

## RESUME

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NAME : **Dr. Nilaj Najukrao Deshmukh**

ADDRESS : **A-1301, Balaji Symphony, Sukapur, New Panvel, Navi Mumbai,**  
**Pin-410 206.**

**PRESENT STATUS:** Working as **Dean (Admin. and Faculty) and Professor, Mechanical Engineering Department** Fr. C. Rodrigues Institute of Technology, Vashi.

### **EDUCATIONAL QUALIFICATION:**

<b>Examination Passed</b>	<b>Board / University</b>	<b>Year of Passing</b>	<b>% of Marks Obtained</b>	<b>Class Obtained</b>
Ph. D.	IIT Bombay, Mumbai	2015-16	-	-
M. Tech. Mechanical	V.J.T.I. Matunga Mumbai	2005-2006	68.00%	First Class
B.E. Mechanical	Amravati University	1997-98	64.74%	First Class
Diploma in Mechanical Engg.	Board of Technical Education Mumbai.	1994-95	60.00%	First Class
S.S.C.	Nagpur	1990-91	77.75%	First Class with Distinction.

### **WORK EXPERIENCE:**

Nov 2023 – Till date: Working as **Dean (Admin. and Faculty) and Professor, Mechanical Engineering Department** Fr. C. Rodrigues Institute of Technology, Vashi.

July 2016 – Nov 23: Worked as **Dean (Faculty) and Head of Mechanical Engineering Department** in Fr. C. Rodrigues Institute of Technology, Vashi.

Jan 2011– June 2016: Worked as **Associate Professor** in Fr. C. Rodrigues Institute of Technology, Vashi.

Jan 2008 – Jan 2011: Worked as **Assistant Professor** in Fr. C. Rodrigues Institute of Technology, Vashi.

July 2007 – Jan 2008: Worked as **Senior Lecturer** in Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai.

July 2002 – June 2007: Worked as **Lecturer** in Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai.

Aug.2000 –June 2002: Worked as Lecturer in Konkan Gyanpeeth College of Engineering, Karjat.

June 1999 – May 2000: Worked As Trainee Engineer in Jawaharlal Nehru Port Trust, Navi Mumbai.

August 1998 – May 1999: Worked as Project Engineer in Econ Engineers and Consultant.

#### **Administrative Work (Department and Institute) :**

- ❖ Institute administration work as a Dean (Admin and Faculty).
- ❖ Departmental administrative work as a Head of Department.
- ❖ Institute administration work as a Dean (Faculty).
- ❖ Lab developments.
- ❖ Worked in NBA and NAAC Committee to prepare the report.
- ❖ Coordinator of Mechanical Engineering Student Association(MESA)
- ❖ Responsible for organizing the student's centric activities.
- ❖ Coordinator of Renewable Energy Club(REC)
- ❖ Work at different levels for organizing national and international conferences
- ❖ Worked as a Project Coordinator for final year projects.
- ❖ Worked in Exam. Cell as Chief Conductor for University Examination.
- ❖ Worked in Exam. Cell as Senior Supervisor for Conducting University Examination.
- ❖ Worked in Exam. Cell as CAP In charge for University Examination.
- ❖ Worked as Member of Accreditation working Committee.
- ❖ Worked as Class Teacher.
- ❖ Worked in Exam. Cell as CAP Coordinator represented the department during 2002-04.

#### **Administrative Work (Mumbai University)**

- ❖ Chairperson of paper setting for different subjects of B. E. and M.E.
- ❖ Member of Syllabus setting committee of 2012.
- ❖ Member of Syllabus setting committee of 2016.
- ❖ Paper Steer for PET
- ❖ Member of Syllabus setting committee of 2019.
- ❖ Program Co-ordinator for FH 2020 Online Exam of cluster 3.
- ❖ Semester Co-ordinator for SH 2020 Online Exam of cluster 9.
- ❖ Semester Co-ordinator for FH 2021 Online Exam of cluster 9.
- ❖ Semester Co-ordinator for SH 2021 Online Exam of cluster 9.
- ❖ Result Moderation Committee of Mumbai University from June 2021.
- ❖ Coordinator of ME syllabus revision 2022.
- ❖ Member of BOS, University of Mumbai 2022-2027.

**Ph. D. Thesis:** Experimental Study of Suppression of Thermo-acoustic Instabilities in a Horizontal Rijke Tube.

**M. Tech. Project:** Virtual Instrumentation using Lab View.

**B.E. Project:** Field Trials on Stationary Diesel Engine with Waste Heat Recovery Heat Exchanger.

**Project Guided for B. E.:**

- ❖ Automation of Heat Exchanger.
- ❖ Design and Fabrication of Solar Water Heating System.
- ❖ Computerized Morse Test Rig.
- ❖ Computerized Control of Two Stroke Petrol Engine Coupled to an Electrical Generator.
- ❖ Design and Fabrication of Wind Mill.
- ❖ Design and Fabrication of Braking and Storage System for Wind Mill.
- ❖ Performance evaluation of Diesel engine for Bio Diesel.
- ❖ Measurement of performance parameters of Internal Combustion Engine Using Virtual Instrumentation.
- ❖ Evaluation of Biodiesel as a Fuel for Diesel Engine and Analysis of Smoke Levels at Different Injection Pressures.
- ❖ Study of the Effect of Heat Source Position on Thermo-Acoustic Instability boundaries of Rijke tube.
- ❖ Design and Fabrication of a Thermo-acoustic Cooling Setup.
- ❖ Passive Control of Thermo-Acoustic Instabilities.
- ❖ Measurement and Control of Temperature and Speed Using Lab View.
- ❖ Passive Control of Thermo-Acoustic Instabilities.
- ❖ Development of Closed-Loop Active Control Method for Suppression of Thermo-Acoustic Instability.
- ❖ Suppression of Thermo-acoustic Instabilities in Horizontal Rijke Tube using Pulsating Jets.
- ❖ Design, Development and Fabrication of Disinfecting and Drying Unit for vegetables.
- ❖ Experimental and Simulation Study to Reduce Emission levels, Temperature and Acoustics of Motor Cycle Silencer.
- ❖ Helicopter Dynamics on Ship Deck and Securing Device Design.
- ❖ Closed Loop Active Control Method for Suppression of Thermo-Acoustic Instability with ML Application.
- ❖ Controlling Thermoacoustic Instability Using Pulsating Air Jets.

