligent Manufacturing System, Springer-Book Series-Lecture Notes in Mechanical Engineering, ISSN: 2195-4356, Springer Nature Singapore Pte Ltd. **SCOPUS**.
7. Pradipta Kumar Rout, Pankaj Charan Jena, B.surekha, (2020), Mechanical Characterization & Microstructural Study of Carbon Steel Welded Joint made under SMAW & GMAW processes, Springer Book Series-Subtitle: Innovative Product Design and Intelligent Manufacturing System, Springer-Book Series-Lecture Notes in Mechanical Engineering, ISSN: 2195-4356, Springer Nature Singapore Pte Ltd. **SCOPUS**.
8. Barsarani Pradhan, Pankaj Charan Jena, D. Dhupal, (2019), Design, Development, and

Optimization of Bio-Mechatronic Engineering Products: Chapter-10: Modeling and Numerical analysis of advanced Machining for Orthotic Components (300818-053554) In: Kaushik Kumar, J. Paulo Davim (eds.) Design, Development, and Optimization of Bio-Mechatronic Engineering Products. IGI Global, Chapter 6, ISBN: 9781522582359, 2019.

**SCOPUS**

9. Pankaj Charan Jena, Barsarani Pradhan, Sudhansu Ranjan Das, and D. Dhupal, (2019) Experimental Investigation on ECMM with Nimonic 75 Alloy for Prosthetic Component. In: Kaushik Kumar, J. Paulo Davim (eds.) Design, Development, and Optimization of Bio-Mechatronic Engineering Products. IGI Global, Chapter 6, ISBN: 9781522582359. **SCOPUS**
10. S.K.Parida, B.K.Barik, Pankaj Charan Jena, (2019), Experimental and numerical analysis of Al-Cu sheets using hydraulic bulging process, In: Sustainable Engineering Products and Manufacturing Technologies, Chapter-3, 45-85 Elsevier, <https://doi.org/10.1016/B978-0-12-816564-5.00003-7>. 00006-2. **SCOPUS**.
11. Pankaj Charan Jena, (2019), Design and analysis of heat exchanger by using computational fluid dynamics, In: Sustainable Engineering Products and Manufacturing Technologies, Chapter-6, Elsevier, 2019, <https://doi.org/10.1016/B978-0-12-816564-5.00006-2>. **SCOPUS**
12. Jena J., Panda A., Behera A.K., Jena P.C., Das S.R., Dhupal D. (2019) Modeling and Optimization of Surface Roughness in Hard Turning of AISI 4340 Steel with Coated Ceramic Tool. In: Chattopadhyay J., Singh R., Prakash O. (eds) Innovation in Materials Science and Engineering. Springer, Singapore, Chapter 15, ISBN: 978-981-13-2116-0. **SCOPUS**.
13. Pankaj Charan Jena, (2018), Crack analysis by using Fuzzy Logic, Neural Network & It's Hybrid Tech, **Book**, Lambert Academic Publish, Europe, 2018, ISBN 978-613-9-87528-3.

**List of Publications in International Conferences (18)**

1. Parida SP, Jena PC., Cracked functionally graded beam's effects on vibration characteristics, Vol 1, Laxmi Publication, ISBN-978-1-387-30514-8. 1<sup>st</sup> International Conference Technology & Transformation in Mechanical Engineering, 6-7, January 2023, AIET, Bhubaneswar.
2. Parida SP, Jena PC. Dash RR, Transverse Vibration of Laminated-Composite-Plates with Fillers under Moving Mass Using HSDT, 3rd Innovative Product Design and Intelligent Manufacturing systems: national Conference (IPDIMS 2021), 30-31 December 2021, NIT, Rourkela.
3. Saritprava Sahoo, Pankaj Charan Jena, (2021), Damage Detection Using Recurrent Neural Network in Hybrid Composite Beam”, 2<sup>nd</sup> International Conference on Industrial and Manufacturing Systems (CIMS-2021)
4. Parida SP, Jena PC. A simplified fifth-order shear deformation theory applied to study the dynamic behavior of moderately thick composite plate, 2nd Innovative Product Design and Intelligent Manufacturing systems: national Conference (IPDIMS 2020), NIT, Rourkela
5. Sarada Prasad Parida, Pankaj Charan Jena, (2020), Preparation of Epoxy-Glass Composites with Graphene and Flyash filler, Materials Today Proceedings, Volume 26, Part 2, 2020, Pages 2328-2332, <https://doi.org/10.1016/j.matpr.2020.02.501>, 10<sup>TH</sup>- International Conference on Materials Processing and Characterization -2020, 21<sup>st</sup> to 23<sup>rd</sup> of Feb 2020 at GLA University, Mathura, **SCOPUS**
6. Saritprava Sahoo, Pankaj Charan Jena, (2020), Fabrication and Characterized of Hybrid Composite Beam Material with Fillers, Volume 26, Part 2, 2020, Pages 2595-2600, <https://doi.org/10.1016/j.matpr.2020.02.549>, 10<sup>TH</sup>- International Conference on Materials Processing and Characterization -2020, GRIET, Hyderabad, **SCOPUS**
7. Pradipta Kumar Rout, B. Surekha, Pankaj Charan Jena, Girija N Arko, (2020), Experimental Studies on Aluminum Powder Mixed Electro Discharge Machining of Ultra-Light Weight Mg-6Al Alloy, 10<sup>TH</sup>- International Conference on Materials Processing and Characterization -2020, GRIET, Hyderabad, **SCOPUS**
8. Sarada Prasad Parida, Pankaj Charan Jena, (2019), An Overview: Different Manufacturing Techniques used for Fabricating Functionally Graded Material, Journal of Materials Today: Proceedings, Volume 18, Part 7, 2019, Pages 2942-2951 ISSN: 2214-7853,

