Name of Teaching Staff Dr. Vinayak H. Khatawate

Associate Professor and Associate head Designation

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Qualifications with Class /

Grade

: 1. B.E (Mech), First with Distinction, Karnataka University Dharwad.

2. M.E (Mechanical Engineering with Machine Design), First with distinction, SPCE Mumbai, University of Mumbai.

3. PhD (Mechanical Engineering), VJTI Mumbai.

Total Experience in Years

Teaching

- 1. Currently an Associate Professor (from July-2018 till date) and Associate Head (from Feb-2020 till date) in the department of Mechanical Engineering at Dwarkadas J. Sanghvi College of Engineering, Vile Parle, Mumbai.
- 2. Associate professor in the department of Mechanical Engineering at Pillai College of Engineering, New-Panvel, Navimumbai from Jan-2018 to June-2018.
- 3. Assistant professor in the department of Mechanical Engineering at Pillai College of Engineering, New-Panvel, Navimumbai from August-2006 to Dec-2017.
- 4. Lecturer in Agnel Polytechnic, Vashi, Navimumbai from Sept 1998 to July 2006.

Industry: Asst. Manager in "SUNIL ENGINEERING" at Hubli Karnataka, from Aug-1997 to Sept-1998.

Papers Published in Journal:

- 1) Rathod, D., Vasudevan, H., & Khatawate, V. H. (2025). Analysis of a Lightweight Brake Master Cylinder for Formula Student Vehicle. Journal of Mines, Metals and Fuels, 73(8), 2649–2656. https://doi.org/10.18311/jmmf/2025/48835
- 2) Mayank Sanjay Gupta, Yash Nitin Sharma, Hari Vasudevan, Vinayak H. Khatawate. Analysis of Rear Suspension Geometry of an ATV. Journal of Polymer and Composites. 2025; 13(05):275-286. Available from: https://journals.stmjournals.com/jopc/article=2025/view=216627

- 3) Shah, A. P., Shah, V. P., Khatawate, V. H., & Vasudevan, H. (2025). An Overview of Rocket Engine Power Cycles. Journal of Mines, Metals and Fuels, 73(8), 2415–2425.
 - https://doi.org/10.18311/jmmf/2025/48838
- 4) Pillai, A., Dalal, C., Basrur, S., Vasudevan, H., Khatawate, V. H., & Rayar, P. (2025). Design and Analysis of the Differential Bar of a Rover. *Journal of Mines, Metals and Fuels*, 73(8), 2405–2413. https://doi.org/10.18311/jmmf/2025/49412
- 5) Khatawate, V. H., Dharap, M. A., Vasudevan, H., Balikai, V. G., & Revankar, P. P. (2025). Stress and Strain Distribution Patterns Around Centrally Elongated Notch in Flat Plate. Journal of Mines, Metals and Fuels, 73(6), 1637–1650. https://doi.org/10.18311/jmmf/2025/48768
- 6) Nishant Pandit, Advik Gupte, Kirtan Vandra, Vinay Mistry, Hari Vasudevan, Dharam Ranka, Vinayak H. Khatawate, "Improving Occupational Health Outcomes And Enhancing Job Satisfaction By The Design And Development Of A Passive Overhead Exoskeleton In Industries", Industrial Engineering Journal, Vol. XVIII, Issue No. 03, pp.11-15, 2025.
- 7) Gala, B. A., Munani, D., Mandaliya, K. P., Talekar, T., Vasudevan, H., & Khatawate, V. H. (2025). Numerical Investigation of Chassis Torsional Stiffness for Formula Student Vehicles. *Journal of Mines, Metals and Fuels*, 73(6), 1651–1662. https://doi.org/10.18311/jmmf/2025/48770
- 8) Ronak Limbachiya, Yash Shah, Nihar Parmar, Juhi Kothari, Hari Vasudevan, Vinayak H. Khatawate, "Structural Analysis of an Ornithopter Wing", International Conference on COMPOSITES: DESIGN, PROCESSING, MANUFACTURING AND HEALTH MONITORING (CDPMHM-2024), 20th to 22nd June-2024 at IIT Mandi. (Provisionally accepted for proceeding publication in "Lecture Notes in Mechanical Engineering" a Scopus index Springer publication).
- 9) Reuben Manjaly, Jasmin Jamariya, Krish Desai, Nishit Parmar, Hari Vasudevan, Vinayak Khatawate, "Thermal and Stress Analysis of Piston and Connecting Rod for Engine Seizure Condition", International Conference on COMPOSITES: DESIGN, PROCESSING, MANUFACTURING AND HEALTH MONITORING (CDPMHM-2024), 20th to 22nd June-2024 at IIT Mandi. (Provisionally accepted for proceeding publication in "Lecture Notes in Mechanical Engineering" a Scopus index Springer publication).
- 10) Adithya Pillai, Chinmay Dalal, Sakshi Basrur, Hari Vasudevan, Vinayak H Khatawate, Pavan Rayar, "Design and Analysis of Differential Bar of a Rover", International Conference on COMPOSITES: DESIGN, PROCESSING, MANUFACTURING AND HEALTH MONITORING (CDPMHM-2024), 20th to 22nd June-2024 at IIT Mandi. (Provisionally accepted for proceeding publication in "Lecture Notes in Mechanical Engineering" a Scopus index Springer publication).
- Nishant Pandit, Advik Gupte, Kirtan Vandra, Vinay Mistry, Hari Vasudevan, Vinayak H. Khatawate "Analysis of Two-stage Helical Gearbox for All Terrain Vehicle", International Conference on COMPOSITES: DESIGN, PROCESSING, MANUFACTURING AND HEALTH MONITORING (CDPMHM-2024), 20th to 22nd June-2024 at IIT Mandi. (Provisionally