**Project Guided for M. E. and M. Tech.:**

- ❖ Data Acquisition system for I. C. Engine.

- ❖ Simulation and Experimental Study of Different Horn Amplifier Length for Cleaning using Acoustic Waves.
- ❖ Experimental and Analytical Study for Uncertainty in Strain Measurement.
- ❖ Study of Different Horn Amplifier Geometry for Acoustic Cleaning.
- ❖ Experimental and Simulation Study of Modified Acoustic Horn Design for Sonic Soot Cleaning.
- ❖ Stress Measurement of a Helical Coil Spring under Static Load Using Strain Rosette.
- ❖ Experimental Study of Uncertainty in Strain Measurement.
- ❖ Experimental and Simulation Study to Reduce Engine Noise.
- ❖ Experimental and Simulation Study for Optimal Position of Different Horn Length in Acoustic Cleaning.
- ❖ Stress Analysis of Compression Helical Coil Spring using Strain Rosette with Different Wheatstone Bridges.
- ❖ Design of Experiments for Optimum Acoustic Wave Generation in Acoustic Cleaning.
- ❖ Design and Analysis of Lifting Tool Assemblies and Exhaust Valve Mechanism for Engine.
- ❖ Experimental and Simulation Study to Reduce Engine Silencer Noise.
- ❖ Identification of Cord wise Location of Shear Web of Wind Turbine Blade.
- ❖ Development of Sensor for Unsteady Heat Release Measurement.
- ❖ Design and Development of Cable Spool Mechanism for High Speed Underwater Application.
- ❖ Theoretical Analysis for Realization of Propulsion system for high speed underwater applications.
- ❖ Design and Analysis of Mechanical Systems for Marine Applications.
- ❖ Suppression of Thermo-Acoustic Instability in a RIJKE TUBE using an adaptive passive Helmholtz Resonator.

**No. of Research Schaller Working: 04**

- ❖ Mr. Adnan Shaikh working on Process equipment cleaning using acoustic cleaning
- ❖ Mr. Dattatray Mali working on Suppression of Thermo-Acoustic Instabilities Using Helmholtz Resonator.
- ❖ Ms. Suchita Kadam working on suppression of thermo-acoustic Instabilities using active control.
- ❖ Mr. Deepak D. working on evolving effective methods for improving Mechanical Properties of Components made of Aluminium Alloys using Wire Arc Additive Manufacturing (WAAM).

**Short Term Course Attended:**

- ❖ “Combustion- Generated Emission and its Control” in I.I.T. Kanpur, 1 – 5 March, 2004.
- ❖ “Fuel and Combustion Technology” in I.I.T. Guwahati, 5 – 9, December, 2005.
- ❖ “A modern Approach to Product Design and Development (CAD/ CAM)” in Fr. CRIT, Vashi, 8 – 10 March, 2006.
- ❖ “FEM and Its Application to Non Linear Problems” in PREC, Kurnool, 20 – 21 January, 2006.
- ❖ “Emerging Trends in Refrigeration and Air Conditioning” in Fr. CRIT, Vashi, 12 – 16 November, 2007.
- ❖ “NAAC Peer Team Visit Preparation: Criteria Exhibition” in VIT, Mumbai, on 12-12-2019.
- ❖ “Sensors Technology” in SVERIE organized by AICTE Training And Learning (ATAL) Academy, 7-11 September 2020.
- ❖ “Acoustic Engineering – An effective use of sound and vibrations” organized by BATU Lonere 27-29, May 2020.
- ❖ “AI, Machine Learning, Deep Learning, Computer Vision, NLP & Chat GPT with Python” organized by Eduxlabs in Association with Mechanical IIT Madras, 26-05-2025 to 1-07-2025.

#### **Invited Talk (Keynote Address/ Expert Talk):**

- ❖ “*Introduction to Virtual Instrumentation*”, in Yadavrao Tasgaonkar College of Engineering and Management for Mechanical Engineering students, 5<sup>th</sup> April, 2010.
- ❖ “Modern tools to write a technical report” Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai, during technical event 2017.
- ❖ “ Suppression of Thermo-acoustic Instabilities in a Horizontal Rijke Tube”, in K. J. Somaiya College of Engineering, Vidhyavihar, Mumbai, during refresher course on Advances in Fluid Dynamics: Experimental and Computational Approaches” during January 1<sup>st</sup>-5<sup>th</sup> 2018.
- ❖ “Virtual Instrumentation”, in Fr.CRIT, Vashi, during STTP on “MEMS AND Mechatronics”, during January 2<sup>nd</sup>-7<sup>th</sup> 2018.
- ❖ “Tools to Manage Literature Survey and Its Importance in Technical Writing” in The Institution of Engineers Belapur Local Centre, during Workshop on “Technical Writing”, on 16<sup>th</sup> March 2019.
- ❖ “Effective Ways for Technical Paper Writings” for Dattakala Group of Institutions Faculty of Engineering, Swami Chincholi, Bhigwan, Pune, on 12<sup>th</sup> June 2020.

