Dr. Prashik Malhari Ramteke

Assistant Professor,

Department of Mechanical Engineering,

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Areas of Interest

Structural analysis of porous FGMs, Doubly curved composite panels and damaged structures.

Education Qualification

2023	**Ph.D. Mechanical Engineering** Specialization: Machine Design and Analysis National Institute of Technology Rourkela
2018	**M. Tech. Mechanical Engineering** Specialization: Machine Design and Analysis National Institute of Technology Rourkela
2014	**B.E. Mechanical Engineering** G. H. Raisoni College of Engineering Nagpur (Rashtrasant Tukadoji Maharaj Nagpur University)

Experience (Teaching)

- Engineering Mechanics, National Institute of Technology Raipur, 15 January 2024 - Present
- Basic Mechanical Engineering, Manipal Institute of Technology, MAHE, Manipal, 21 July 2023 – 13 January 2024

Research Profiles

Google Scholar:

Scopus ID:

Web of Science:

Publications

Journal Articles

[1] **Ramteke, P. M.**, and Panda, S. K. "Nonlinear Static and Dynamic Response Prediction of Bidirectional Doubly-Curved Porous FG Panel and Experimental Validation." ***Composites Part A***, Vol. 166, 2023, P. 107388. https://doi.org/10.1016/j.compositesa.2022.107388 (Q1, SCI, IF-9.463).

[2] **Ramteke, P. M.**, Panda, S. K., and Patel, B. "Nonlinear Eigenfrequency Characteristics of Multi-Directional Functionally Graded Porous Panels." ***Composite Structures***, Vol. 279, 2022, p. 114707. https://doi.org/10.1016/j.compstruct.2021.114707 (Q1, SCI, SCOPUS, IF-6.603).

[3] **Ramteke, P. M.**, and Panda, S. K. "Nonlinear Thermomechanical Static and Dynamic Responses of Bidirectional Porous FG Shell Panels and Experimental Verifications." ***Journal of Pressure Vessel Technology***, 2023, https://doi.org/10.1115/1.4062154. (Q2, SCIE, Scopus, IF-1.051).

[4] **Ramteke, P. M.**, Panda, S. K., and Sharma, N. "Nonlinear Vibration Analysis of Multidirectional Porous Functionally Graded Panel Under Thermal Environment." ***AIAA Journal***, Vol. 60, No. 8, 2022, pp. 4923–4933. https://doi.org/10.2514/1.J061635 (Q1, SCIE, IF-2.127).

[5] **Ramteke, P. M.**, and Panda, S. K. "Computational Modelling and Experimental Challenges of Linear and Nonlinear Analysis of Porous Graded Structure: A Comprehensive Review." ***Archives of Computational Methods in Engineering,*** 2023, https://doi.org/10.1007/s11831-023-09908-x. (Q1, SCIE, Scopus, IF-8.171).

[6] **Ramteke, P. M.**, Kumar, V., Sharma, N., and Panda, S. K. "Geometrical Nonlinear Numerical Frequency Prediction of Porous Functionally Graded Shell Panel under Thermal Environment." ***International Journal of Non-Linear Mechanics***, Vol. 143, 2022, p. 104041. https://doi.org/10.1016/j.ijnonlinmec.2022.104041 (Q1, SCI, Scopus, IF-3.336).

[7] **Ramteke, P. M.**, and Panda, S. K. "Nonlinear Static and Dynamic (Deflection/Stress) Responses of Porous Functionally Graded Shell Panel and Experimental Validation." ***Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science***, 2023, https://doi.org/10.1177/09544062231155099 (Q2, SCI, IF-1.758).

[8] **Ramteke, P. M.**, Sharma, N., Choudhary, J., Hissaria, P., and Panda, S. K. "Multidirectional Grading Influence on Static/Dynamic Deflection and Stress Responses of Porous FG Panel Structure: A Micromechanical Approach." ***Engineering with Computers***, Vol. 38, 2022, pp. 3077–3097. https://doi.org/10.1007/s00366-021-01449-w (Q1, SCIE, Scopus, IF-8.083).

[9] **Ramteke, P. M.**, Panda, S. K., and Sharma, N. "Effect of Grading Pattern and Porosity on the Eigen Characteristics of Porous Functionally Graded Structure." ***Steel and Composite Structures***, Vol. 33, No. 6, 2019, pp. 865–874.

https://doi.org/10.12989/scs.2019.33.6.865 (Q1, SCIE, Scopus, IF-6.386).