- **accepted** for proceeding publication in "Lecture Notes in Mechanical Engineering" a Scopus index Springer publication).
- 12) Glenn M. Lewis, Sanskar V. Salian, Dhaval L. Ravat, Harsh V. Vijekar, Hari Vasudevan, Vinayak H. Khatawate, Veeresh G. Balikai, "Design and Analysis of an Epicyclic Gear Train for Formula Student Electric Drivetrain", International Conference on COMPOSITES: DESIGN, PROCESSING, MANUFACTURING AND HEALTH MONITORING (CDPMHM-2024), 20th to 22nd June-2024 at IIT Mandi. (**Provisionally accepted** for proceeding publication in "Lecture Notes in Mechanical Engineering" a Scopus index Springer publication).
- 13) Balikai, Veeresh G., M. B. Gorawar, Rakesh Tapaskar, P. P. Revankar, P. G. Tewari, and Vinayaka H. Khatawate. "Empirical modeling for solar radiation prediction in f-solve optimisation technique." In Recent Advances in Material, Manufacturing, and Machine Learning, pp. 755-761. CRC Press, 2024. (SCOPUS)
- 14) Rathod, Meet D., Burhanuddin H. Telwala, Amey D. Parab, Aditya A. Date, Vinayak H. Khatawate, and Bharati V. Khatawate. "Automatic structural inspection using remotely operated vehicle." International Journal of Design Engineering 12, no. 2 (2023): 87-99. (Inderscience Publishers)
 DOI: 10.1504/IJDE.2023.10057617
- 15) Barot, R., Mishra, A., Balvally, M., Malvia, D., Khatawate, V.H., Yadav, R. (2023). Structural Analysis of Endodontic Restorations. In: Vasudevan, H., Kottur, V.K.N., Raina, A.A. (eds) Proceedings of International Conference on Intelligent Manufacturing and Automation. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-19-7971-2_63
- 16) Date, A., Parab, A., Telwala, B., Rathod, M., Khatawate, V.H., Shirodkar, P. (2023). Numerical Validation of Thrust Produced by Remotely Operated Vehicle. In: Vasudevan, H., Kottur, V.K.N., Raina, A.A. (eds) Proceedings of International Conference on Intelligent Manufacturing and Automation. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-19-7971-2_37
- 17) Khatawate, V.H., Telwala, B.H., Shah, A.P. (2023), "Analysis of a Steering Upright for a Three-Wheel Solar Electric Car" Lecture Notes in Mechanical Engineering pp. 209-223, 2023. (SCOPUS).
- 18) Ajugia, K., Khatawate, V.H. (2023). Comparative Study of Maldistribution on a AEL Design of Shell and Tube Heat Exchanger Using Conventional and Inline Nozzle Position. In: Vasudevan, H., Kottur, V.K.N., Raina, A.A. (eds) Proceedings of International Conference on Intelligent Manufacturing and Automation. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-19-7971-2 57
- 19) Sirmulla, Z.D., Balikai, V.G., Gorawar, M.B., Revankar, P.P., Tapaskar, R.P., Khatwate, V.H. (2023). Simulation of Hybrid Energy Systems Using Historical Meteorological Data of Location. In: Vasudevan, H., Kottur, V.K.N., Raina, A.A. (eds) Proceedings of International Conference on Intelligent

Manufacturing and Automation. Lecture Notes in Mechanical Engineering. Springer, Singapore.

https://doi.org/10.1007/978-981-19-7971-2_35.

- 20) Vinayak H Khatawate1, Manav Bhavesh Nagda, Ishaan Samir Parikh, Krishiv Sunil Agarwal (2022), Analysis of a Double UV Joint in Steering system of vehicle, International Journal of Emerging Trends in Research, Special Issue: I, 2022, pp. 29-38. ISSN No.: 2455-6130.
- 21) Vinayak H. Khatawate, Moksh Mehta, (2022), Design and testing of a delta wing glider at low altitudes, International Journal of Emerging Trends in Research, Special Issue: 2, 2022, pp. 01-10. ISSN No.: 2455-6130.
- 22) Vinayak. H. Khatwate, Likhit Kunder, Swami Talekar, Lay Desai, Sanit Angadikar, Optimization of Power Screw Material used in Screw Jack, International Journal of Emerging Trends in Research, Special Issue: I, 2022, pp. 78-89. ISSN No.: 2455-6130.
- 23) Patel J.H., Shah J.S., Shah M.D., Shah M.K., Khatawate V.H. (2022) Design and Analysis of Multi-purpose Shopfloor Vice. In: Govindan K., Kumar H., Yadav S. (eds) Advances in Mechanical and Materials Technology. Lecture Notes in Mechanical Engineering. pp 925-941. Springer, Singapore. https://doi.org/10.1007/978-981-16-2794-1_82
- 24) Shah N., Meghani A., Panchal D., Patel D., Khatawate V.H. (2022) Thermal Analysis of Tank Gun Barrel. In: Govindan K., Kumar H., Yadav S. (eds) Advances in Mechanical and Materials Technology. Lecture Notes in Mechanical Engineering. pp 691-702. Springer, Singapore. https://doi.org/10.1007/978-981-16-2794-1 61
- 25) P. Baxi, R. Jain, Y. Dhadke, Y. Chhabra and V. H. Khatawate, "**Design and Analysis of Bell-Parabolic De Laval Rocket Exhaust Nozzle**," 2021 4th Biennial International Conference on Nascent Technologies in Engineering (ICNTE), 2021, pp. 1-6. doi: 10.1109/ICNTE51185.2021.9487717.
- 26) Balikai V.G., Shet A., Gorawar M.B., Tapaskar R., Revankar P.P., Khatawate V.H. (2021) Location Potential Assessment and Feasibility Marking for Solar Power Generation on Basis of Source–Load Matching Strategies. In: Muthukumar P., Sarkar D.K., De D., De C.K. (eds) Innovations in Sustainable Energy and Technology. Advances in Sustainability Science and Technology. pp 343-357. Springer, Singapore. https://doi.org/10.1007/978-981-16-1119-3-30
- 27) Gorawar M.B., Balikai V.G., Tapaskar R., Revankar P.P., Khatawate V.H. (2021) Investigations on Solar Air Collector Performance Improvement by Adoption of Response Surface Method Strategy. In: Muthukumar P., Sarkar D.K., De D., De C.K. (eds) Innovations in Sustainable Energy and Technology. Advances in Sustainability Science and Technology. pp. 219-229, Springer, Singapore. https://doi.org/10.1007/978-981-16-1119-3 20