- ❖ “Tips for Writing a Quality Journal Paper and Demonstration of Menedely”, during Faculty Development Programme on “Research in Engineering – A Way Forward” organized by A. P. Shah Institute of Technology (APSIT), on 7<sup>th</sup> July 2020.
- ❖ “Why to Write a Good Quality Research Paper” during Faculty Development Program at MIT, Pune on 21<sup>st</sup> December 2020.
- ❖ “Journey From Conventional Power Plant to Electrical Vehicle” during ATAL Faculty Development Program at FCRIT, Vashi on 4<sup>th</sup> November 2020.
- ❖ “Journey of Hybrid Electric Vehicle”, during short Term Training Program (STTP) on “Electric Vehicles” (TEQIP-IIID sponsored on 22<sup>nd</sup> January, 2021.
- ❖ “Hands on Training on Management of Literature Survey and Generating References” during ICNTE2021 Preconference tutorial on 14<sup>th</sup> January 2021.
- ❖ “Journey of Conventional Vehicle to Electrical Vehicle” during Faculty Development Program on “Emerging Area on Engineering Technology” at Agnel Polytechnic Vashi on 5<sup>th</sup> May 2021.
- ❖ “Thermo-acoustic Instabilities and It’s Control” Keynote talk in International Conference on Emerging Trends in Engineering and Technology 2022 (ICETET-2022), Organized by Sandip Institute of Engineering and Management in association with Institute for engineering research and publication (IFERP), 20<sup>th</sup> and 21<sup>st</sup> July 2022.
- ❖ “Effect of Pulsating Jets on Thermo-acoustic Instabilities” Keynote talk in International Experts Summit on Applied Science, Engineering and Technology IESASET 2023 11-13 Sep, 2023 Tokyo, Japan.
- ❖ “National Education Policy 2020” during ATAL Faculty Development Program at Saraswati College of Engineering, Kharghar, Navi Mumbai on 4<sup>th</sup> January 2024.
- ❖ “Acoustic Emissions Method for Condition-Based Monitoring of Combustor” in ISTE-approved One week Online Short-Term Training Program (STTP) on “Condition-based Monitoring: Leveraging Technology for Smarter Industrial Maintenance organized by SFIT Mumbai, 28<sup>th</sup> June 2024”.
- ❖ “Thermoacoustic Instabilities inside the Combustor and it's Control”, Keynote talk in International Conference on Humanities, Science and Technical Education (IC-HSTE) 2025 organized by Department of Engineering Sciences and Humanities of Thakur College of Engineering and Technology, Kandivali (E), Mumbai on 21<sup>st</sup> February 2025

**Invited for Competition/ Conferences (Judge/ Session Chair):**

- ❖ Judged the ‘Inter-Collegiate Technical Paper Presentation Competition (TECHNOCRATZ-2017)’, held on Sept. 16, 2017 at Agnel Polytechnic, Vashi, India.

- ❖ Judged the “National Level Project Competition & Technical Paper Presentation (AVALON-2018)”, held on March 13-14, 2018 at Terna Engineering College, Nerul, India.
- ❖ Judged the Symposium on ‘Nascent Technologies in Aerospace Engineering and Aviation Systems(Aakash-2018)’ held on March 24, 2018 at Fr. C. R. I. T., Vashi, India.
- ❖ Judged the “BE Project Contest 2018-19 held on 18<sup>th</sup> April 2019 at Pillai College of Engineering, Panvel, India.
- ❖ Judged the ‘State Level Paper Presentation Competition (TECHNOCRATZ-2019)’, held on Sept. 21, 2019 at Agnel Polytechnic, Vashi, India.
- ❖ Primary Evaluator for the Toycathon-2021 organized by Ministry of Education’s Innovation Cell and AICTE.
- ❖ Member of Scrutiny Committee for IEI NMLC – FCRIT Excellence Awards 2022.
- ❖ Member of Jury panel for Maharashtra Startup Yatra 2022 held on 13-14 October, 2022, organized by Maharashtra State Entrepreneurship and Innovation, Government of Maharashtra.
- ❖ Judge’ for 18th Aavishkar: Inter-Collegiate / Institute / Department Research Convention (Zonal Round) for the academic year 2023-24
- ❖ Judged the ‘MSBT organized, State Level Paper Presentation Competition’, held on Feb. 05, 2024 at Bharti Vidyapeeth Kharghar, India.
- ❖ Judged the ‘State Level Paper Presentation Competition (TECHNOCRATZ-2024)’, held on March, 01, 2024 at Agnel Polytechnic, Vashi, India.
- ❖ Member of Jury for Green Dentistry Hackathon held on March, 4<sup>th</sup>, 2024, organized by MGM Dental College and Hospital, Navi Mumbai Maharashtra.
- ❖ Session Chair for International Conference on Technologies for Energy Agriculture and Healthcare (ICTEAH-2024) Organised by K J Somaiya School of Engineering, Somaiya Vidyavihar University on 15 -16 April 2024.
- ❖ Session Chair for Thirty-ninth National Convention of Mechanical Engineers and National Seminar on “Innovations in Mechanical Engineering, Sustainable Manufacturing Technologies, Design and Energy Systems” on September 13th & 14th, 2024.
- ❖ Judge’ for 19th Aavishkar: Inter-Collegiate / Institute / Department Research Convention (Zonal Round) for the academic year 2024-25.
- ❖ Co-Chairman for technical session during “39th Indian Engineering Congress - Power & Energy Vertical” Organised by The Institution of Engineers (India), December 20-22, 2024 NOVOTEL, KOLKATA.

