ABHISHEK KUMAR

Roll no. – 718030

Mechanical Engineering, PhD

National Institute of Technology, Warangal

+91-9692976388
abhi983593@gmail.com
abhik@student.nitw.ac.in
linkedin.com/in/abhishek-kumar-a29aa323a
DOB – 27/05/1993

EDUCATION

- **National Institute of Technology, Warangal** 2018-23

PhD in Mechanical Engineering **CGPA**: 7.6

- **National Institute of Technology, Warangal** 2016-18

M.Tech in Machine Design **CGPA**: 7.28

- **Krupajal Engineering College, Bhubaneswar** 2011-15

B.Tech in Mechanical Engineering **CGPA**: 7.69

- **DAV Public School, Alkusa** 2010-12

Intermediate **Percentage:** 72%

- **High School, Putki** 2007-08

High School Percentage: 81.4%

PROJECTS

- **Development of ultrasonic waveguide sensor to monitor the rheological properties of fluids** **August2018-23**

• Modelling and FEM simulation performed of wave propagation on ABAQUS CAE and CREO.

- Ultrasonic signal behavior studied, Signal processing
- Design and fabrication of experimental set up
- Development of ultrasonic sensor

• Measurement and analysis of datasets, Optimization and development of correlations.

- **Friction and wear characteristics of Neem oil based biodiesel** July 2016 - May 2018

• Prepared the neem oil based biodiesel.

- Studied the properties of developed biodiesel

• Studied the tribological characteristics of the biodiesel

- **Multi fuel two stroke engine** Aug 2014 –Apr 2015

• Designed and developed multi fuel two stroke engine

TRAINING AND INTERNSHIP

- **Overhauling of Engine &Transmission of heavy earth moving machineries of BCCL**

May - June 2014

• Worked as an intern in Coal India for 4 weeks.

• Learnt the assembly of engine and transmission components.

-**Workshop and CATIA modelling, CTTC Bhubaneswar** May - June 2013

• Worked as a summer trainee for 4 weeks in the Mechanical workshop

• Learnt about the 3D modelling in CATIA

SKILLS AND INTEREST

- **Technical skills** - SolidWorks, CATIA, CREO, CATIA, Auto CAD, Abaqus CAE, MATLAB, Basics of Python Programming, MS Office.

- **Soft skills** – Team player, Hardworking, Good communication skills, Enthusiastic to learn, Disciplined, Optimistic, Adaptive etc.

- **Area of interest -** Design and analysis, Research and development, Design of ultrasonic sensors, Condition monitoring and fault diagnostics, FEA, Mechanical Vibrations etc.

ACHIEVEMENTS

- Fellowship from MHRD (Aug 2016- Jun 2018)

- MHRD fellowship through GATE-2017 (July 2018 - July 2023).

-Gate Qualified with Gate score of 617

HOBBIES

- Reading, Writing, Travelling, Cooking and listening to music.

RESEARCH ARTICLES PUBLISHED IN INTERNATIONAL JOURNALS

1. Abhishek kumar, Suresh Periyannan, "Enhancing the ultrasonic waveguide sensor's fluid level sensitivity using through-transmission and pulse-echo techniques simultaneously" Review of scientific Instrumnents, 94(6), 065007 (2023). https://doi.org/10.1063/5.0145684. (**AIP, SCI, IF 1.85, Q2**)
2. Abhishek kumar, Suresh Periyannan, "Helical waveguide sensor for fluid level sensing using L(0,1), T(0,1) and F(1,1) wave modes simultaneously," IEEE Sensors Journal, Manuscript Number: Sensors-61676-2023 (accepted). Article DOI: 10.1109/JSEN.2023.3296931. (IEEE, SCI, IF 4.6, Q1)
3. Abhishek kumar, Suresh Periyannan, "Ultrasonic Helical waveguide Sensor using T(0,1), L(0,1), and F(1,1) wave modes in Through-transmission and Pulse-echo Techniques simultaneously for sensing fluid level" (JPME-23-0625 (Under review).

INTERNATIONAL CONFERENCES

1. Abhishek kumar, Suresh Periyannan, ""Ultrasonic Waveguide Technique for Fluid Level Sensing: A Comparative Study of FEA and Experimental Methods," 1st International Conference on Mechanical Engineering: Researches and Evolutionary Challenges (ICMech-REC-2023), 23 - 25 JUNE 2023. National Institute of Technology, Warangal.
2. Abhishek kumar, Suresh Periyannan, 'Experimental Study to Monitor the Rising and Falling of Fluid level using Ultrasonic Waveguide Techniques' NDE 2022 Conference & Exhibition on Non-Destructive Evaluation, 24-26 November 2022. Gandhinagar. Indian Society for Non-destructive Testing (ISNT), Gandhinagar.
3. Abhishek kumar, Suresh Periyannan, "Development of Ultrasonic Long Waveguide Level Sensor using Different Wave modes" NDE 2021 Virtual Conference & Exhibition on Non-Destructive Evaluation, 9-1 December 2021. Indian Society for Non-destructive Testing (ISNT)
4. Abhishek kumar, Suresh Periyannan, "Development of Ultrasonic Waveguide Technique for Fluid Level Sensing using FEA Approach" NDE 2019, 5-7December 2019. Indian Society for Non-destructive Testing (ISNT), Bengaluru.
5. Abhishek kumar, Suresh Periyannan, "A study on Enhancing Biodiesel Properties and its Stability using Ultrasonic Waveguide Method" IGNITE NDE Symposium 3-4 November 2018. Indian Institute of Technology, Madras.
6. Abhishek kumar, Suresh Periyannan, Syed Ismail, "Development of Neem oil based Biodiesel and Study of its impact on Tribological Characteristics," International Conference on Advanced Functional Materials and Devices (ICAFMD 2019), Feb 26-28, 2019, NIT Warangal.