

## CURRICULUM VITAE

### PERSONAL PROFILE

Name : Ritesh Kumar Patel  
Designation : Assistant Professor, Mechanical Engineering Department, IGIT Sarang  
Father's Name : Patiram Patel  
Correspondence : Village-Kashidih, Purana Basti, Post-Latesara  
Address : City-Chandrapur, District-Janjgir Champa  
495692, Chhattisgarh, India  
Marital Status : Married  
Phone : 7537954671  
Email id : ritesh.patel54@gmail.com, riteshpatel@igitsarang.ac.in  
Subject of Interest : Engineering Failure Analysis, Engineering Mechanics  
Machine Design, Strength of Materials  
Orchid id : 0000-0003-0142-2427  
Google Scholar : <https://scholar.google.co.in/citations?user=aLWuHtMAAAAJ&hl=en>

### PROFESSIONAL PROFILE

### ACADEMIC CREDENTIALS

| <i>Educational Qualification</i>                | <i>Institute Name</i>                                    | <i>Board/University</i> | <i>CGPA/%</i> | <i>Passing Year</i> |
|---|--|-------------------------|---------------|---------------------|
| Master of Technology (Machine Design)           | National Institute of Technology, Kurukshetra            | Deemed University       | 8.67          | 2014                |
| Bachelor of Engineering (Mechanical)            | RSR Rungta College of Engineering and Technology, Bhilai | CSVTU Bhilai            | 8.35          | 2012                |
| Higher Secondary School Certificate Examination | Ramapati Higher Secondary School, Chandrapur             | CGBSE Raipur            | 83.4          | 2008                |
| High School Certificate Examination             | Ramapati Higher Secondary School, Chandrapur             | CGBSE Raipur            | 81.16         | 2006                |

### SOFTWARE SKILLS

Solid works, CATIA, ANSYS 14.0

### SUBJECT TAUGHT/TEACHING

Engineering Mechanics, Quality Management and Reliability  
Strength of materials  
Machine Design  
Theory of Machine-I

## ORGANIZATIONAL EXPERIENCE

| <i>Organization</i>  | <i>Position held</i> | <i>Duration</i>      |
|--|----------------------|----------------------|
| Indira Gandhi Institute of Technology, Sarang                            | Assistant Professor  | July 2017 - Present  |
| Government College of Engineering, Bilaspur                              | Lecturer             | July 2016 – Sep 2016 |
| Sardar Vallabhbhai National Institute of Technology, Surat (SVNIT Surat) | Teaching Assistant   | Jan 2015 – May 2016  |

## MEMBERSHIP

IRED, IAENG, IFERP

## Publications in Scopus indexed Journal from Conferences

1. P. K. Mohanty, R. K. Patel, Free vibration analysis of laminated composite tapered beam, Current Advances in Mechanical Engineering, Lecture Notes in Mechanical Engineering, [https://doi.org/10.1007/978-981-33-4795-3\\_9](https://doi.org/10.1007/978-981-33-4795-3_9)
2. A. Kumar, **R. K. Patel** et al., Numerical simulation of weld nugget in resistance spot welding process, Materials Today: Proceedings 27 (2020) 2958-2963. (Also selected for special issue in ISSNAM 2020, University of Johannesburg).
3. Saxena, A., Gangwar, S., Ghosh, G.K., **Patel, R. K.**, Rheological properties analysis of MWCNT/Graphene Hybrid-Gear oil (SAE EP-90) nanolubricants, *Materials Today: Proceedings. (Elsevier)*<https://doi.org/10.1016/j.matpr.2020.02.973> (SCOPUS)
4. Pani, Amiya Ranjan, **Patel, Ritesh Kumar**, Ghosh, Gaurab Kumar, Buckling analysis and material selection of connecting rod to avoid hydro-lock failure. *Materials Today: Proceedings. (Elsevier)*<http://doi.org/10.1016/j.matpr.2019.09.079>. (SCOPUS)
5. **Patel, Ritesh Kumar**, Angra, Surjit and Mittal, Vinod Kumar, Comparison of materials for Universal tractor connecting rod using ANSYS software. *Applied Mechanics and Materials*, Vols. 592-594 (2014) pp 1015-1019. doi:10.4028/www.scientific.net/AMM.592-594.1015. (SCOPUS)