[10] **Ramteke, P.M.**, Sharma, N., Dwivedi, M., Das, S.K., Uttarwar, C.R. and Panda, S.K. "Theoretical Thermoelastic Frequency Prediction of Multi (Uni/bi) Directional Graded Porous Panels and Experimental Verification" ***Structures***, Vol. 54, 2023, pp. 618–630. https://doi.org/10.1016/j.istruc.2023.05.073 (Q1, SCIE, Scopus, IF-4.010).

[11] **Ramteke, P. M.**, Patel, B., and Panda, S. K. "Time-Dependent Deflection Responses of Porous FGM Structure Including Pattern and Porosity." ***International Journal of Applied Mechanics***, Vol. 12, No. 09, 2020, p. 2050102. https://doi.org/10.1142/S1758825120501021 (Q1, SCIE, Scopus, IF-3.951).

[12] **Ramteke, P. M.**, and Panda, S. K. "Free Vibrational Behaviour of Multi-Directional Porous Functionally Graded Structures." ***Arabian Journal for Science and Engineering***, Vol. 46, No. 8, 2021, pp. 7741–7756. https://doi.org/10.1007/s13369-021-05461-6 (Q1, SCIE, Scopus, IF-2.807).

[13] **Ramteke, P. M.**, Patel, B., and Panda, S. K. "Nonlinear Eigenfrequency Prediction of Functionally Graded Porous Structure with Different Grading Patterns." ***Waves in Random and Complex Media***, 2021, pp. 1–19. https://doi.org/10.1080/17455030.2021.2005850 (Q2, SCIE, IF-4.051).

[14] **Ramteke, P. M.**, Mehar, K., Sharma, N., and Panda, S. K. "Numerical Prediction of Deflection and Stress Responses of Functionally Graded Structure for Grading Patterns (Power-Law, Sigmoid, and Exponential) and Variable Porosity (Even/Uneven)." ***Scientia Iranica***, Vol. 28, No. 2, 2021, pp. 811–829. https://doi.org/10.24200/SCI.2020.55581.4290 (Q2, SCIE, Scopus, IF-1.435).

[15] **Ramteke, P.M.**, Tiwari, S., Kumar, E.K., Hirwani, C.K., Panda, S.K., Mahmoud, S.R., Gupta. P., Balubaid, M. "Green Waste Energy (Vibration and Wind) Hybrid Harvester Design and Analysis using Analytical and 3D Finite Element Method." ***Journal of Vibration Engineering & Technologies,*** 2023, https://doi.org/10.1007/s42417-023-01028-x. (Q2, SCIE, Scopus, IF-2.333).

[16] Satankar, R. K., Sharma, N., **Ramteke, P. M.**, Panda, S. K., and Mahapatra, S. S. "Acoustic Responses of Natural Fibre Reinforced Nanocomposite Structure Using Multiphysics Approach and Experimental Validation." ***Advances in Nano Research***, Vol. 9, No. 4, 2020, pp. 263–276. https://doi.org/10.12989/anr.2020.9.4.263 (Q1, SCIE, IF-9.539).

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[18] Sahoo, B., Sharma, N., Sahoo, B., **Ramteke, P. M.**, Panda, S. K. and Mahmoud, S. R. "Nonlinear Vibration Analysis of FGM Sandwich Structure under Thermal Loadings." ***Structures,*** Vol. 44, 2022, pp. 1392–1402. https://doi.org/10.1016/j.istruc.2022.08.081

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[19] Choudhary, J., Patle, B. M., **Ramteke, P. M.**, Hirwani, C. K., Panda, S. K., and Katariya, P. V. "Static and Dynamic Deflection Characteristics of Cracked Porous FG Panels." ***International Journal of Applied Mechanics,*** Vol. 14, No. 7, 2022, p. 2250076. https://doi.org/10.1142/S1758825122500764 (Q1, SCIE, Scopus, IF-3.951).

[20] Hissaria, P., **Ramteke, P. M.**, Hirwani, C. K., Mahmoud, S. R., Kumar, E. K., and Panda, S. K. "Numerical Investigation of Eigenvalue Characteristics (Vibration and Buckling) of Damaged Porous Bidirectional FG Panels." ***Journal of Vibration Engineering & Technologies,*** 2022. https://doi.org/10.1007/s42417-022-00677-8 (Q2, SCIE, Scopus, IF-2.333).

Conference Proceedings

[1] **Ramteke, P. M.**, Mahapatra, B. P., Panda, S. K., and Sharma, N. "Static Deflection Simulation Study of 2D Functionally Graded Porous Structure." ***Materials Today: Proceedings***, Vol. 33, 2020, pp. 5544–5547. https://doi.org/10.1016/j.matpr.2020.03.537 (Scopus).