

Research publications

Papers published/accepted in peer reviewed international journals

1. **R. Udhayaraman**, Harini Subramanian, Shantanu S. Mulay, Multi-scale approach-based constitutive modelling and non-linear viscoelastic-damage evolution in plain woven textile composite, *Mechanics of Advanced Materials and Structures*, 2025, 1-28. Cite score: 6.6. <https://doi.org/10.1080/15376494.2025.2575932>. Q1
2. P. Singal, P. Katiyar, **R. Udhayaraman**, D. Saritha, R. Sujithra, Mode-I and Mode-II fracture toughness investigation on FDM-printed PLA / CF-PLA laminate composite, *Journal of Mechanical Science and Technology*, 2025, 39 (1), 1-8. Impact factor: 1.7, Citations: 3. <http://doi.org/10.1007/s12206-024-1212-8>. Q2
3. **R. Udhayaraman**, Harini Subramanian, Shantanu S. Mulay, S. Venkatachalam, Multi-scale approach-based studies on the damage-healing and fracture behaviour of plain woven textile composite, *Mechanics of Advanced Materials and Structures*, 2022, 29 (8), 1138-1163. Cite score: 6.6, Citations: 12. <https://doi.org/10.1080/15376494.2020.1809037>. Q1
4. Shantanu S. Mulay, **R. Udhayaraman**, M. Anas, Comparative study of algorithms to handle geometric and material nonlinearities, *International Journal of Materials and Structural Integrity*, 2019, Vol. 13, Nos. 1-3, pp.32–53. Cite score: 0.4, Citations: 2. <https://doi.org/10.1504/IJMSI.2019.100427>. Q4
5. **R. Udhayaraman**, Shantanu S. Mulay, Multi-scale damage framework for textile composites: application to plain woven composite, *European Journal of Mechanics - A/Solids*, 2019, 77, 103289. Impact factor: 4.2, Citations: 23. <https://doi.org/10.1016/j.euromechsol.2019.103809>. Q1
6. Shantanu S. Mulay, **R. Udhayaraman**, On the constitutive modelling and damage behaviour of plain woven textile composite, *International Journal of Solids and Structures*, 2019, 156-157, 73-86. Impact factor: 3.8, Citations: 31. <https://doi.org/10.1016/j.ijsolstr.2018.08.002>. Q1
7. **R. Udhayaraman**, Shantanu S. Mulay, Multi-scale approach based constitutive modelling of plain woven textile composites, *Mechanics of Materials*, 2017, 112, 172-192. Impact factor: 4.1, Citations: 52. <https://doi.org/10.1016/j.mechmat.2017.06.007>. Q1

SCI/Scopus indexed conference proceedings

1. Deepak Kumar, R. Udhayaraman, R. Sujithra, Low velocity impact analysis of hybrid composite, *Procedia Structural Integrity*, 2025, 71, 380-387. Scopus indexed, Cite score: 1.5. <https://doi.org/10.1016/j.prostr.2025.08.051>.

Conference proceedings in refereed national journals

1. **R. Udhayaraman**, Patil Akash Kishor, Rukmanmadha Rao Pola, Modelling of viscoelastic response of unidirectional fiber reinforced viscoelastic polymer matrix composite, *ISME Journal of Mechanics and Design*, 2023, 7 (1), 10-18. DOI: 120232.

Conference proceedings and presentations

1. Rukmanmadha Rao Pola, **R. Udhayaraman**, Study of progressive damage-healing analysis of unidirectional composite for longitudinal tension, *International Conference On Recent Advancements In Aeronautical and Aerospace Technologies (ICRAAAT 2024)*, 2024, BIHER, Chennai, India.
2. Challamchalla Pavan, Rukmanmadha Rao Pola, **R. Udhayaraman**, Determination of effective stiffness constants of satin woven composite by numerical homogenization technique, *International Conference On Recent Advancements In Aeronautical and Aerospace Technologies (ICRAAAT 2024)*, 2024, BIHER, Chennai, India.
3. Rukmanmadha Rao Pola, **R. Udhayaraman**, Damage-healing stress-strain analysis of unidirectional composite under various strain-controlled loadings, *6th Indian Conference on Applied Mechanics (INCAM 2024)*, Abstract in proceedings, 2024.
4. Janapati Venkata Poojitha, **R. Udhayaraman**, Elasto-plastic damage analysis of plain woven composite: application of Lemaitre damage model, *6th Indian Conference on Applied Mechanics (INCAM 2024)*, Abstract in proceedings, 2024.
5. Challamchalla Pavan, **R. Udhayaraman**, Numerical constitutive modelling of satin woven composite, *6th Indian Conference on Applied Mechanics (INCAM 2024)*, Abstract in proceedings, 2024.
6. **R. Udhayaraman**, Patil Akash Kishor, Rukmammadha Rao Pola, Modelling of viscoelastic response of unidirectional fiber reinforced viscoelastic polymer matrix composite, *20th ISME Conference On Advances In Mechanical Engineering (ISME20)*, 2022, IIT Ropar, India.
7. **R. Udhayaraman**, Shantanu S. Mulay, Progressive failure analysis of plain woven composite, *Proceedings of International Conference on Composite Materials and Structures (ICCMS 2017)*, 2017, pp. 1577-1586, Hyderabad, India. Citations: 3.
8. **R. Udhayaraman**, Shantanu S. Mulay, Progressive failure analysis on plain woven textile composites, *Proceedings of 20th International Conference on Composite Structures (ICCS20 2017)*, 2017, pp. 186, Paris, France.
<https://doi.org/10.15651/978-88-938-5041-4>.
9. **R. Udhayaraman**, Shantanu S. Mulay, Micromechanical constitutive modelling of plain woven textile composites, *Nineteenth National Seminar on Aerospace Structures (NASASXIX 2017)*, 2017, VIT Vellore, Tamil Nadu, India.