- ❖ Session Chair for International Conference on Humanities, Science and Technical Education (IC-HSTE) 2025 organized by Department of Engineering Sciences and Humanities of Thakur College of Engineering and Technology, Kandivali (E), Mumbai on 21<sup>st</sup> February 2025.
- ❖ Session Chair for 2<sup>nd</sup> International Conference on Technologies for Energy Agriculture and Healthcare (ICTEAH 2025)" Organized by K J Somaiya School of Engineering, Somaiya Vidyavihar University, 6 May 2025.
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#### **Faculty Development Program Organized:**

- ❖ “Fundamentals of CAD & CAE USING AUTODESK - FUSION 360”, 3 – 5 July 2017.
- ❖ “How to prepare research proposal for funding”, 29<sup>th</sup> June 2017.
- ❖ “Five days training program on FEA using Ansys Mechanical”, 26-30 December, 2017.
- ❖ “MEMS AND Mechatronics”, January 2<sup>nd</sup>-7<sup>th</sup> 2018.
- ❖ “Electric Vehicle and Hybrid Electric Vehicles”, ATAL Academy Sponsored, 2<sup>nd</sup> – 6<sup>th</sup> November 2020.

#### **Training Corse Organized and Conducted:**

- ❖ “Three Days hands-on Training Course on Measurement and Virtual Instrumentation”, 21-23, June 2017.
- ❖ “Four days hands-on training program for students on skill development in CAD using Solid Edge”, 20-23, December, 2017
- ❖ “Fast Track Assembly & Dis-assembly Workshop for students”, 4,5 October, 2017
- ❖ “Hands on Training Program on ANSYS Mechanical & CFD”, 25-29 June, 2019
- ❖ “Three Days hands-on Training Course on Measurement, Control and Virtual Instrumentation”, 6<sup>th</sup>,20<sup>th</sup> July and 14<sup>th</sup>September 2019.
- ❖ 30 Hrs certification course on “Solutions to Engineering Problems using Lab View”, during first half 2022.

#### **Award Ceremony Organized:**

- ❖ Worked as Chair, IEI NMLC-FCRIT EXCELLENCE AWARDS – 2022.
- ❖ Worked as Chair, IEI NMLC-FCRIT EXCELLENCE AWARDS – 2023.
- ❖ Worked as Member of Advisory Committee, IEI NMLC-FCRIT EXCELLENCE AWARDS – 2024.
- ❖ Worked as Member of Advisory Committee, IEI NMLC-FCRIT EXCELLENCE AWARDS – 2025.

#### **Member of Board of studies**

- ❖ Amity School of Engineering and Technology Mumbai in Aerospace Engineering /Aeronautical / Automobile/Mechanical, Amity School of Engineering and Technology.
- ❖ University of Mumbai 2022-2027.
- ❖ BOS member appointed by Mumbai University for Automation and Robotics department of VESIT, Chembur, Mumbai

**Member of Editorial Board:**

- ❖ Journal of Mechanical Engineering and Technology
- ❖ Journal of Automobile Engineering
- ❖ International Journal of Advanced Research in Engineering and Technology
- ❖ Journal of Mechanical and Production Engineering
- ❖ International Journal of Automobile Engineering Research and Development
- ❖ International Journal of Mechanical and Production Engineering Research and Development
- ❖ American Journal of Mechanical and Industrial Engineering

**Member of Advisory Committee for Conferences:**

- ❖ MULTICON-W 2024 organized by Thakur College of Engineering & Technology (TCET)
- ❖ MULTICON-W 2025 organized by Thakur College of Engineering & Technology (TCET)

**Member of Technical Committee for Conferences:**

- ❖ The International Conference on Convergence of Technology (I2CT), Pune, 05-07 April, 2018.
- ❖ 6th International Conference on Recent Challenges in Engineering and Technology (ICRCET 2018), Nagpur, November 24-25, 2018.
- ❖ International Conference for Convergence in Technology 2019, Pune, 5- 6 January 2019.
- ❖ International Conference on Materials and Energy, Warangal, Telangana, India.,July 26th and 27th 2019

**Member of Organizing Committee for Conferences:**

- ❖ World Conference on Applied Science, Engineering and Technology (WCASET), 2016.
- ❖ International Conference on Nascent Technologies in Engineering (ICNTE 2017).
- ❖ International Conference on Nascent Technologies in Engineering (ICNTE 2019).
- ❖ International Conference on Nascent Technologies in Engineering (ICNTE 2021).
- ❖ International Conference on Vibration Engineering, Science, and Technology (INVEST 22)
- ❖ International Conference on Nascent Technologies in Engineering (ICNTE 2023).
- ❖ International Conference on Vibration Engineering, Science, and Technology (INVEST 25)

**Member of Review Committee:**

- ❖ Journal of Heat Transfer, ASME.
- ❖ Journal of Vibration and Control, Sage Publication.
- ❖ Aerospace Science and Technology, Elsevier Publication.
- ❖ Journal of Sound and Vibration Elsevier Publication.
- ❖ Journal of Cogent Engineering, Taylor & Francis Publication.
- ❖ World Journal of Advanced Engineering & Technology.
- ❖ Journal of Physics D: Applied Physics, IOP Science Publication.