28) Vinayak H. Khatawate., Dharap M.A., Godse A., Balikai V.G., Rao A.S. (2020), "Assessment of Local Stresses and Strains Using NSSC Rules", Proceedings of International Conference on Intelligent Manufacturing and Automation . Lecture Notes in Mechanical Engineering. pp 659-667 (Springer Publishers).

doi: https://doi.org/10.1007/978-981-15-4485-9 66

- 29) A. A. Shinde, V. H. Khatawate, G. Vinod and S. N. Kadam, "Evaluation of Site Core Damage Frequency of Multi-Unit Nuclear Power Plant Using Probabilistic Safety Assessment," 2019 International Conference on Nascent Technologies in Engineering (ICNTE), Navi Mumbai, India, 2019, pp. 1-4. doi: 10.1109/ICNTE44896.2019.8945811.
- 30) Vinayak H. Khatawate., Sheth J., Tulasyan P. (2020), "Structural Analysis of the Upright of a FSAE Race Car", Proceedings of International Conference on Intelligent Manufacturing and Automation. Lecture Notes in Mechanical Engineering, pp.543-554. (Springer Publishers). doi: https://doi.org/10.1007/978-981-15-4485-9 56
- 31) Savla H., Sanghvi N., Rasal S., Vinayak H. Khatawate. (2020), "Analysis of Compound Column-Based Supporting Structures Used in Suburban Railway Transport System: Use of Stiffener Plates", Proceedings of International Conference on Intelligent Manufacturing and Automation. Lecture Notes in Mechanical Engineering, pp.249-256. (Springer Publishers). doi: https://doi.org/10.1007/978-981-15-4485-9 26
- 32) Vora D.K., Patil R.K., Vinayak H. Khatawate. (2020), "Analysis of Brake Hub Used in Automobiles", Proceedings of International Conference on Intelligent Manufacturing and Automation, Lecture Notes in Mechanical Engineering, pp. 849-859. (Springer Publishers).
 - doi: https://doi.org/10.1007/978-981-15-4485-9_82
- 33) Patel J.H., Vinayak H. Khatawate., Jain G., Shah P. (2020), "Static Analysis of Tripod Housing Using FEA and Its Validation", Proceedings of International Conference on Intelligent Manufacturing and Automation, Lecture Notes in Mechanical Engineering, pp 763-776. (Springer Publishers). doi: https://doi.org/10.1007/978-981-15-4485-9-75
- 34) Sutaria U., Shah V., Shah K., Shah C., Vinayak H. Khatawate. (2020), "Optimization of Brake Rotor Slotting Using Finite Element Analysis", Proceedings of International Conference on Intelligent Manufacturing and Automation, Lecture Notes in Mechanical Engineering pp 803-813. (Springer Publishers).
 - doi: https://doi.org/10.1007/978-981-15-4485-9_78
- 35) Patel J.H., Poojari R., Shah M.K., Shah A.H., Vinayak H. Khatawate. (2020), "Topology Optimization of Wheel Hub Used in Automobiles", Proceedings

of International Conference on Intelligent Manufacturing and Automation, Lecture Notes in Mechanical Engineering, pp 723-736. (Springer Publishers). doi: https://doi.org/10.1007/978-981-15-4485-9 72

36) Gorawar M.B., Balikai V.G., Vinayak H. Khatawate., Revankar P.P. (2020), "Remote Data Acquisition System for Measurement of Ambient Climatic Conditions and SPV Battery Status", Proceedings of International Conference on Intelligent Manufacturing and Automation, Lecture Notes in Mechanical Engineering, pp 375-383. (Springer Publishers).

doi: https://doi.org/10.1007/978-981-15-4485-9 39

37) Rao A.S., Vinayak H. Khatawate., Mane S. (2020), "**Design and Development of Easy Access Crisper/Shelf in a Refrigerator**", Proceedings of International Conference on Intelligent Manufacturing and Automation, Lecture Notes in Mechanical Engineering, pp 591-601. (Springer Publishers).

doi: https://doi.org/10.1007/978-981-15-4485-9_60

38) Yadav R., Vinayak H. Khatawate., Patel D., Thonse S., Sunsara D. (2020), "Comparative Study of Aluminum and Composite Stub Axle Using FEA", Proceedings of International Conference on Intelligent Manufacturing and Automation, Lecture Notes in Mechanical Engineering, pp 449-458. (Springer Publishers).

doi: https://doi.org/10.1007/978-981-15-4485-9_46

- 39) Vinayak H. Khatawate, M.A.Dharap, R.I.K.Moorthy, "Analysis of stress and strain concentration factors on notched plate beyond yield point of the material", Australian Journal of Mechanical Engineering, 2019, Vol.17, Issue-2 pp.76-89. (Taylor and Francis Publishers). https://doi.org/10.1080/14484846.2017.1309135
- 40) Amit Shet, Veeresh G Balikai, M B Gorawar, P P Revankar, Vinayak H Khatawate, "Simulation of solar irradiation assessment for power generation", IOP Conf. Series: Materials Science and Engineering 955 (2020) 012073. doi:10.1088/1757-899X/955/1/012073.
- 41) M B Gorawar, Veeresh G Balikai, , P P Revankar, Vinayak H Khatawate, "Performance studies of Solar Air Collector through Design of Experiment approach", IOP Conf. Series: Materials Science and Engineering 955 (2020) 012072. doi:10.1088/1757-899X/955/1/012072.
- **42**) Vinayak H. Khatawate, M.A.Dharap, R.I.K.Moorthy, "Estimation of the Effective Notch Root Stresses and Strains for Plate with Opposite Ushaped Notches by Nonlinear Analysis", International Journal of Design Engineering, 2016, Vol.6, No.4, pp.326-350. (INDERSCIENCE Publishers). **DOI**: 10.1504/IJDE.2016.083931
- 43) Vinayak H. Khatawate, M.A.Dharap, R.I.K.Moorthy, "Stress and strain

concentration factors for flat plate with opposite side U-shaped notches under tension", International Journal of Design Engineering, 2016, Vol.6, No.3, pp.173-195. (INDERSCIENCE Publishers). https://doi.org/10.1504/IJDE.2016.079015