- <https://doi.org/10.1016/j.matpr.2019.07.164>, 9<sup>TH</sup>- International Conference on Materials Processing and Characterization-2019, 8-10 March, 2019, GRIET, Hyderabad, **SCOPUS**
9. Sarada Prasad Parida, Pankaj Charan Jena, R. R. Dash, (2019), FGM Beam analysis in Dynamical and Thermal surroundings using Finite Element Method, Journal of Materials Today: Proceedings, Volume 18, Part 7, 2019, Pages 3676-3682, ISSN: 2214-7853, <https://doi.org/10.1016/j.matpr.2019.07.301> 9<sup>TH</sup>- International Conference on Materials Processing and Characterization-2018, GRIET, Hyderabad, **SCOPUS**
  10. Pankaj Charan Jena, (2018), Fault Assessment of FRC Cracked Beam by using Neuro-Fuzzy Hybrid Technique, Journal of Materials Today: Proceedings, Volume 5, Issue 9, Part 3, 19216-19223, ISSN: 2214-7853, 8<sup>TH</sup>- International Conference on Materials Processing and Characterization-2018, GRIET, Hyderabad, **16–18 March, 2018, SCOPUS**
  11. Pankaj Charan Jena, S. P. Parida and R. R. Dash, (2018), Modal study of trapezoidal cantilever plate-like composite beam, Journal of Materials Today: Proceedings, Volume 5, Issue 9, Part 3, 19680-19692, ISSN 2214-7853, 8<sup>TH</sup>- International Conference on Materials Processing and Characterization -2018, GRIET, Hyderabad, **SCOPUS**
  12. Pankaj Charan Jena, (2018), Identification of Crack in SiC Composite Polymer Beam Using Vibration Signature, Journal of Materials Today: Proceedings, Volume 5, Issue 9, Part 3, 19693-19702, ISSN 2214-7853, 8<sup>TH</sup>- International Conference on Materials Processing and Characterization-2018, GRIET, Hyderabad, **SCOPUS**
  13. Pankaj Charan Jena, (2017), Free Vibration Analysis of Short Bamboo Fiber based Polymer Composite Beam Structure, Journal of Materials Today: Proceedings, Vol. 5 (2.1), 5870-5875, ISSN 2214-7853, 7<sup>TH</sup>- International Conference on Materials Processing and Characterization -2017, GRIET, Hyderabad, 17th to 19th *March 2017* **SCOPUS**
  14. J. Jena, A. Panda, A.K. Behera, P.C. Jena, S.R. Das, D. Dhupal, “Modelling and optimization of surface roughness in hard turning of AISI 4340 steel with the coated ceramic tool”, International Conference on Energy, Materials and Information Technology, 23<sup>rd</sup> - 24<sup>th</sup> December 2017, Amity University, Ranchi.
  15. P.C. Jena, S.R. Das, “A review on machinability of hardened steels with hard turning process: Parametric analysis”, International Conference on Sustainable Energy & Environment Vis-à-vis Advanced Materials (ENMAT-II)”, 4<sup>th</sup>-5<sup>th</sup> March 2016, Orissa Engineering College, Bhubaneswar.
  16. Jena, Pankaj C., Parhi, Dayal R., Pohit, G. and Samal, B.P, (2015), Crack Assessment by FEM of AMMC Beam Produced by Modified Stir Casting Method, Journal of Materials Today: Proceedings, Vol2(4-5), 2015, 2267 - 2276, ISSN 2214-7853, 4<sup>th</sup> International Conference on Materials Processing and Characterization, 14-15 *March 2015*, GRIET, Hyderabad, **SCOPUS**
  17. Jena, Pankaj C., Parhi, Dayal R. and Pohit, G, (2014), Fault analysis of FRC beam by using Neuro-Fuzzy Hybrid Technique, Proceedings- ICNDME, 415-421, Dec.2014, ISBN: 978-93-81910-31-3 International Conference on Newest Drifts in Mechanical Engineering-2014, M.M. University, Ambala.
  18. Jena, Shakti P., Parhi, Dayal R. and Jena, Pankaj C., (2014), Dynamic Response of Damaged Cantilever Beam Subjected to Traversing Mass, International Journal for Technological Research in Engineering (IJTRE) 2(7), 860-865, 2015, ISSN-**2347-4718**. International Conference on Newest Drifts in Mechanical Engineering-2014, 20-21 December 2014, M.M. University, Ambala,