**Member of Other Committees at FCRIT:**

- ❖ Research Scrutiny
- ❖ Student's Grievance cell
- ❖ Anti-Ragging
- ❖ Governing Council
- ❖ Academic Council
- ❖ Board of Studies
- ❖ Squad Committee

**Position at The Institution of Engineers (India):**

- ❖ Chairman of BOARD OF EXAMINATIONS (BOE) FOR THE SESSION 2024-25.
- ❖ Member of MECHANICAL ENGINEERING DIVISION BOARD (MCDB) FOR THE SESSION 2023-25.
- ❖ Member of EDUCATION, EXAMINATIONS AND ACCREDITATION COMMITTEE (EEAC) FOR THE SESSION 2024-25.

**Research Funding:**

- ❖ “*Experimental and Simulation Study of different Horns for Cleaning*”, Minor research grant from University of Mumbai 2013-14 of Rs. 45000/-.
- ❖ “*Optimization of Wind Mill Design with Experimental and Simulation Study*”, Minor research grant from University 2015-2016 of Mumbai of Rs. 35000/-.
- ❖ “*Experimental and Simulation study of Characterization and suppression of thermo-acoustic instability*” Minor research grant from University of Mumbai 2016-17 of Rs. 25000/-.
- ❖ “*Suppression of Thermo-acoustic Instability using Helmholtz Resonator*” Minor research grant from University of Mumbai 2019-20 of Rs. 40000/-.
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**Consultancy Project:**

- ❖ “*Design and Development of Hydrogen Stove*” from Fluidline-Exacta International Pvt. Ltd, Worli, Mumbai, Rs. 21,24,000.

### **Travel Grant:**

- ❖ Science and Engineering Research Board for presenting paper in “Energy System Conference” organized by Elsevier and Energy Institute, London, UK, 19-20, June 2018.

### **Award and Recognition:**

- ❖ Best paper award for “Experimental and Simulation Study for Optimal Position of Different Horn Length in Acoustic Cleaning” ICNTE-2017.
- ❖ Best paper award for *Effects of Volume and Neck Length of Helmholtz Resonator on Thermo-acoustic Instability*” ICNTE-2021
- ❖ Best Researcher Award from Novel Research Academy in National Faculty Award 2021-2022.
- ❖ Elected as Member of Managing Committee of The Institution of Engineers Navi Mumbai Local Centre for 2021-23.
- ❖ Appreciation Certificate from the Ministry of Education’s Innovation Cell and AICTE, for exceptional contribution for evaluation of “Toycathon 2021”.
- ❖ Elected as Chairman Mumbai Chapter of Council of Vibration Specialist.
- ❖ Best paper award for “Design & Development of Semi-Automated Multipurpose Electric Farming Bot” ICNTE-2023.
- ❖ Received Distinguish Fellowship from The International Institute of Acoustics and Vibration.
- ❖ Elected as Chairman of The Institution of Engineers Navi Mumbai Local Centre for 2023-25.
- ❖ Elected as BOS (Mechanical) member of University of Mumbai for 2022-27.
- ❖ Nominated as BOS (Mechanical and Aerospace) member of Amity University Mumbai for 2020-25.
- ❖ Nominated as BOS (Automation and Robotics department) member of VESIT, Chembur, Mumbai. for 2023-26.
- ❖ **Best Faculty of the Year: - Thought Leader award** from CSI-TechNext India 2024.
- ❖ **Eminent Mechanical Engineer Award 2024** from The Institution of Engineers (India), UP State Centre.

### **Patent (Published):**

- ❖ “A METHOD OF SUPPRESSING THERMO-ACOUSTICINSTABILITIES BY MEANS OF ACTIVE CLOSED LOOP” Application number 202021026306, dated: 22 June, 2020. The Patent Office Journal No. 52/2021 Dated 24/12/2021.

- ❖ “TOOTHPASTE REFILLER” Application number 2022221009678, dated: 23February, 2022. The Patent Office Journal No. 34/2023 Dated 25/08/2023.

### **Book and Book chapter published summary**

- Book: 01
- Book Chapters: 07

### **Books/Book Chapter**

- ❖ “*Process Equipment Cleaning: An Application of Acoustics*”, published by Lambert publication, 2018.ISBN:978-613-9-81945-4
- ❖ “*Experimental and Simulation Study of Modified Acoustic Horn Design for Sonic Soot Cleaning*”, Chapter No.17 in Innovative Design and Development Practices in Aerospace and Automotive Engineering, published by Springer, 2017, pp 117-134.
- ❖ “*Performance and Emission Characteristics of Thermal Barrier Coating on Diesel Engine Fueled with Cottonseed Biodiesel*”, Advances in Applied Mechanical Engineering. Lecture Notes in Mechanical Engineering. Springer,2020 pp 205-213.
- ❖ “*Investigation of Effect of Porous Material on Performance of Helmholtz Resonator*”, Vibration Engineering: Modeling, Simulation, Experimentation, and Applications, CRC Press, PP 71, 2024.
- ❖ “*Vibration Analysis of Faults in Rotating Machineries*” Technologies for Energy, Agriculture, and Healthcare, CRC Press, 146-157, 2025.
- ❖ “*Fault Diagnosis in Rotating Machines Using Vibration Analysis*”, Advances in Mechanical Engineering, Springer, pp 11–22, 2025.
- ❖ “*Vibration-Based Damage Detection in Plates Using Mode Shapes*”, Advances in Mechanical Engineering, Springer, pp 111–134, 2025.