- 44) Bhavesh Pasi, Vinayak H. Khatawate "Structural Analysis of Inflatable Cylinder by using ABAQUS", Journal of Basic and Applied Research International, Vol.16, Issue-2, Feb-2016, pp.109-115.
- 45) Bhavesh Pasi, Vinayak H. Khatawate "Buckling Analysis of Inflatable Cylinder by using Experimental Setup", International Journal of Advanced Engineering Research and Applications (IJAERA), Vol.1, Issue-8, Dec-2015, pp. 315-319.
- 46) Abhijeet Rane, Gajendra V. Patil, Gajanan Thokal & Vinayak H. Khatawate "Design and Optimization of Electrostatic Precipitator using Finite Element analysis Tool". International Journal of Mechanical Engineering & Technology (IJMET), Volume 5, Issue 1, January 2014, pp.90-97.
- 47) Manoj Nikam, Gajendra V. Patil, Vinayak H. Khatawate "Estimation of stress intensity factor (sif) on crack component by using finite element analysis" International Journal of Mechanical Engineering & Technology (IJMET), Volume 5, Issue 1, January 2014.
- 48) Mukund Kavekar, Vinayak H. Khatawate & Gajendra V. Patil "Weight Reduction of Pressure Vessel using FRP Composite Material", International Journal of Mechanical Engineering and Technology (IJERA), Vol. 4, Issue-4, July-Aug-13. pp.300-310.
- 49) Gautam Ghegadmal, Vinayak H. Khatawate "Productivity Improvement in Automated Material Handling System of Liquor Manufacturing Plant" International Journal of Engineering Research and Applications (IJERA)ISSN: 2248-9622, Vol. 3, Issue-4, Jul-Aug-2013, pp.2530-2537.
- 50) Swati Chougule, Vinayak H. Khatawate "**Piston Strength Analysis piston Using FEM**" International Journal of Engineering and Research Applications (IJERA), ISSN:2248-9622, Vol.3, Issue2, March-April 2013, pp.1724-1731.
- 51) Momin Muhammad, Vinayak H. Khatawate "**Optimization Of Crankshaft Using Strength Analysis**", International Journal of Engineering and Research Applications (IJERA), ISSN:2248-9622, Vol.3,Issue3, May-June 2013, pp.252-258.
- 52) Giridhar Chavan, Vinayak H. Khatawate "Artificial Intalligence System For Remotely Controlled Wheeled vehicle System For Disabled Person", International Journal of Engineering and Research Applications (IJERA), ISSN:2248-9622, Vol.2, Issue4, June-July 2012, pp.738-741.
- **53**) Amreen Shaikh, Vinayak H. Khatawate "**Design and Energy Optimization of Z-Type Chain Conveyor**", International Journal of Engineering and Research Applications (IJERA), ISSN:2248-9622, Vol.2, Issue4, Jul-August2012, pp.1421-1424.

Papers Presented in Conferences

- Vinayak H. Khatawate "Load analysis of connecting rod for tractor engine", Proceedings of National Conference on state of the art of technology in Mechanical Engineering, Jawaharlal Nehru Technological University, Hyderabad during May 5th and 6th, 2006.
- 2) Vinayak H. Khatawate & Vikram Mane "Finite Element Analysis of Ellipsoidal Head Pressure Vessel" National Conference on Emerging Trends in Engineering & Technology (VNCET-30 Mar'12).
- 3) Vinayak H. Khatawate, M.A.Dharap, R.I.K.Moorthy, "Validation of Theoretical Stress Concentration Factor for Varying Notched Geometries Using FEA", Proceedings of International Congress on Computational Mechanics and Simulation (ICCMS-2016), IIT Bombay, Mumbai, June 27-July 1-2016, pp.1248-1251.
- 4) Vinayak H. Khatawate, M.A.Dharap, R.I.K.Moorthy, "Estimation Of Local Stresses And Strains For Notched Geometries Using Non-Linear Analysis", Proceedings of International Congress on Computational Mechanics and Simulation (ICCMS-2016), IIT Bombay, Mumbai, June 27-July 1-2016, pp.881-884.
- 5) Aditya A. Shinde, Vinakay H. Khatawate, S.N. Kadam, GopikaVinod, "**PSA** modeling of multi-unit nuclear power plant", International conference on current research topics in Power Nuclear and Fuel Energy (PNFE-2016), during 25th to 27th October- 2016 at St. Peter's Engineering College, Hyderabad.
- 6) Vinayak H. Khatawate, M.A.Dharap, R.I.K.Moorthy, "Numerical Validation of Theoretical Stress Concentration Factor and Investigation of Inelastic Stresses for Notched Specimens", International conference on current research topics in Power, Nuclear, Fuel and Energy (PNFE-2016), during 25th to 27th October-2016 at St.Peter's Engineering College, Hyderabad.
- 7) Avinash Shaligram, Vinayak H Khatawate, Divya Padmanabhan, "Reaffirming Core Technical Knowledge of Fresh Mechanical Engineers: Need of the Hour", Fourth International Conference on Transformations in Engineering Education (ICTIEE 2017) organized by Indo Universal Collaboration for Engineering Education and Manipal University Jaipur,11-12th Jan-2017.
- 8) Vinayak H. Khatawate, M.A.Dharap, R.I.K.Moorthy, "Validation of stress concentration factor and estimation of local stresses beyond yield point of the material for notched specimens", International Conference on Advances in Thermal systems, Materials and Design Engineering (ATSMDE 2017) organized by Veermata Jijabai Technological Institute (VJTI) Mumbai, 21-22nd Dec-2017.
- 9) Avinash Shaligram, Vinayak H Khatawate, Pruthviraj Rahane, "Bridging the Gap between Knowledge Imparted in UG Curriculum of Mechanical/Automobile Engineering and Industry Work Environment", Fifth International Conference on Transformations in Engineering Education. (ICTIEE 2018) organized by Indo Universal Collaboration for Engineering Education at Madurai 8-9th Jan-2018.
- 10) Vinayak H. Khatawate, Komal Kadam, "Performance Analysis of Crash box in Automobiles" IEEE Technically Co-Sponsored International Conference on