#### **Technical Invited Talks:**

1. Delivered an invited talk as a resource person, Cracked functionally graded beam's effects on vibration characteristics, 1<sup>st</sup> International Conference Technology & Transformation in Mechanical Engineering, 6-7, January 2023.
2. Delivered a lecture as a resource person in a WEBINAR ON INNOVATIONS & FUTURE OF AUTOMOBILES, Two Days 21.05.2020 & @22.05.2020, 9.30 AM to 01.00 PM, Vignana Bharathi Institute of Engineering and Tech, Department of Mechanical Engineering Hyderabad, Telangana 501301, [www.vbithyd.ac.in](http://www.vbithyd.ac.in)

3. Delivered a lecture as a resource person in TEQIP-III sponsored National workshop on “Automobile Prototyping” from 13<sup>th</sup>-14<sup>th</sup> March 2020 at Capital Engineering College, Bhubaneswar.
4. Delivered a lecture as a resource person in TEQIP-III sponsored workshop on “Materials Development & Numerical Methods (MDNM-2020)” from 2<sup>nd</sup>-6<sup>th</sup> March 2020 at Konark Institute of Science and Technology, Bhubaneswar.
5. Delivered a lecture as a resource person in TEQIP-III Sponsored FDP National Conference on Materials and Machining during 10<sup>th</sup> & 11<sup>th</sup> January 2020 organized by Einstein Academy of Technology & Management, Bhubaneswar.
6. Delivered a lecture as a resource person in AICTE QIP short-term course on “Materials, Manufacturing & Management (MMM-2018)” from 14<sup>th</sup> -26<sup>th</sup> May 2018 at Veer Surendra Sai University of Technology, Burla.
7. Delivered a lecture as a resource person in AICTE short-term course on “Functional Engineering Material: Technology, Modeling and Analysis” from 25<sup>th</sup> June-07<sup>th</sup> July 2018 at Veer Surendra Sai University of Technology, Burla.
8. Delivered a lecture as a resource person in AICTE short-term course on “Recent Advances in Machining Processes” from 7<sup>th</sup>-12<sup>th</sup> May 2018 at Veer Surendra Sai University of Technology, Burla.
9. Delivered an invited talk at the “International Conference on Materials and Information Technology (ICEMIT-2017)” from, 23<sup>rd</sup> - 24<sup>th</sup> December 2017, Amity University, Ranchi.