### **Paper Publication summary**

- Journal: 27
- International Conference: 35
- National Conference: 06

### **Papers Published in International Journal**

1. “*Experimental Performance Analysis of Single Cylinder Diesel Engine with blends of Food Grain Based and Non-Food Grain based Biodiesel*”, World Academy of Science, Engineering and Technology, Volume 60, 2009, pp 442-445.
2. “*Data Acquisition System for I. C. Engine*”, International Journal of Applied Engineering Research and Development (IJAERD)Engineering Studies ISSN 0975- 6469 Volume 1, Number 1 (2011), pp. 1 – 20.

3. "Experimental And Analytical Study For Uncertainty in Strain Measurement", International Journal of Engineering Research and Technology, Volume 3, Issue 01, January 2015, PP 1-5.
4. "Theoretical, Simulation and Experimental Analysis of Sound Frequency and Sound Pressure Level of Different Air Horn Amplifier", International Journal of Engineering Research and Technology, Volume. 4, Issue. 2, February- 2015, pp.1027-1036.
5. "Effect of pointed and diffused air injection on premixed flame confined in a Rijke tube", Journal of Cogent Engineering, Volume 3, Issue1, 2016, pp. 1- 12.
6. "Suppression of thermo-acoustic instability using air injection in horizontal Rijke tube", Journal of the Energy Institute, volume 90, Issue 3, 2017 pp. 485-495.
7. "Experiments on Heat Content inside a Rijke Tube with Suppression of Thermo-acoustics Instability", International Journal of Spray and Combustion Dynamics, Volume 9, Issue 22017, pp 85- 101.
8. "Experimental and Simulation Study to Reduce Engine Noise", Indian Journal of Science and Technology, Vol 9(34), September, 2016.
9. "Experimental and Simulation Study of Modified Acoustic Horn Design for Sonic Soot Cleaning", Innov. Des. Dev. Pract. Aerosp. Automot. Eng. I-DAD, Feb. 22 - 24, 2016, (Springer Singapore),September, 2016 pp. 117–134.
10. "Simulation and Experimental Study of Acoustic Waves for Cleaning of Soot in Process Equipments", Advances in Intelligent Systems Research (Atlantis Press), Vol. 137, 2017, pp. 242-251.
11. "Design and Analysis of Lifting Tool Assemblies to Lift different Engine Block", American Institute of Physics, Volume 1859, 2017, pp (020056)1-7.
12. "Effect of Crack on Natural Frequency for Beam Type of Structures", American Institute of Physics, Volume 1859, 2017pp(020057) 1-7.
13. "Design and development of thin wire sensor for transient temperature measurement", Measurement, Volume 140, 2019, pp 582–589.
14. "Coefficient of Rayleigh Index based performance evaluation of radial micro jet injection technique for thermo-acoustic instability control"Measurement, Volume 151, February 2020.
15. "Performance and Emission Characteristics of Thermal Barrier Coating on Diesel Engine Fueled with Cottonseed Biodiesel", Advances in Applied Mechanical Engineering. Lecture Notes in Mechanical Engineering. Springer,2020 pp 205-213.
16. "Different Experimental Approaches for Characterization of Thermo-acoustic Instabilities", Journal of The Institution of Engineers (India) Series C, Springer, 2021.
17. "Effect of position of radial air injection plane on control of thermo-acoustic instability using active closed-loop method", Journal of Vibration and Control 2021, Vol. 0(0) 1–9.

18. "Effect of Helmholtz resonator shape on suppression of thermo-acoustic instability", Materials Science and Engineering (IOP), 2022.
19. "Control of Noise and Temperature Using Radial Air Injection inside Engine Silencer", Journal of Thermal Engineering, vol. 9, no. 1, pp. 107-115, Jan. 2023.
20. "Effect of geometrical parameters and use of porous material in a Helmholtz resonator on suppression of thermo-acoustic instabilities", International Journal of Spray and Combustion Dynamics. 2023;0(0).
21. "Development of Closed-Loop Active Control Method for Suppression of Thermoacoustic Instability Using Radial Air Micro-Jets", MethodsX, Volume 10, 102123 2023.
22. "Experimental method for temperature measurement on lateral planes along a Rijke tube to assess efficacy of control method," MethodsX, vol. 10, no. January, p. 102170, 2023.
23. "Suppression of thermo-acoustic instabilities in horizontal Rijke tube using pulsating radial jets", MethodsX, vol. 11, 2023.
24. "Suppression of Thermo-acoustic Instability inside a Rijke Tube using an Adaptive Passive Helmholtz Resonator", Journal of The Institution of Engineers (India): Series C, 1-15, 2024.
25. "Design and Development of Bot using Theo Jansen Mechanism", Indian Journal of Engineering & Materials Sciences, Vol. 31, December 2024, pp. 899-908.
26. "Experimental and simulation study to evaluate effect of radial air injection on performance of motorcycle silencers", Journal of Thermal Engineering 2025; 11(3): 703-715.
27. "Dynamic water monitoring and management system using lab view and machine learning", Sigma Journal of Engineering and Natural Sciences, 2025, Vol. 43, No. 5, pp. 1737–1750, October, 2025.