- Nascent Technologies in Engineering (ICNTE-2019) organized by Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai, India, January 04-05, 2019.
- 11) Vinayak H. Khatawate, Aditya Singh, Aditya Tiwari and Omesh Shah "Design and Manufacturing of Shock Pot Mounts for Road Quality Analysis" International Conference on Chemical, Mechanical and Environmental Sciences (ICCMES 2021) organized by KPR Institute of Engineering and Technology, Coimbatore, Tamilnadu, India, March 25-26, 2021.
- 12) Vinayak H. Khatawate, Parva Parikh, Ronak Radadiya, "Stress Analysis of Landing Gear of Boeing 747-400 Aircraft" International Conference on Chemical, Mechanical and Environmental Sciences (ICCMES 2021) organized by KPR Institute of Engineering and Technology, Coimbatore, Tamilnadu, India, March 25-26, 2021.
- 13) Vinayak H. Khatawate, Aniruddha Mallick, Dhaval Bhanushali, Greeshma Gala, "Analysis of rocket nozzle using method of characteristics" International Conference on Recent Advances on Materials, Manufacturing and Machine Learning (RAMML-2022) organized by Department of Mechanical Engineering, Yeshwantrao Chavan college of Engineering, Nagpur in association with Institution of Engineers (Maharashtra state centre and Nagpur Local Centre), April 26-27, 2022.
- 14) Vinayak H. Khatawate, Bhavik Panchal, Aditya Devkar, Aditya Jain, Kshitij Jaiswal, "Design and analysis of single-phase Liquid Immersion Cooling (SLIC) for motor controller of a Super-mileage vehicle" International Conference on Recent Advances on Materials, Manufacturing and Machine Learning (RAMMML-2022) organized by Department of Mechanical Engineering, Yeshwantrao Chavan college of Engineering, Nagpur in association with Institution of Engineers (Maharashtra state centre and Nagpur Local Centre), April 26-27, 2022.
- 15) Vinayak H. Khatawate, Raj Anadkat, Tanmay Parekh, "Optimization of airfoil shape based on lift & efficiency using Genetic Algorithms with PARSEC Method", International Conference on Recent Advances on Materials, Manufacturing and Machine Learning (RAMMML-2022) organized by Department of Mechanical Engineering, Yeshwantrao Chavan college of Engineering, Nagpur in association with Institution of Engineers (Maharashtra state centre and Nagpur Local Centre), April 26-27, 2022.
- 16) Vinayak H. Khatawate, M. A. Dharap, Hari Vasudevan, Balikai V.G, Revankar P.P., "Evaluating Stress Distribution in Flat Plates with Dual Semicircular Notches", 4th International E-Conference on Mechanical and Material Science Engineering: Innovation and Research (ICMMSE:IR 2024) organized by Department of Mechanical Engineering, Sandip Institute of Technology & Research Centre, Nashik on 12th 13th December.
- 17) Darshit S. Rathod, Hari Vasudevan, Vinayak H. Khatawate, "Optimization of a Lightweight Brake Master Cylinder for Formula Student Vehicle", Fourth International Conference on Advances in Materials Studies (ICAMS-2024) held on 17-18 December 2024, organized by the Dr. Vithalrao Vikhe Patil College of Engineering, Ahilyanagar, India in association with Technology Research and Innovation Centre, Pune.

- **18**) Mayank Sanjay Gupta, Yash Nitin Sharma, Hari Vasudevan, Vinayak H. Khatawate, "Design and Optimization of Rear Suspension Geometry of an ATV", Fourth International Conference on Advances in Materials Studies (ICAMS-2024) held on 17-18 December 2024, organized by the Dr. Vithalrao Vikhe Patil College of Engineering, Ahilyanagar, India in association with Technology Research and Innovation Centre, Pune.
- 19) Vinayak H Khatawate, Hari Vasudevan, Krisha Vora, Bhavik Kapadia, Mann Dave, Prathamesh Desai, "Torsional Rigidity of a FSAE Spaceframe Chassis", Fourth International Conference on Advances in Materials Studies (ICAMS-2024) held on 17-18 December 2024, organized by the Dr. Vithalrao Vikhe Patil College of Engineering, Ahilyanagar, India in association with Technology Research and Innovation Centre, Pune.
- 20) Advait Jadhav, Shubh Dodia, Ved Chavan, Hari Vasudevan, Vinayak H. Khatawate, "Analysis of an Accumulator of a Formula Student Vehicle", First International Conference on Advances in Energy and Environmental Engineering 2024 (ICAEEE-2024) held on 17-18 December 2024, hosted by the Dr. Vithalrao Vikhe Patil College of Engineering, Ahilyanagar, India in association with Technology Research and Innovation Centre, Pune, India, India in association with Technology Research and Innovation Centre, Pune.
- 21) Ayush P Shah, Vrisha P Shah, Vinayak H Khatawate, Hari Vasudevanv, "Exploring Rocket Engine Power Cycles: An In-Depth Overview", First International Conference on Advances in Energy and Environmental Engineering 2024 (ICAEEE-2024) held on 17-18 December 2024, hosted by the Dr. Vithalrao Vikhe Patil College of Engineering, Ahilyanagar, India in association with Technology Research and Innovation Centre, Pune, India, India in association with Technology Research and Innovation Centre, Pune.
- 22) Kartik Ajugia, Vinayak H Khatawate, Hari Vasudevan, "A review on various methods used for reducing the maldistribution on tube side of shell and tube Heat Exchanger", First International Conference on Advances in Energy and Environmental Engineering 2024 (ICAEEE-2024) held on 17-18 December 2024, hosted by the Dr. Vithalrao Vikhe Patil College of Engineering, Ahilyanagar, India in association with Technology Research and Innovation Centre, Pune, India, India in association with Technology Research and Innovation Centre, Pune.