#### **Short-term courses, Workshops, Conferences, and Seminars attended**

1. One-Week Online Short-Term Training Programme (STTP) on ‘Green Building, Energy Efficiency, and Energy Policy for Sustainable Future’ held during June 08 – 13, 2020, jointly organized by the Department of Energy Engineering, Assam Science and Technology University (ASTU), Guwahati, and Department of Electrical Engineering, Girijananda Chowdhury Institute of Management and Technology (GIMT), Guwahati. The Programme was organized under the Collaborative Research Scheme (CRS) of ASTU – the R&D Project Scheme under TEQIP-III, MHRD, GoI.
2. ICIPDIMS Conference, NIT Rourkela, 2019
3. Faculty induction workshop, IIT Kharagpur, MHRD, India, 12-16 June 2018
4. Short-term courses on “Recent Advances in Machining Processes”, VSSUT, Burla, AICTE- QIP-STC, 07-12 May 2018
5. Short-term courses on CMMMO, VSSUT, Burla, AICTE- QIP-STC, 19-24 Feb.2018
6. 8<sup>TH</sup>- International Conference on Materials Processing and Characterization, 2018, GRIET, Hyderabad.
7. 7<sup>TH</sup>- International Conference on Materials Processing and Characterization, 2017, GRIET, Hyderabad.
8. 4<sup>th</sup> International Conference on Materials Processing and Characterization, 2015, GRIET, Hyderabad.
9. International Conference on Newest Drifts in Mechanical Engineering-2014, M.M. University, Ambala,
10. Short Term Course on “Recent Advances in Production Engineering and Engineering Design” the organized by Department of Mechanical Engineering, Ajay Binay Institute of Technology, Cuttack from May 5<sup>th</sup> to 9<sup>th</sup>,2014.
11. Short Term Training Programme on “CNC Milling Machine” organized by MTAB Technology Centre, Chennai from September 3<sup>rd</sup> to 7<sup>th</sup>, 2007.

12. A workshop on “Advances in Automobile Engineering: BS-III Engine” organized by Department of Mechanical Engineering, Orissa Engineering College, Bhubaneswar on 16<sup>th</sup> September 2014.
13. A workshop on “Advances in Mechanical Engineering” the organized by Department of Mechanical Engineering, Orissa Engineering College, Bhubaneswar on 24<sup>th</sup> December 2014
14. Energy Efficiency Improvement in Steel Re-rolling Mills, UNDP/GEF, New Delhi.

**Short-term courses, Workshops, Conferences, and Seminars conducted (6 nos.)**

1. Organized (as Chairman) National Seminar on Recent Trends in Energy & Fuel Production Technology, RTEFPT-2024, 24-25 February, VSSUT, Burla.
2. Organized (as Chairman) National Conference on Chemical & Bio-Science, NCCBS-2023, 25-26 March, VSSUT, Burla.
3. Coordinator, One week, AICTE Sponsored STTP under AQIS Scheme on Advance of Materials Design, Machining, and Characterization (AMDMC-2020), VSSUT, Burla 21<sup>st</sup> – 26<sup>th</sup> November, 2020.
4. Coordinator, One week, TEQIP-III Government of India Sponsored Faculty Development Programme on Advances in Materials & Machining processes for Recent Industrial Applications (AMMPRIA-2020) VSSUT, Burla 7<sup>th</sup>– 11<sup>th</sup> September, 2020
5. Coordinator, Two-week Short-term course on “Functional Engineering Material: Technology, Modeling, and Analysis (FEMTMA)”, AICTE- QIP-STC, VSSUT, Burla, 25<sup>th</sup> June to 7<sup>th</sup> July 2018.
6. Convener, ENMAT-II (04.03.2016-05.03.2016) Orissa Engineering College, Bhubaneswar

**Ph.D. DISSERTATION GUIDED 02 nos. and ONGOING: 03Nos.**

Sl. No.	Name of the Student	Title of the Dissertation	Status
1.	Ms. Saritprava Sahoo Reg. No. 180110004	Multi-Crack Detection in Hybrid Composite Beam using Vibration Parameters and AI Techniques	<b>Awarded on 12-01-2024, Reference VSSUT/PGSR/227/24 &amp; DATE 02-02-2024</b>
2.	Mr. Sarada Prasad Parida Reg. No. 1810110007	Higher Order Shear Deformation Plate Theory Applied to Study the Dynamic Behavior of Composite Plate	<b>Awarded on 21-09-2022, Reference VSSUT/PGSR/942/22 &amp; DATE 22-09-2022</b>
3	Mr. Sitesh Mahapatra Reg. No. 2010110105	Machinability investigation of die steel in hard turning under minimum quantity lubrication-cooling strategy	Ongoing <b>(Co-Supervisor)</b>
4	Mr. Debasish Mishra Reg. No. 2310110003	Analysis of Damage Propagation in Laminated Plate-like Structure	Ongoing
5	Mr. Rajiv Lochan Padhy Reg. No.2310110102	Damage analysis of laminated composite plate subjected to various impact load in a viscous medium	Ongoing