## INTERNATIONAL CONFERENCES

1. Sahoo, J. P. and **Patel, R. K.**, Design and Analysis of high pressure hydraulic accumulator, 2<sup>nd</sup> International Conference on Industrial and Manufacturing Systems (CIMS-2021), 11-13<sup>th</sup> November, 2021, Jointly organized by PEC Chandigarh & NIT Jalandhar, India.
2. **Patel, R. K.**, Ghosh G. K. and Pradhan, S. R., Fatigue and Modal analysis of crankshaft using ANSYS Software, *Proceedings of 19<sup>th</sup> ISME Conference on Advances in Mechanical Engineering*, National Institute of Technology, Jalandhar 2018 (20 – 22 Dec., 2018).

- Ghosh G. K. and **Patel, Ritesh Kumar**, Experimental investigation of resistance spot welding on mild steel (G3302) and stainless steel (SS202) Sheets, conference proceedings: *International Conference on Contemporary Design and Analysis of Manufacturing and Industrial Engineering Systems (CDAMIES)*, National Institute of Technology, Tiruchirappalli, 2018. (ISBN: 978-93-86954-00-8). (18<sup>th</sup> – 20<sup>th</sup> Jan., 2018)

#### NATIONAL CONFERENCES

- Patel, Ritesh Kumar**, Angra, Surjit and Mittal, Vinod Kumar, Finite Element Analysis of Connecting Rod Using CAE Tools, National Conference on Recent Advances in Manufacturing (RAM), Sardar Vallabhbhai National Institute of Technology, Surat, 2014. (26-28 June, 2014)
- Ghosh, Gaurab Kumar, **Patel, Ritesh Kumar**, A non-linear model for interfacial layer's thermal conductivity of nanofluid, 2<sup>nd</sup> National Conference on Multi-Dimensional Advancement in Mechanical Engineering, 27-28<sup>th</sup> Dec, 2017, Government College of Engineering, Kalahandi.

#### DETAILS OF (FDP) ORGANIZED

- Coordinator of One Week Online Faculty Development Programme on “**Vibration Analysis & Condition Monitoring for Rotating Machines**” (VACMRM-2020) held at IGIT, Sarang during 5<sup>th</sup> – 9<sup>th</sup> October 2020.

#### DETAILS OF (FDP/STC) PROGRAMME ATTENDED

| Sl. No. | Name of Course  | Organized by   | Duration  | Sponsored by      |
|---------|---|----------------|---|-------------------|
| 1.      | Introduction to Finite Element Method in Engineering                                  | NITTTR Kolkata | Two week<br>07 <sup>th</sup> Feb - 18 <sup>th</sup><br>Feb. 2022.     | NITTTR<br>Kolkata |
| 2.      | Vibration condition Monitoring and Control for Automobile and Industrial Applications | NIT Rourkela   | One week<br>20 <sup>th</sup> Dec. – 24 <sup>th</sup><br>Dec. 2021     | DST-<br>SERB      |
| 3.      | Refresher course in Engineering Mechanics: Principles of Statics                      | NITTTR Kolkata | One week<br>13 <sup>th</sup> Sep. - 17 <sup>th</sup><br>Sep. 2021     | NITTTR<br>Kolkata |
| 4.      | Numerical Methods for Engineering structures: Fundamental towards Applications        | IIT Ropar      | One week<br>25 <sup>th</sup> Oct. – 29 <sup>th</sup><br>Oct. 2021     | AICTE<br>(ATAL)   |
| 5.      | Damage Tolerance: A New Design Strategy   | VJTI Mumbai    | One week<br>05 <sup>th</sup> July – 09 <sup>th</sup><br>July 2021.    | AICTE<br>(ATAL)   |
| 6.      | Advanced Welding Technologies and Failure Analysis                                    | IIT Indore     | One week<br>19 <sup>th</sup> Sep. 2020-<br>24 <sup>th</sup> Sep. 2020 | AICTE             |
| 7.      | Structural Dynamics for Engineers   | IIT Kharagpur  | One week<br>12 <sup>th</sup> – 18 <sup>th</sup> Oct.                  | AICTE             |