### **Paper Presented:**

#### ***International Conference:***

1. "Measurements of Physical Parameters of Two Stroke Internal Combustion Engine Using Microcontroller" in the International Conference PICA-2006 organized by Priyadarshani College of Engineering Nagpur, 11 July, 2006.
2. "Virtual Instrument for Measuring Brake Power of I.C.Engine Using NI Lab VIEW" in International Conference ICAMDIA-2007 organized by College of Engineering Pune in associate with corporate, 10 January, 2007.
3. "Continuous Temperature Monitoring System In Engineering Application Using NI Lab View" in the Global Conference CPIE-2007 organized by Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, Panjab, 22 March, 2007.
4. "Evaluation of Non-Food Based Biodiesel for Low Carbon Vehicle" in International Conference Team Tech -2008 organized by Indian Institute of Science, Bangalore.

5. "Comparative Study of Hybrid Vehicles" in proceedings of International Conference on Emerging Research and Advances (ERA-2009) organized by Velammal Engineering College, Chennai, 19-21,March, 2009.
6. "*Experimental Performance Analysis of Single Cylinder Diesel Engine with blends of Food Grain Based and Non-Food Grain based Biodiesel*", in proceedings of International Conference on Applied Mechanics and Mechanical Engineering (ICAMME 2009), organized by World Academy of Science Engineering and Technology, Bangkok, Thailand, 25-27, December 2009.
7. "*Measurement of Physical parameters of Four Stroke Single cylinder I.C. Engine using DAQ*" in proceedings of International Conference ICAME-2009 organized by Sardar Vallabhbhai National Institute of Technology, Surat, 3 - 5, August, 2009.
8. "*Design and Fabrication of Wind Mill for Small Application*" in International Conference ICEE-2009 organized by Pondicherry Engineering College, Pondicherry, 7 January 2009.
9. "*Design and Fabrication of Speed Controller and Storage System for Wind Mill*", in International Conference ICEEE-2009 organized by Mulshi Institute of Technology and Research, Pune, 16 February 2009.
10. "*Comparison of Properties and Performance of Jatropha Curcas Oil with Soyabin Oil as Biodiesel Source*", Proceedings of New Frontiers in Biofuels organized by Delhi Technological University on Jan,18-19, 2010.
11. "*Experiments on Premixed Flame Confined in a Tube with Radial Air Injection*",10th Euromech Fluid Mechanics Conference organised by Technical University of Denmark (DTU), Copehagen, Denmark from 14 – 18, September, 2014.
12. "*Experimental and Simulation Study of Modified Acoustic Horn Design for Cleaning*", International Conference on Emerging Research trends In Applied Engineering and Technology (ICERAT-2016) organized by KGCE, Karjat, April 1- 2, 2016.
13. "*Experimental and Simulation Study of Modified Acoustic Horn Design for Sonic Soot Cleaning*", 2<sup>nd</sup> International conference on Innovative Design, Analysis and Development Practices in Aerospace and Automotive Engineering (I- DAD 2016) organized by VEL TECH University, Chennai, February 22 – 24, 2016.
14. "*Stress Measurement of a Helical Coil Spring under Static Load Using Strain Rosette*", 2<sup>nd</sup> International conference on Design, Analysis, Manufacturing and Simulation (ICDAMS-2016) organized by Saveetha School of Engineering, Chennai, April 7- 8, 2016.
15. "*Experimental and Simulation Study to Reduce Engine Noise*",2<sup>nd</sup> International conference on Design, Analysis, Manufacturing and Simulation (ICDAMS- 2016) organized by Saveetha School of Engineering, Chennai, April 7- 8, 2016.

16. “*Simulation and Experimental Study of Acoustic Waves for Cleaning of Soot in Process Equipments*” International Conference on Materials, Manufacturing and Design (ICMMD 2016) organized by Dr. Babasaheb Ambedkar Technological University, Maharashtra, Dec. 20-21, 2016
17. “*Experimental and Simulation Study for Optimal Position of Different Horn Length in Acoustic Cleaning*”, International Conference on Nascent Technologies in Engineering (ICNTE-2017) organized by Fr. C. Rodrigues Institute of Technology, Vashi, Jan 27-28, 2017.
18. “*Effect of Excitation Voltage and Lead wire Resistance on Strain Measurement*”, 2<sup>nd</sup> International Conference for Convergence in Technology (I2CT) Pune, India, April, 7-9,2017, pp747-752.
19. “*Design and Analysis of Lifting Tool Assemblies to Lift different Engine Block*”, International Conference on Functional Materials, Characterization, Solid State Physics, Power, Thermal and Combustion Energy (FCSPTC-2017) organized by Ramachandra College of engineering located at Eluru, Andhra Pradesh, India, April 7-8, 2017.
20. “*Effect of Crack on Natural Frequency for Beam Type of Structures*”, International Conference on Functional Materials, Characterization, Solid State Physics, Power, Thermal and Combustion Energy (FCSPTC-2017) organized by Ramachandra College of engineering located at Eluru, Andhra Pradesh, India, April 7-8, 2017.
21. “*Performance Optimization of Airfoil Blade for Horizontal Axis Wind Turbines*”, International Conference on Emerging Trends in Engineering Innovations & Technology Management(EITM 2017) organized by National Institute of Technology, Hamirpur, Himachal Pradesh, India, December 16-18, 2017.
22. “*Study of the Effect of Heat Flux Position on Thermo-Acoustic Instability on the boundaries of Rijke tube*”, International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM-2017) organized by Indian Institute of Technology Kharagpur, India, December 28-30, 2017, IIT Kharagpur,
23. “*Identification of Cord wise Location of Shear Web of Wind Turbine Blade*”, Energy System Conference organised by Elsevier and Energy Institute, Westminster, London, UK, June 19-20, 2018.
24. “*Suppression of Thermo-Acoustic Instabilities Using Helmholtz Resonator*”, International Conference on Nascent Technologies in Engineering (ICNTE-2019) organized by Fr. C. Rodrigues Institute of Technology, Vashi, Jan 4-5, 2019.