**PG DISSERTATION GUIDED: 32 Nos.**

Sl. No.	Name of the Student	Title of the Dissertation	Year of Award
1.	Ajay Ketan Patel Reg. No. 2105110002	Evaluation of Mechanical and Tribological Property of natural fiber reinforced polymer composite filled with	May 2023



		ZnO nanoparticles	
2.	Elun Sekhar Barik Reg. No. 2005110007	Experimental investigation on machining of Al metal matrix composite using coated carbide tool under minimum quantity lubrication	May 2022
3.	Saurav Kumar Bhatt Reg. No. 1805110012	Kinematics and Dynamics analysis of six-wheels two mode operation Rocker-Bogie	Aug 2020
4.	Binay Kumar Lohar Reg. No. 1805110002	Experimental Analysis and Optimization of Turning operation on FG Specimen	Aug 2020
5.	Sarmila Singh Reg. No. 1705110015	Design and Fabrication of Functionally Graded Natural Fiber/ Epoxy Hollow Cylinder Using Centrifugal Casting	June 2019
6.	Pranav Kumar Saraswati Reg. No. 1705110013	Fabrication, Characterization, and Machining of Natural Fiber Reinforced Hybrid Composite with Filler (Fly-ash/Graphene)	June 2019
7.	Barsha Rani Pradhan Reg. No.1605110010	Experimental investigation and numerical analysis of electro-chemical micromachining process using ANSYS-CFX	May 2018
8.	Saroj Kumar Parida Reg. No.1605110007	Experimental and numerical analysis of Al-Cu sheets using a hydraulic bulging process	May 2018
9.	Abhishek Mishra Reg. No.1407211001	Crack detection in particulate reinforced composite polymer beam using vibration signature	May 2016
10.	Suprit Pradhan Reg. No.1407211006	Free vibration analysis of short bamboo fiber based polymer composite beam structure	May 2016
11.	Nityananda Biswal Reg. No.140303MER007	Dynamic behavior of SiC particulate reinforced polymer composite beam	May 2016
12.	Smarnika Rath Reg. No.1307211012	Crack analysis in FRP beam using FEA and dynamic parameters	Sept.2015
13.	Pradyumna Kumar Pradhan Reg. No.1307211008	Multi-crack analysis in beam using vibration signature and GA methods	September 2015
14.	Soumya Panda Reg. No.1207211008	Multi crack analysis of FRP beam	January 2015
15.	B. P. Soumendra Reg. No.1207211004	Vibration analysis of taper beam	January 2015
16.	Malla Dutta Reg. No.1207211007	Dynamic analysis of composite Timoshenko cracked beam	January 2015
17.	Cinmay Chetan Biswal Reg. No.1207211006	Development of glass fiber composite using resin transfer molding process and FEM analysis	January 2015
18.	Basna Bidisha Bal Reg. No.1207211005	Dynamic analysis of composite cracked beam using vibration parameters and FEM	January 2015
19.	Soumya Ranjan Paikray Reg. No.1207211009	Damage detection of inclined edge cracked beam using vibration parameter and AI techniques	January 2015
20.	Susant Kumar Swain Reg. No.1107211009	Dynamic analysis of plate-like structure using FEA	December 2013
21.	Annanta Charan Sahoo Reg. No.1107211006	Vibration analysis of cracked composite Timoshenko beam	December 2013
22.	Saradendu Bhujbal Reg. No.1107211007	Fault detection of a multi-cracked cantilever beam using FEM &AI technique	December 2013
23.	Debasmita Nayak Reg. No.1107211008	Modeling & fatigue analysis of wheel rim	December 2013
24.	Sarada Prasad Parida Reg. No.110799001	Study of modal characteristics of plate-like composite structure	December 2013
25.	Jyotirmayee Behera Reg. No.1007211017	Vibration analysis of beam through finite element technique	February 2013
26.	Anil panda Reg. No.1007211016	Path investigation of robots in different surroundings using AI techniques	February 2013
27.	Sakti Prasanna Jena	Comparison study of chaotic behavior of a constrained	March 2012

	Reg. No.0907211023	pipe carrying fluid by experimental and numerical analysis	
28.	Bisworanjan Rout Reg. No.0907211017	Study of parameters for designing a chair for a proper sitting posture of humans working in front of a desktop	March 2012