Doctoral Consortium/
Colloquium/ Poster
Presentation:

- 1) Participated in **Poster Presentation** Organized by Veermata Jijabai Technological Institute (VJTI), Mumbai on 29th Feb 2012.
- 2) Participated in **Doctoral Consortium and Poster Presentation** Organized by Veermata Jijabai Technological Institute (VJTI), Mumbai on 16th March 2012.
- 3) Participated in a National level **Doctoral Consortium and Poster Presentation** Organized by Veermata Jijabai Technological Institute (VJTI),
 Mumbai on 11th January 2013.
- 4) Participated in TEQIP-II sponsored **Phd Colloquium** for Research Scholars Organized by Veermata Jijabai Technological Institute (VJTI), Mumbai on 15th

- and 16th April-2013.
- 5) Participated in **Poster Presentation** Organized by Veermata Jijabai Technological Institute (VJTI), Mumbai on 5th Apr 2016.
- 6) Presented the poster titled "Optimization of Power Screw Material used in Screw Jack" International Conference on Recent Advances on Materials, Manufacturing and Machine Learning (RAMMML-2022) organized by Department of Mechanical Engineering, Yeshwantrao Chavan college of Engineering, Nagpur in association with Institution of Engineers (Maharashtra state centre and Nagpur Local Centre), April 26-27, 2022.
- 7) Presented the poster titled "Design of a delta wing glider at low altitudes" International Conference on Recent Advances on Materials, Manufacturing and Machine Learning (RAMMML-2022) organized by Department of Mechanical Engineering, Yeshwantrao Chavan college of Engineering, Nagpur in association with Institution of Engineers (Maharashtra state centre and Nagpur Local Centre), April 26-27, 2022.
- 8) Presented the poster titled "Analysis of a Double UV joint considering Ergonomics of the vehicle" International Conference on Recent Advances on Materials, Manufacturing and Machine Learning (RAMMML-2022) organized by Department of Mechanical Engineering, Yeshwantrao Chavan college of Engineering, Nagpur in association with Institution of Engineers (Maharashtra state centre and Nagpur Local Centre), April 26-27, 2022.

Area of Specialization

Finite Element Methods, Solid Mechanics, Kinematics of Machinary, Machine Design, Reliability Engineering and Engineering Graphics.

PhD Guide ? Give field & University

: <u>Field</u>: Approved Ph.D guide in the field of Mechanical Engineering,

University: University of Mumbai.

PhDs / Projects Guided

PhDs: Ph.D: 01 (Pursuing)

Projects at

Masters level: PG Level: Guided: 03 Projects

Co-Guided: 07 Projects

Books Published / IPRs / Patents

Patent/Design registrations

1. Patent Application No.202221045849 A, for Title "TREE RESEMBLED FIRE COMBAT SYSTEM" has been published in journal No. 11/2024 Dated 15/03/2024.

- **2.** Design No. 380794-001, for design titled "TREE SHAPED FOREST FIRE COMBAT SYSTEM", has been accepted by the Design and Patent office, and published in journal No. 23/2023 on 09/06/2023. (Certificate issued date: 06-06-2023).
- **3.** Design No. 381618-001, for the design titled "SMART BACKPACK FOR TREKKING", has been accepted by the Design and Patent office, and published in journal No. 04/2024 on 26-01-2024. (Certificate issued date: 25-01-2024).

Copyrights

- 1. Copyright registration No. L-142129/2024, Diary Number: 34281/2023-CO/L with title "DESIGN AND DEVELOPMENT OF MACHINE VICE FOR HOLDING IRREGULAR SHAPED OBJECTS" has been registered by the Copyright office, India on 25-01-2024.
- 2. Copyright registration No.L-151976/2024, Diary Number: 19770/2024-CO/L with title "Thermal and Stress Analysis of Piston and Connecting Rod for Engine Seizure Condition" has been registered by the Copyright office, India on 29-07-2024.
- 3. Copyright registration No.L-153277/2024, Diary Number: 19727/2024-CO/L with title "Analysis of Two-stage Helical Gearbox for All Terrain Vehicle." has been registered by the Copyright office, India on 06-09-2024.
- 4. Copyright registration No.L-151729/2024, Diary Number: 19722/2024-CO/L with title "Design and Analysis of Differential Bar of a Rover" has been registered by the Copyright office, India on 24-07-2024.
- 5. Copyright registration No. L-151933/2024, Diary Number: 16807/2024-CO/L with title "Structural Analysis of an Ornithopter Wing" has been registered by the Copyright office, India on 26-07-2024.
- 6. Copyright registration No. L-155321/2024, Diary Number: 27400/2024-CO/L with title "Design & Development of a Passive Overhead Exoskeleton" has been registered by the Copyright office, India on 17-10-2024.
- 7. Copyright registration No. L-157890/2024, Diary Number: 26678/2024-CO/L with title "Analysis of a Lightweight Brake Master Cylinder for Formula Student Vehicle" has been registered by the Copyright office, India on 05-12-2024.

Books (Editors for conference
Proceedings on Springer)

Professional Memberships

- 1) **ISME** (Indian Society of Manufacturing Engineering) Life membership. Membership from 05th October 2018.
- 2) **ISTE** (Indian Society of Technical Education) Life membership. Membership No: LM-52590 from 01st May 2007.
- 3) IIIE (Indian Institution of Industrial Engineering, Navimumbai), Life membership. Membership No: SMIIE 10625 (21) from 30th Sept-2014.

Grants fetched

Minor Research Grant (University of Mumbai) **Guest Lectures:**

Minor Research Grant (MRG) of Rs.40000/- (Rupees forty thousand only) has been granted by University of Mumbai in the academic year 2019-20. No.APD/ICD/2019-20/762 Dtd. 20th March-2020. Project No.863.

Interaction with Professional Institutions

- 1) Delivered a talk on "Applications of Linear and Nonlinear Finite Element Analysis in Mechanical design" Organized by SAE chapter at DJSCE Mumbai on 28th Sept. 2024.
- 2) Delivered a talk on "Fundamentals and Applications of Finite Element Analysis in Mechanical design" Organized by Mechanical Engineering Department of A.C. Patil college of Engineering Navimumbai on 03rd October 2024.
- 3) Invited as resource person on 08th May-19 to talk on "Statistical applications in Reliability Engineering "at ISTE approved one week STTP on "Statistical analysis and its applications in Industry and Research" conducted by ViMEET.
- 4) Delivered talk on "Design of Screw Press" to Mechanical Engineering Students at Saraswati college of Engineering, Kharghar, Mumbai on 04th April-2014.
- 5) Delivered talk on "Deflection of Beams" to Mechanical Engineering Students at Saraswati college of Engineering, Kharghar, Mumbai on 07th Oct-2013.

