

Name: Dr. Abhinav Gautam

Designation: Assistant Professor

Department of Mechatronics Engineering

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Academic Background

- Ph.D. degree from Indian Institute of Technology (ISM) Dhanbad in 2019.
- M. Tech in Mechanical Engineering with specialization in Maintenance Engineering and Tribology from Indian School of Mines, Dhanbad in 2014.
- B. Tech in Mechanical Engineering from West Bengal University of Technology in 2011.

Teaching Experience

- Worked as Assistant professor at Ramgarh Engineering College, Jharkhand in department of Mechanical Engineering, from September, 2018 to September 2020. Deputed by National Project Implementation Unit (NPIU) a unit of MHRD Gov. of India.

Industry Experience

- Worked as GET -MECHANICAL from July 2011 to June 2012 at IOCL, Paradeep, Employed under Petron engineering construction limited, Job responsibility: material handling and execution of duct fabrication of AVU heater.

Sponsored Project

Title of the Project	Sponsored Agency	PI/ Co-PI	Total Amount in Lakhs.	Completed/ Ongoing
Investigation on Ratcheting behaviour of Indian Rail Steel and its microstructural characterization”	NPIU (MHRD)	PI from June 2019 to September 2020. Now working as Co-PI	18.77	Ongoing

Research Area and Interest

- Damage mechanics,
- Fatigue and fracture of engineering materials,
- Material characterization and material behavior study.

Course Taught

- Machine Design
- Engineering Mechanics
- Metrology
- Engineering Thermodynamics

Publication (Journal/Conference)

- **Abhinav Gautam** and P. K. Sarkar (2019). Continuum Damage Mechanics based ductile behaviour and fatigue life estimation of low carbon steels: AISI 1020 and AISI 1030, Journal of Materials: design and applications. Vol. 233(10) 2057–2071. DOI: 10.1177/1464420718815713
- **Abhinav Gautam** K. Priya Ajit, , P. K. Sarkar (2018). A nonlinear CDM based damage growth law for ductile materials, Materials Research Express. Vol. 5 (2), 026518.pp. 1-12. DOI: 10.1088/2053-1591/aaa9d0.
- **Abhinav Gautam** K. Priya Ajit, , P. K. Sarkar (2017). Fatigue Damage Estimation through Continuum Damage Mechanics, Procedia Engineering. Vol. 173, 1567-1574. DOI:10.1016/j.proeng.2016.12.248
- **Abhinav Gautam**, P.K. Sarkar, Rahul Jangid, K. Priya Ajit, (2018). Ductile and Fatigue Behaviour Estimation of Lightweight High-Strength Al 2024, Materials Today: Proceedings, Vol. 5(2)/ 7873-7881. DOI: 10.1016/j.matpr.2017.11.468
- K. Priya Ajit, **Abhinav Gautam**, and P. K. Sarkar (2015). Ductile fracture behavior of low carbon high strength steel using continuum damage mechanics. International Journal of Materials Research: Vol. 106, No. 9, pp. 1010-1013. Doi: 10.3139/146.111271.
- K. Priya Ajit, **Abhinav Gautam**, and P. K. Sarkar (2016). Ductile Behaviour Characterization of Low Carbon Steel:a CDM Approach. Journal of Mechanical Engineering: Vol. 62, No.5, pp. 299-306. DOI:10.5545/sv-jme.2015.3200
- K. Priya Ajit, **Abhinav Gautam**, P. K. Sarkar (2016). Fatigue Damage Estimation through Continuum Damage Mechanics revisited , Journal of Mines, Metals and Fuels, Vol. 64, No. 11, Pages 214-217, 2016.
- Jay Prakash Srivastava, Prabir Kumar Sarkar (2018) **Abhinav Gautam**, Rajkumar Yadav, Hemant Kumar. [Micromechanical characterisation of Indian rail steel](#), IOP Conference Series: Materials Science and Engineering 377 (1), 012104
- S.Dwivedi, KP Ajit, **Abhinav Gautam** (2018) [Breakdown investigation of Diesel Engine Camshaft of Front End Loader](#), IOP Conference Series: Materials Science and Engineering 377 (1), 012035