#### UG PROJECTS GUIDED 13 Nos.

Sl. No.	Name of the Student	Title of the Dissertation	Year of Award
1.	Niraj Mishra (Regd. No. 1802111037) Chinmaya Lal Singh (Regd. No. 1802111039) Suman Sekhar Patri (Regd. No. 1802111042)	Modelling and simulation of Ti6AL4V for dental implant using 3D-printing	2022
2.	Mohit Patel (Regd. No. 1802111040)	Boiler bed tube failure due to departure from nucleate boiling DBT effect	2022
3.	Mantosh Patra (Regd. No. 1802111036) Dibash Khadka (Regd. No. 1802111002)	Design and simulation of boiler tube erosion	2022
4.	Aman Agrawal (Regd. No. 1602111036) Dhirendra Chandra Das (Regd. No. 1602111042) Sushama Deep (Regd. No. 13011743) Swagat Kumar Dash (Regd. No. 1602110029)	Portable Refrigerator using a Peltier	2020
5.	ABHISHEK KASHYAP Regd. No. 1602110001 Nabin Kumar Ghosh Regd. No. 1602111047 Munmun Pradhan Regd. No. 1602111046	Obstacle Avoiding Path followed Robot using Arduino Uno	2020
6.		Fabrication and Characterization CFRP with Filler (Graphene and Fly-ash/)	2019
7.		Fabrication of FRP composite and machining	2018
8.		Experimental investigation of hydraulic bulging on two-layer Cu-GI sheet	2018
9.		Design evaluation and analysis of connecting rod	2016
10.		Quadcopter OEC UAV 2014	2014
11.		Preparation of Al-alloy and metal matrix composite	2014
12.		Design, analysis and development of an eco-friendly solar car	2014
13.		Design and development solar car	2013

### **PATENTS PUBLISHED 04 Nos.**

1. An autonomous floor cleaning robot, (Application No. 202131023229A/ Date of publication: 18-06-2021, The Patent Office Journal No. 25/2021, The Patent Office, Govt. of India).
2. Fluidized Hot Chamber For Abrasive Jet Machining, (Application No. 202031053304A, 05/02/2021, Certificate Serial No. 033121422, Patent No. 406529, The Patent Office, Govt. of India).
3. Apparatus and Method for Assessing Structural Damage in Laminated Composite Plates. The Patent Office Journal No. 46/2023 Dated 17/11/2023, Govt. of India
4. Apparatus for Testing Structural Damage in Laminated Composite Plates, Design Patent awarded 161541, Dated 22-03-2024

### **ADMINISTRATIVE RESPONSIBILITY TAKEN**

1. Head of Department, Chemical Engineering, VSS University of Technology, Burla-768018- From 28-07-2022 to Till Date
2. Hostel Warden (**Pulah Hall of Residence**) - From 18-02-2021 to 18.03.2023
3. PIC-Telephone - From 23-09-2020-to Till Date
4. Faculty Advisor “Production Engineering Society - From 20.09. 2019 to 20-01-2023
5. PIC-Metal Forming & Material Testing Lab From 20-09-2019 to Till Date
6. Principal, SRI VAISHNAVI COLLEGE OF ENGINEERING, SRIKAKULAM, A.P. from 12-05-2016 to 18-05-2017.
7. Head, Department, Mechanical Engineering, Orissa Engineering College, Bhubaneswar
8. M.Tech Coordinator, Orissa Engineering College, Bhubaneswar

### **Membership in Professional Bodies**

- Member, Institution of Engineers (MIE)India
- Life Membership, Indian Society for Technical Education (MISTE)India
- Member, The International Association of Engineers
- Member, Indian Society of Robotics, IIT Kanpur, India.

### **Awards Received**

1. Excellence Teaching in Higher Education Award: (Faculty Award) received for the futuristic and outstanding best practices in the field of education from DK International Research Foundation, 2020.
2. Er. Pratap Chandra Panda Award received from The Institution of Engineers (India), 2019.

### **Sponsored Projects & Consultancy**

1. Damage analysis of laminated composite plate subjected to various impact loads in a viscous medium, OURIIP, Department of Higher Education, Govt. of Odisha, Duration: 2 years, from December 2022 – Continuing, Rs.6,78,000

### **Papers reviewed in International Journals**

● International Journal of Vibration & Acoustics ● Iranian Journal of Science and Technology ● SN Applied Sciences ● Cogent Engineering ● Materials Today ● Journal of Sound and Vibration ● JVE, MDPI-Processes

**Computer Skills**

Windows 10, ANSYS, Deform3D, Matlab, AutoCAD.

**Pankaj Charan Jena**