Other
Achievements
and
Responsibilities:

- 1) Received best paper award for the AY-2024-25 titled "Improving Occupational Health Outcomes And Enhancing Job Satisfaction By The Design And Development Of A Passive Overhead Exoskeleton In Inustries", during the 67 National Convention organized by Indian institution of industrial engineering on 9th August 2025S at Trivandrum.
- 2) Invited as a Judge on 28/02/25 for digital Poster presentation competition organized by IIC's Rajiv Gandhi Institute of Technology Mumbai.
- 3) Invited as a Session Chair for the 4th International E-Conference on Mechanical and Material Science Engineering: Innovation and Research (ICMMSE:IR 2024) organized by Department of Mechanical Engineering, Sandip Institute of Technology & Research Centre, Nashik on 12th 13th December-2024.
- 4) Invited as a Judge on 03/02/23 to assess Poster presentations on innovative ideas organized by IIC's Rajiv Gandhi Institute of Technology Mumbai.
- 5) Invited as a resource person to conduct orientation to all Mumbai university faculty for the subject Finite Element Analysis (MEC603, MEL603)/(AEC603, AEL603) third year Mechanical and Automobile Engineering, SEM VI (CBCGS) on 17th Januaray, 2019 at D J Sanghvi college of Engineering Mumbai.
- 6) Invited as a member by University of Mumbai to prepare the syllabus of First year engineering (Subject: Engineering Mechanics) as per AICTE model curriculum on 8th May, 2019 at 3.00 p.m. The meeting was held at K. J. Somaiya Institute of Engineering and information technology, Sion, Mumbai.
- 7) Invited as an **expert committee member** on 21st July-18 to conduct faculty interviews at Xavier Institute of Engineering Mahim, Mumbai.
- 8) **Member of Vigilance squad** at the examinations conducted by the University of Mumbai for FH-2018 (May-June-18).
- 9) **Member of Vigilance squad** at the examinations conducted by the University of Mumbai for SH-2018 (Nov-Dec-18).
- 10) Topper 1% and Gold medal with a consolidated score of 97% for the AICTE recognized 8 weeks (Feb-Apr 2019) NPTEL course on "Basics of Finite Element Analysis".

Subjects Taught

UG Level:

- 1) Finite Element Analysis
- 2) Strength of materials
- 3) Theory of Machine
- 4) Machine design-1
- 5) Engineering Mechanics
- 6) Engineering drawing/graphics
- 7) Reliability engineering.

PG Level:

- 1) Finite element method.
- 2) Advanced Finite element analysis.
- 3) Reliability engineering.

FDP / STTP/ WORKSHOP ATTENDED:

- 1) Successfully completed the NEP 2020 Orientation & Sensitization Programme under the Malaviya Mission Teacher Training Programme (MM-TTP) of the University Grants Commission (UGC) Organized by UGC-Malaviya Mission Teacher Training Centre, Sant Gadge Baba Amravati University, Amravati (Maharashtra) from 18th December, 2023 to 27th December, 2023.
- 2) Successfully completed AICTE Training And Learning (ATAL) Academy's Online FDP on "Application of IoT in Aerospace Engineering" fom 27/12/2021 to 31/12/2021 conducted by Visvesvaraya Technological University, Karnataka.
- 3) Successfully completed AICTE Training And Learning (ATAL) Academy's Online FDP on "Machine Learning Applications in Mechanical Engineering" from 13/12/2021 to 17/12/2021 at Acropolis Institute of Technology and Research.
- 4) Successfully completed AICTE Training And Learning (ATAL) Academy's Online FDP on "IoT based Condition Monioring" from 06/12/2021 to 10/12/2021 at Veermata Jijabai Technological Institute VJTI Mumbai.
- 5) Successfully completed AICTE Training And Learning (ATAL) Academy's Online FDP on "Green Technology and Sustainability Engineering" from 25/11/2021 to 29/11/2021 at Kolhapur Institute of Technology's College of Engineering (Autonomous), Kolhapur, Maharashtra, INDIA.
- 6) Successfully completed AICTE Training And Learning (ATAL) Academy's Online FDP on "3D Printing & Design" from 01/02/2021 to 05/02/2021 conducted by INDIAN INSTITUTE OF INFORMATION TECHNOLOGY TIRUCHIRAPPALLI.
- 7) Successfully completed 8 weeks (Jan-Mar 2021) AICTE recognized NPTEL course on "Kinematics of Mechanisms and machines.
- 8) Successfully completed 8 weeks (Feb-Apr 2019) AICTE recognized NPTEL course on "Basics of Finite Element Analysis" with a consolidated score of 97% (Topper 1% and Gold medal).
- 9) Successfully completed AICTE Training And Learning (ATAL) Academy's Online FDP on "Robotics" from 24/08/2020 to 28/08/2020 conducted by Government polytechnic, Harapanahalli Karnataka.
- **10**) Successfully completed AICTE Training And Learning (ATAL) Academy's Online FDP on "Design Thinking" from 30/09/2020 to 04/10/2020 conducted by VJTI Mumbai.
- 11) Successfully completed following SAS certification courses
 - a. SAS(R) Programming 1: Essentials (27th and 28th July-2020)
 - b. SAS(R) Programming 2: Data Manipulation Techniques (29th to 31st July-2020)
 - c. SAS(R) Visual Analytics 1 for SAS(R)9: Basics (03rd and 4th Aug-2020)
 - d. SAS(R) Visual Analytics 2 for SAS(R)9: Advanced (05th and06th Aug-2020)
 - e. Applied Analytics Using SAS(R) Enterprise Miner (17th to 19th Aug-2020)
 - f. SAS(R) Enterprise Guide(R): ANOVA, Regression, and Logistic Regression (12th to 14th Aug-2020)
- 12) Successfully completed following online Coursera courses from April-2020 till date
 - a. Advanced Instructional Strategies in the Virtual Classroom
 - b. Mechanics of Materials-1
 - c. Mechanics of Materials-2
 - d. Mechanics of Materials-3