|     |  |   |   |                                    |
|-----|--|---|---|------------------------------------|
|     |  |   | 2020  |                                    |
| 8.  | Micro and Precision Manufacturing  | IIT Indore  | One week<br>05 <sup>th</sup> Oct. – 10 <sup>th</sup><br>Oct. 2020 | AICTE                              |
| 9.  | Mechanics of Composite Materials and Structures                              | M.B.M. Engineering College, Faculty of Engineering and Architecture, J.N.V. University, Jodhpur | One week<br>2020-9-9 to<br>2020-9-13                              | AICTE (ATAL)                       |
| 10. | Intellectual Property Rights and Entrepreneurship Development (IPRED-2020)   | National Institute of Technology, Silchar   | One week<br>September 01-<br>05, 2020                             | TEQIP-III                          |
| 11. | Office Automation  | Jointly organized by NIT Uttarakhand and SLIET Longowal   | One week<br>24-28 Aug.<br>2020                                    | TEQIP-III                          |
| 12. | Startup Virtual Ideation Camp  | Dumka Engineering College in collaboration with Institutional Innovation Council, MHRD          | One week<br>10-14 Aug.<br>2020                                    | TEQIP-III                          |
| 13. | Finite Element Analysis  | ABES Ghaziabad  | One week<br>05 <sup>th</sup> -09 <sup>th</sup> Aug.<br>2020       | AICTE                              |
| 14. | Reliability, Maintainability and Quality Issues in Process Industries        | NIT Jalandhar   | One week<br>04 <sup>th</sup> – 08 <sup>th</sup> Aug.<br>2020      | TEQIP-III                          |
| 15. | Powder Metallurgy Technologies for 3D Printing                               | MEPKO Schlenk Engg College, Sivakasi  | One week<br>July 27-01 Aug<br>2020                                | AICTE                              |
| 16. | SAP ERP Procurement Academy I and Procurement Academy II (Train The Trainer) | OSDA Odisha   | Three week<br>01 July - 21<br>July 2020                           | OSDA Odisha                        |
| 17. | Robotics   | NIT Jamshedpur  | One week<br>25 <sup>th</sup> – 29 <sup>th</sup> May,<br>2020      | AICTE Training And Learning (ATAL) |
| 18. | Active/Passive Damping Composites for structural vibration control           | IIT Guwahati  | One week<br>6 <sup>th</sup> -10 <sup>th</sup> Jan,<br>2020        | TEQIP-III                          |
| 19. | Fracture Mechanics: Linear Elasticity and FEM                                | IIT Delhi   | One week<br>30 Sep – 04Oct,<br>2019                               | TEQIP-III                          |
| 20. | Finite Element Method and Applications in Civil Engineering                  | IIT Bombay  | One week<br>20 May –<br>24May, 2019                               | AICTE                              |
| 21. | Solid Modeling and Motion Studies Using Solidworks” (SMMSS-2018)             | NIT Rourkela  | One week<br>June 18 – 22  | TEQIP-III                          |

|     |   |              |                                     |           |
|-----|---|--------------|-------------------------------------|-----------|
|     |   |              | June, 2018                          |           |
| 22. | Active Learning, Autonomy, Academic Governance and R & D            | IIT Roorkee  | One week<br>28 May – 1<br>June 2018 | TEQIP-III |
| 23. | Nanomaterials Science and Technology                                | IGIT, Sarang | One week<br>March 12-16,<br>2018    | TEQIP-III |
| 24. | Applications of Chemical Engineering in Natural Resources (AChENRI) | IGIT, Sarang | One week<br>July 17-21,<br>2018     | TEQIP-III |
| 25. | Outcome Based Accreditation for UG/PG Engineering Program           | IGIT, Sarang | Two Days<br>March 6-7,<br>2018      | TEQIP-III |