25. “*Optimization of Acoustic Wave for Process Equipment Cleaning using Design of Experiments*”, International Conference on Nascent Technologies in Engineering (ICNTE-2019) organized by Fr. C. Rodrigues Institute of Technology, Vashi, Jan 4-5, 2019.
26. “*Identification of Cordwise Location of Shear Web of Wind Turbine Blade*” International Conference on Nascent Technologies in Engineering (ICNTE-2019) organized by Fr. C. Rodrigues Institute of Technology, Vashi, Jan 4-5, 2019.
27. “*Performance and Emission Characteristics of Thermal Barrier Coating on Diesel Engine Fueled with Cottonseed Biodiesel*” 1<sup>st</sup> International Conference on Applied Mechanical Engineering Research (ICAMER - 2019) organized by National Institute of Technology, Warangal, May 2-4, 2019.
28. “*Measurement and Control of Temperature and Speed using LabVIEW*” 1<sup>st</sup> International Conference on Applied Mechanical Engineering Research (ICAMER - 2019) organized by National Institute of Technology, Warangal, May 2-4, 2019.
29. “*Effects of Volume and Neck Length of Helmholtz Resonator on Thermo-acoustic Instability*” 4th Biennial International Conference on Nascent Technologies in Engineering (ICNTE2021) organized by Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai, India, January 15-16, 2021.
30. “*Effect of shape of Helmholtz resonator on suppression of thermo-acoustic instability*” International Conference on Advances in Mechanical Engineering-2022” (ICAME-2022) organized by G H Raisoni College of Engineering, Nagpur, Maharashtra, India, May 27-28, 2022.
31. “*Investigation of Effect of Porous Material on Performance of Helmholtz Resonator*”, International Conference on Vibration Engineering, Science, and Technology (INVEST 22) organized by Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai, India, December 09-10, 2022.
32. “*Design & Development of Semi-Automated Multipurpose Electric Farming Bot*”, International Conference on Nascent Technologies in Engineering (ICNTE 2023), organized by Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai, India, January 20-21, 2023.
33. “*Vibration Based Damage Detection in Plates Using Mode Shapes*”, 4 th International Conference on Recent Advancements in Mechanical Engineering organized by National Institute of Technology, Silchar, Assam India, Feb. 3-5, 2023.
34. “*Fault Diagnosis in Rotating Machines Using Vibration Analysis*”, 4 th International Conference on Recent Advancements in Mechanical Engineering organized by National Institute of Technology, Silchar, Assam India, Feb. 3-5, 2023.

35. “*Vibration Analysis of Faults in Rotating Machineries*”, In Proc. International Conference on Technologies for Energy, Agriculture and Healthcare (ICTEAH 2024), Mumbai, India, April, 15-16, 2024

**National Conference:**

1. “*Investigation on feasibility of LPG as a fuel for Motorcycle*” in the National Conference AAQMENT-2006 organized by Erode Sengunthar Engineering College, Thudupathi, Erode.
2. “*Power Generation from Wind Turbine*” in proceedings of National Conference on Renewable Energy For Youth Empowerment in Rural Area (NCORE – 2008) at S.N.Arts, D.J.Malpani Commerce and B. N. Sarda Science College, Sangamner, on 23 – 25, March, 2008.
3. “*Review of Vegetable Oil as Alternative Fuel For Internal Combustion Engine (CI Engine)*”, National Conference on Emerging Trends in Engineering and Technology, SLRTCE, Mira road on March 11, 2011.
4. “*Study of Combustion Instability with Pre-mixed Flame Confined in a Tube*”, Fortieth National Conference on Fluid Mechanics and Fluid Power organized by NIT Hamirpur, Himachal Pradesh, India December 12-14, 2013.
5. “*Development of Sensor for Unsteady Heat Realese Measurement*”, Symposium on Nascent Technologies in Aerospace Engineering and Aviation Systems (AAKASH 2018) organized by The Aeronautical Society of India (Mumbai Branch), Fr. C. Rodrigues Institute of Technology, and Indian Institute of Technology, Bombay, India, March 24, 2018.
6. “*Suppression of Thermo-acoustic Instability by Passive Approach*”, Symposium on Nascent Technologies in Aerospace Engineering and Aviation Systems (AAKASH 2019) organized by The Aeronautical Society of India (Mumbai Branch), Fr. C. Rodrigues Institute of Technology, and Thakur Institute of Aviation Technology India, March 30, 2019.

**Professional Societies Fellowship/Membership**

- ❖ Fellow Member of “The Institution of Engineers (IEI)” **F-125015-5**
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**Area of Interest:**

Thermo-acoustic, Combustion, Noise and its measurement, I.C. Engine, Heat Transfer, Virtual Instrumentation, Data Acquisition System, Testing and Performance analysis of Measurement System, Alternative Fuels.

**Google Scholar Link:**

<https://scholar.google.com/scholar?oi=bibs&hl=en&ctes=1734535788675961931>

**Scopus Link:**<https://www2.scopus.com/results/savedList.uri?sort=plfdt-f&listId=9353163&listTypeValue=Docs&src=s&imp=t&sid=e6705a7f6fdd67025c78658cf08516&sot=sl&sdt=sl&sl=0&origin=savedlist&txGid=9ffb9c21a75fccf9cebe5da0a58bcd7>

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