- e. AI for everyone
- f. Data analytics for Lean Six Sigma
- g. Machine learning for all
- h. Assessment in Higher Education: Professional Development for Teachers
- i. Learning to Teach Online
- 13) Successfully completed online FDP on "Intellectual Property Right" conducted by Tata Consultancy Services at DJSCE Mumbai on 24-Aug-2020.
- **14)** Successfully completed online FDP on "Connected Vehicles" conducted by Tata Consultancy Services at DJSCE Mumbai on 25-Aug-2020.
- 15) Successfully completed online FDP on "A Journey into the Manufacturing Sector in India in view of Industry 4.0 practices and COVID-19" organized by Production dept. of DJSCE Mumbai from 9th to 13th June, 2020.
- **16)** Attended webinar on CFD for Centrifugal Pump conducted by Imperial College of Engineering and Research, Wagholi, Pune, India on 19-may-20.
- 17) Attended webinar on Teachers are Leaders conducted by Bharati Vidyapeeth College of Engineering, Navi Mumbai, India on 23-may-20.
- **18)** Attended webinar on Design of experiments conducted by Amrutavahini College of Engineering Sangamner on 6-Jun-20.
- 19) Successfully completed 5 days National Online Faculty Development Program on "Artificial Intelligence" organized by Department of Information Technology, Universal College of Engineering under IQAC in collaboration with Brain O Vision Solutions India Pvt. Ltd. & National Youth Council of India held during 22.05.2020 to 26.05.2020.
- **20**) Successfully completed 8 weeks (Feb-Apr 2019) AICTE recognized NPTEL course on "Basics of Finite Element Analysis" with a consolidated score of 97% (Topper 1% and Gold medal).
- 21) Attended 19th ISTE state annual faculty convention 2019 about "Academia Industry Collaboration: Issues, challenges and Opportunities" at A P Shah Institute of Technology Thane Mumbai, on 05th Jan-19.
- **22**) Attended one week AICTE-QIP sponsored short term course on "**Fundamentals and Applications of Fracture Mechanics**" organized by Department of Mechanical Engineering, Veermata Jijabai Technological Institute (VJTI) Mumbai from 22nd to 27th January2018.
- **23)** Attended INUP (Indian Nanoelectronics users program) Familiarization workshop on "Nanofabrication Technologies" conducted by Indian Institute of Technology Bombay from 29th Nov to 01st Dec-2017.
- **24**) Attended Two week ISTE approved workshop on "**Engineering Mechanics**" conducted by Indian Institute of Technology Bombay from 26th Nov to 06th Dec-2013.

- **25**) Attended Two week ISTE approved workshop on "**Engineering Mechanics**" conducted by Indian Institute of Technology Bombay from 26th Nov to 06th Dec-2013.
- **26**) Attended Two week ISTE approved workshop on "Introduction to Research Methodologies" conducted by Indian Institute of Technology Bombay from 25th June to 04th July-2012.
- **27**) Attended Two week ISTE approved workshop on "Computational Fluid Dynamics" conducted by Indian Institute of Technology Bombay from 12th to 06th June-2012.
- **28**) Attended Two days ISTE approved workshop on "Writing Effective conference Papers" conducted by Indian Institute of Technology Bombay on 18th and 19th Feb- 2012.
- **29**) Attended Two week ISTE approved workshop on "Heat Transfer" conducted by Indian Institute of Technology Bombay from 29th Nov to 10th Dec-2011.
- **30**) Attended One week ISTE approved, STTP on "Research Methodology, Mathematical Modelling and Research Based Industry Institute Interaction Activities In Engineering and Technology" conducted by Shivajirao S. Jondale College Of Engineering Dombivli, Mumbai from 19th to 23rd July-2011.
- **31)** Attended Two week ISTE approved workshop on "Thermodynamics" conducted by Indian Institute of Technology Bombay from 14th June to 24th June-2011.
- **32)** Attended Two week ISTE approved STTP on "Finite Element Analysis using NASTRAN-PATRAN software" conducted by Pillai's Institute of Information Technology NewPanvel from 4th to 15th Jan-2011.
- **33**) Attended one week ISTE approved workshop on "Computer Aided design and drafting Tools" conducted by Agnel Polytechnic Vashi, from 15th to 19th Feb-2011.
- **34)** Attended "Workshop on Mechatronics" at Fr.C.R.I.T Vashi Navimumbai from Oct 28- 30, 2004.
- **35**) Attended training on "**Pro-E**" at Rolta Mumbai from 03rd to 06th August 05.

Projects Guided

: <u>UG Level</u>: Guided : 26+ Projects

PG Level: Guided : 03 Projects Co-Guided: 07 Projects

Recommended Students for Higher Education

Name of the University/Industry Student

30+ Students

All these students are recommended for higher education at USA/European countries.

Institute/Department Responsibility handled:

- Working as an Associate head (from Feb-2020 till date) in the department of Mechanical Engineering at Dwarkadas J. Sanghvi College of Engineering, Vile Parle, Mumbai.
- 2) Member of Unfair means committee (From AY: 2019-20 to 2022-23) at Dwarkadas J. Sanghvi College of Engineering, Vile Parle, Mumbai.
- 3) Institute level NAAC Criteria-4 incharge at Dwarkadas J. Sanghvi College of Engineering (from June-2024 till date).
- 4) Institute level NBA Criteria-7 incharge at Dwarkadas J. Sanghvi College of Engineering (from 17/09/2022 till date).
- 5) Institute level MS-Team Co-ordinator at Dwarkadas J. Sanghvi College of Engineering (from May-2020 till date).
- 6) Departmental level IPR Co-ordinator (From July-2022).
- 7) Departmental Ph.D Co-ordinator (From August-2019).
- 8) Departmental NAAC Criteria-5 Co-ordinator (from August-2018 till date)
- 9) Worked as ME (CAD/CAM & ROBOTICS) course Co-ordinator at PIIT NewPanvel from July-2008 to July-2014.

Pedagogy Development