### **NPTEL Swayam Course successfully completed [Faculty Development Programme]**

1. Principle of Casting Technology (8 Weeks, Jan -Mar 2019, IIT Roorkee)
2. Noise Management and Control (12 Weeks, July - Oct 2019, IIT Kanpur)
3. Failure Analysis and Prevention (8 Weeks, Feb – April 2021, IIT Roorkee)

### **Invited Talk as Speaker**

1. Delivered a talk as speaker on “SAP ERP Overview with Material Management” in Webinar on “Technologies & ERP Management of Thermal Power Plant and & Alternate sources for Sustainability” conducted by S.K.D.A.V govt. polytechnic, Rourkela during 19<sup>th</sup> – 20<sup>th</sup> Nov. 2020.

### **RESPONSIBILITY OTHER THAN TEACHING**

1. Deputy Centre Superintendent Exam section at IGIT Sarang (Nov 2017 - present)
2. Laboratory In-charge (Dynamics Lab and Material Testing Lab) (Dec. 2017-present)
3. TEQIP-III Co-coordinator at IGIT Sarang (June 2018 – Sep 2021)
4. Departmental NBA team Member. (Oct. 2018 - present)
5. Departmental B.Tech Examination Co-ordinator (Oct. 2018 - present)
6. Development of seminar room. (Aug. 2019 - present)
7. B.Tech 4<sup>th</sup> Year Co-ordinator (Aug. 2019 - present)
8. Digi-locker Coordinator (Feb 2022 - present)

### **RESEARCH GUIDANCE (M.Tech)**

| Sl. No. | Name of the Student | Admn No.   | Title of Dissertation   | Passing Year |
|---------|---------------------|------------|---|--------------|
| 1       | Sibani Ganthia      | 1607105118 | Static and Modal Analysis of Crankshaft Using ANSYS           | 2018         |
| 2       | Amiya Ranjan Pani   | 1707105072 | Buckling analysis and material selection of connecting rod to | 2019         |

|   |                        |            |  |      |
|---|------------------------|------------|--|------|
|   |                        |            | avoid hydro-lock failure   |      |
| 3 | Pradeepa Kumar Mohanty | 1707105094 | Free Vibration Analysis of Laminated Composite Tapered Beam                              | 2020 |
| 4 | Prasannajit Boity      | 1807105065 | Tribological Optimization and Performance of 4-Stroke Diesel Engine Using Nanolubricants | 2020 |
| 5 | Sudhir Kumar Pradhan   | 1907105046 | Design, Construction of a Solar Dryer  | 2021 |

### **B.Tech (UG) project GUIDANCE**

1. Brake Energy Regenerative System (2017-18)
2. Design, development and performance of Indirect Type Solar Dryer (2018-19)
3. Performance analysis of 4-stroke diesel engine using diesel fuel blended with MWCNT and Graphene nanoparticles (2019-20)
4. Design and Analysis of High Pressure hydraulic accumulator (2020-21)
5. Utilisation of wind energy resources from highways using VAWT (2021-22)

### **Research Seed Grant**

| Sl. No. | Title of project  | Sanctioned authority | Amount        | Status    | Role  |
|---------|---|----------------------|---------------|-----------|-------|
| 1       | Optimization of Tribological Characteristics of Industrial Engine oil based Nanolubricants using Taguchi Method | TEQIP-III            | Rs. 1,85,000  | Completed | Co-PI |
| 2       | Experimental Investigation of Tribological Properties & Oil Film Thickness Analysis of Nanolubricant            | TEQIP-III            | Rs. 15,57,000 | Completed | Co-PI |

I hereby declare that all the above given information is true to the best of my knowledge.

Place: **IGIT, Sarang**

Date : **May 2022**

Ritesh Kumar Patel